AN ANALYSIS AND EVALUATION OF CONTEMPORARY INTERNATIONAL INITIATIVES TO ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING: MARKET-BASED MEASURES, THE FAO GLOBAL RECORD OF FISHING VESSELS, AND THE FAO AGREEMENT ON PORT STATE MEASURES

A dissertation submitted in fulfillment of the
requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

THE UNIVERSITY OF TASMANIA

by

Jane Broweleit
Bachelor of Legal Studies (Hons), La Trobe University

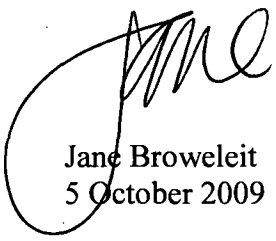
Antarctic Climate & Ecosystems Cooperative Research Centre
Institute of Antarctic and Southern Ocean Studies
University of Tasmania Law School

October 2009

Certification

I, Jane Broweleit, declare that this thesis, which is submitted in fulfillment of the requirements for the award of Doctor of Philosophy through the University of Tasmania, contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.

This thesis may be made available for loan and limited copying in accordance with the Copyright Act 1968.



Jane Broweleit
5 October 2009

Abstract

Illegal, unreported and unregulated fishing (IUU fishing) exists in most fisheries and is considered by the United Nations to be the main obstacle to achieving sustainable fisheries.[1] It persists primarily because of a widespread failure of flag State control. Eradicating IUU fishing requires coordinated responses by coastal States, port, market and flag States and Regional Fisheries Management Organisations.

This dissertation focuses on IUU fishing of marine capture fish stocks, both within the 200 mile Exclusive Economic Zone and the high seas. It will not deal with inland fisheries or national problems with illegal fishing or poaching. It analyses two international proposals currently in development: a Global Record of fishing vessels and a Port State Measures Agreement. These initiatives seek to address three major problems: a) inadequate data on the state of IUU fishing and the size, scope and activities of the world's fishing fleet; b) flag State ineffectiveness; and c) the limited use of market-based measures.

This dissertation is an evaluation of the likely success of these new initiatives in combatting IUU fishing. It submits that despite the significant challenges facing the passage and adoption of a Global Record of fishing vessels and the Port State Measures Agreement, they must be implemented in order to shut down major gaps in the coverage and efficacy of the current international fisheries regime. This dissertation further submits that greater, more coordinated use of both public and private trade and market-related measures must be made in order to support the two proposed instruments.

[1] Report of the Secretary General of the United Nations. 26 August 2004. "Sustainable Fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related Instruments." A/59/298. Paragraph 36.
http://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm. Accessed 1 June 2009.

Table of contents

Certification 2

Abstract 3

Acronyms and abbreviations 8

Acknowledgments 10

Thesis 12

Statement of purpose 12

Significance of this project 12

Scope 13

Research Questions 14

Dissertation outline 14

Chapters 1 & 2 – Introduction 14
Chapters 3, 4 & 5 – The existing international legal regime and why it has not worked 14
Chapters 6 & 7 – Two proposed new international tools to eliminate IUU fishing 16
Chapter 8 – Market-related measures and enforcement 17
Chapter 9 – Conclusion 17

Chapter 1 – Fish Stocks in Trouble 18

Introduction 18
Fish, or products shaped like fish? 18
Lost fish of the past 22
Subsidizing over-capacity in the world's fishing fleet 23
Fishers and "the commons" 28
Supply and demand 29
Conclusion 32

Chapter 2 – The Rise and Rise of IUU Fishing 33

Introduction 33
Illegal, Unreported and Unregulated Fishing 33
Definition 33
Drivers 36
The extent and impact of IUU fishing 38
Extent 38
Impact 40
Flag States and free riders 42
Conclusion 46

Chapter 3 – International Instruments: Hard Law 49

Introduction 49
The slow awakening to environmental consciousness 51
Fisheries agreements 55
The law of the sea 57
Contracting the high seas 60
High seas fish stocks 63
Modern law for a modern problem 67
The 1993 FAO Compliance Agreement 69
Deterring reflagging to flag of convenience States 70
Keeping records of fishing vessels 71
Compliance 72
Evaluation 73
The 1995 UN Fish Stocks Agreement 74

The duty to cooperate & RFMOs 76
Flag State responsibilities 78
Extending enforcement jurisdiction 79
Data 81
Ports 82
Evaluation 83
Conclusion 85

Chapter 4 – International Instruments: Soft Law 87

Introduction 87
1995 FAO Code of Conduct for Responsible Fisheries 87
Duties of flag States 92
Port States 94
1999 FAO International Plan of Action for the Management of Fishing Capacity 96
2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing 101
Expectations of flag States 103
Records of fishing vessels 104
Port State responsibilities 105
Internationally agreed market-related measures 106
Implementation 108
Further developments 111
Conclusion 114

Chapter 5 – Increasing the Effectiveness of Monitoring, Control and Surveillance tools 117

Introduction 117
Monitoring, Control and Surveillance in Fisheries 118
Vessel Monitoring Systems 120
Limitations 122
Black and white vessel lists 127
The 1993 Compliance Agreement's High Seas Vessels Authorization Record 131
The High Seas Vessels Authorization Record in practice 135
Scope and applicability 135
Coverage 137
Reliance on flag States 138
Owners 140
Accessibility 141
Developing States 143
Modernization 144
Conclusion 144

Chapter 6 – A Global Record of Fishing Vessels: An Evaluation of its Potential to Combat Illegal, Unreported and Unregulated Fishing 147

Introduction 147
International developments 147
Enhancing transparency in the shipping, labour and fisheries sectors 147
The proposed FAO Comprehensive Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels 152
Designing the Global Record of fishing vessels 153
Scope and sources of information 155
Content 159
Size and type of vessels 162
Data compatibility of records 165
Data compatibility of records 165
Unique vessel identifiers 166
The special needs of developing countries 169
Paying for the Global Record 171
A review process 172
Can the Global Record become a key tool in fisheries governance? 173

Market access 173
Institutional character 178
Institutional character 178
Conclusion 180

Chapter 7 – The draft 2009 FAO Legally-Binding Port State Measures Agreement: An Evaluation of its Potential to Combat Illegal, Unreported and Unregulated Fishing 183

Introduction 183
The IMO port State control regimes 184
The FAO draft Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing 190
Broad application 190
Designating ports 191
Requiring advance notice 191
Denying entry to and use of ports 192
Inspections 193
Training 195
Enforcement action in port – Article 17 195
Evaluation of the draft Port State Measures Agreement 196
The definition of illegal, unreported and unregulated fishing 196
Scope 197
Article 9 of the draft Port State Measures Agreement 198
Inspection targets and 'high risk' vessels 199
Inspections and training 203
Information collection and exchange 204
Assistance to developing States 207
Compensation and dispute settlement 209
Deterence, enforcement and the market 210
Implementation and administration 213
Conclusion 217

Chapter 8 – Supporting Fisheries Laws with Trade and Market-related Measures 218

Introduction 218
Trade and market-related measures in fisheries 218
Trade-related measures and the WTO 220
Using trade controls to support international fisheries agreements 229
The US Lacey Act Amendments of 1981 230
RFMO documentation schemes 233
RFMO documentation schemes 233
Market-based measures and private standards 239
The Marine Stewardship Council 244
The Marine Stewardship Council standard 245
Chain of Custody 247
Growth 249
An evaluation of private market-based measures in fisheries 250
Conclusion 254

Chapter 9 – Summary and Discussion 256

Introduction 256
Dissertation summary 257
Chapter 1 – Fish stocks 257
Chapter 2 – Illegal, unreported and unregulated fishing 258
The existing international legal regime and why it has not worked 260
Chapter 3 – Hard law 260
Chapter 4 – Soft law re: IUU fishing 261
Chapter 5 – Monitoring, control and surveillance in fisheries 263
Two potential new FAO tools to combat illegal, unreported and unregulated fishing 264

Chapter 6 – The Global Record of fishing vessels 264
Chapter 7 – The draft Port State Measures Agreement 266
Supporting the two proposed new FAO tools – trade and market-related measures 268
Chapter 8 – Trade and market-related measures 268
Conclusion 269

Appendices 273

Appendix A – 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing 274
Appendix B – February 2009 Chairman's Text: FAO Draft Port State Measures Agreement 289
Appendix C – Annex A: 2008 draft of the FAO Port State Measures Agreement 316
Appendix D – Annex A: February 2009 draft of the FAO Port State Measures Agreement 319

Bibliography 321

Books 321
Book chapters 322
Journal articles 324
Unpublished theses and research papers 332
Reports and papers 332
Conference proceedings 345
Press Releases 346
Newspaper and magazine articles 348

Acronyms and abbreviations

CCAMLR – Convention on the Conservation of Antarctic Marine Living Resources (1980)
CCSBT – Convention on the Conservation of Southern Bluefin Tuna (1994)
CDS – CCAMLR Catch Documentation Scheme
CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973)
COLTO – Coalition of Legal Toothfish Operators
DPRK – Democratic People's Republic of Korea (North Korea)
EC – European Commission or European Community, as appropriate
EEZ – Exclusive Economic Zone
EU – European Union
FAO – Food and Agriculture Organization of the United Nations
FAO-COFI – Food and Agriculture Organization of the United Nations – Committee on Fisheries
FFA – Pacific Islands Forum Fisheries Agency
Fish Stocks Agreement – The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995)
G77 – The Group of 77 at the United Nations
GATT – General Agreement on Tariffs and Trade
Global Record – FAO Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Support Vessels
GFCM – General Fisheries Commission for the Mediterranean (1949)
High Seas Task Force – Ministerially-led High Seas Task Force
HSVAR – High Seas Vessels Authorization Record
IATTC – Inter-American Tropical Tuna Commission (1950)
ICCAT – International Convention for the Conservation of Atlantic Tunas (1969)
ICES – International Council for the Exploration of the Sea
ICJ – International Court of Justice
ICTSD – International Centre for Trade and Sustainable Development
IMO – International Maritime Organization
IOTC – Indian Ocean Tuna Commission (1996)
IPOA-Fishing Capacity – FAO International Plan of Action for the Management of Fishing Capacity
IPOA-IUU – FAO International Plan of Action to Prevent, Deter and Eliminate Illegal,
ITLOS – International Tribunal for the Law of the Sea
IUCN – The World Conservation Union
IUU – Illegal, unreported and unregulated
IUU fishing – Illegal, unreported and unregulated fishing
LOSC – United Nations Convention on the Law of the Sea (1982)
MCS – Monitoring, control and surveillance
MRAG – Marine Resources Assessment Group
MSC – Marine Stewardship Council
MSY – Maximum Sustainable Yield
NAFO – Northwest Atlantic Fisheries Organization (1979)
NEAFC – North-East Atlantic Fisheries Commission/Convention (1982)

NGO – Non-governmental organization
OECD – Organisation for Economic Cooperation and Development
OPEC – Organization of the Petroleum Exporting Countries
PRC – People's Republic of China
RFB – Regional fisheries body
RFMO – Regional Fisheries Management Organization
SEAFO – South East Atlantic Fisheries Organization (2003)
SIOFA – South Indian Ocean Fisheries Agreement (2006)
SOFIA – The state of world fisheries and aquaculture. Published by FAO Fisheries and Aquaculture Department.
SPRFMO – International Consultations on a South Pacific Regional Fisheries Management
SWIOFC – South West Indian Ocean Fisheries Commission
UN – United Nations
UNCED – UN Conference on Environment and Development (1992)
UNCLOS – United Nations Convention on the Law of the Sea
UNEP – United Nations Environment Programme
UNFSA – The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the Fish Stocks Agreement) (1995)
VMS – Vessel Monitoring System(s)
WCPFC – Western and Central Pacific Fisheries Commission
WTO – World Trade Organization
WTO-CTE – World Trade Organization – Committee on Trade and Environment
WWF – World Wide Fund for Nature

Acknowledgments

Many thanks to Dr. Gail Lugten at the University of Tasmania Law School for her excellent supervision of this dissertation. Her expertise in international fisheries law, as well as her participation in important meetings regarding the proposed Global Record of fishing vessels, made her an ideal supervisor for this dissertation. In addition to insightful information and valuable feedback, Dr. Lugten lent this author her warmth and a great deal of encouragement during its development.

Very special thanks go to my family for their constant and total support.

By phone and email, Judith Swan of the Food and Agriculture Organization of the United Nations (FAO), in Rome, generously assisted the author's understanding of the draft Port State Measures Agreement. Also at FAO, Michele Kuruc and Steve Stuart provided helpful advice about the potential of the proposed FAO Global Record of fishing vessels. In Hobart, Dr. Denzil Miller, Executive Secretary of CCAMLR, provided very early advice on IUU fishing and what CCAMLR was doing about it on a regional basis. He spoke persuasively on the promise of port and market-related measures to combat the practice. CCAMLR Compliance Officer, Natasha Slicer, provided important information on compliance-related issues within CCAMLR, as well as developments within the international community. She gave the author a great deal of time through 2008 and 2009 to help hone many of the details of this thesis.

In Bremen, Germany, the Institut für Interkulturelle und Internationale Studien provided this author with a desk for nearly two months in late 2007 from which to explore ideas relating to vessel lists and the promise of port State measures. Dr. Dingwerth's work on private certification schemes, while no longer appearing in this dissertation, persuaded some of this author's early thoughts around the issue. Many thanks go to Dr. Dingwerth for the use of his apartment and introductions to Professor Lothar Probst, the administrative staff and researchers at InIIS.

At the UBC Fisheries Centre in Vancouver, Canada, Drs. Daniel Pauly, Rashid Sumaila, Tony Pitcher and Dirk Zeller provided useful early information and feedback on the extent of the problem of IUU fishing. In London, Dr. David Agnew provided critical insights into the retailer-led consumer movement in the major markets in Europe, as well as the promise of vessel black listing and market-related measures. Also in London, staff at the Marine Stewardship Council provided instructive information on the market for certified fish and the challenges that have emerged in spreading the market beyond Europe and North America. Andrew Serdy, at the University of Southampton Institute of Maritime Law, provided useful information regarding both property rights in fisheries and the use of vessel lists.

At the World Trade Organisation in Geneva, Marie-Isabelle Pellan, Counsellor in the Trade and Environment Division, provided guidance on the workings of the Committee on Trade and Environment, World Trade Organization (WTO) dispute settlement panels and General Agreement on Tariffs and Trade (GATT) and WTO Chapter XX cases. Jesse Kreier, Counsellor and Chief Legal Officer in the Rules Division, provided helpful advice on the WTO's work on fisheries subsidies. At the Organisation for Economic Cooperation and Development (OECD) in Paris, Carl-Christian Schmidt and Anthony Cox discussed port State

controls and market-based measures with this author. Andrew Jackson, recently retired from the Australian Antarctic Division in Hobart as General Manager of Policy, tested the author's ideas during numerous informal meetings between 2007 and 2009.

Most importantly, the Institute of Antarctic and Southern Ocean Studies (IASOS) at the University of Tasmania and the Antarctic Climate and Ecosystem Cooperative Research Centre generously lent their financial support to this author's doctoral candidature. The latter also funded a short but crucial period of fieldwork in Europe, won through a competitive scholarship in 2007. Drs. Julia Jabour, Marcus Haward and Robert Hall within IASOS and the School of Government at the University of Tasmania provided early assistance to my candidature and also have my heartfelt thanks.

Thesis

An international legal regime has evolved over the past fifteen years to deal with two things: a) the issues which were left unresolved by the 1982 UN Convention on the Law of the Sea; and b) the arrival of IUU fishing on a global scale. But this legal regime has not been successful in bringing sustainability to fisheries or preventing, deterring or eradicating IUU fishing. Two proposed legal instruments are currently in development at the Food and Agriculture Organization of the United Nations (FAO) – a Global Record of Fishing Vessels and a Port State Measures Agreement.

If implemented fully, they will plug major gaps in the coverage of international fisheries law. If they are supported by States and if better, more coordinated use is made of trade and market-related measures, the two proposed instruments explored in this dissertation will be able to greatly assist the international community in combatting IUU fishing. However, it is only if these instruments and measures are fully supported by States that they will make the difference the international community needs in combatting IUU fishing.

Statement of purpose

IUU fishing in some form reportedly exists in just about every fishery. The United Nations (UN) considers that "IUU fishing in all its forms" represents the "main obstacle to achieving sustainable fisheries both in areas under national jurisdiction and on the high seas."[2] The international regime of soft and hard laws that are intended to address this ongoing problem have had only minimal impact. FAO has since begun development of two new international legal initiatives: a legally-binding draft Port State Measures Agreement and a Global Record of Fishing Vessels. The March 2009 FAO Committee on Fisheries (FAO-COFI) meeting endorsed both initiatives. The draft Port State Measures Agreement will be finalised in late 2009. The Global Record of fishing vessels is in early stage development. The objective of this dissertation is to analyze both proposed initiatives and evaluate their likely effectiveness at redressing IUU fishing.

Significance of this project

Along with climate change and ozone layer depletion, the health and productivity of the world's ecosystems and fisheries have become international priorities. Yet IUU fishing fatally undermines attempts to restore world fish stocks to health.. While fishing outside of regulations has plagued the world's oceans for decades, it became prominent in the 1990s. Its destructive presence has stymied local and international efforts to evolve towards greater sustainability in fisheries. It has been the primary issue on the international fisheries agenda for over ten years. The increasing sophistication of these fishing operations and their links to criminal networks has had a corrosive effect on governments. IUU fishing impacts particularly those States which are trying to develop their economies, in part by exploiting their own fish stocks. IUU fishing is therefore a law enforcement, maritime security and economic development issue as much as it is a fisheries or environmental issue.

[2] Report of the Secretary General of the United Nations. 2004. Above, n.1.

Illegal, unreported and unregulated fishing has proven resistant to the international legal regime which has been adopted to try and redress it. Three major problems still exist:

a) there is inadequate data regarding IUU activities, the beneficial owners of these operations, and the size, scope and activities of the world's fishing fleet;

b) flag States have not been effective in controlling the activities of their fleets; and

c) market-based measures have not been used effectively enough to impact on IUU fishing in any decisive way.

In 2005 the Ministerially-led High Seas Task Force conducted a comprehensive analysis of the problem of IUU fishing. In March 2006 it made nine recommendations. One was to develop a global information system on high seas fishing vessels. Another recommended strengthening port State controls. In concert, both would help redress the foregoing three major problems. Two international proposals to combat IUU fishing are currently in development within FAO: a Global Record of fishing vessels and a draft Port State Measures Agreement. No academic analysis has yet been made of their content, the challenges against them and either instrument's likelihood of success. This work sets out to do so, and thus provides a significant and original contribution to research conducted in this area.

Scope

This dissertation is limited by the author's relative distance from primary sources, limited resources and status as a doctoral student. Interviews with key people within FAO and elsewhere were therefore of great assistance, as were secondary resources in the form of journal articles and newspaper articles. As there is little academic literature regarding the draft Port State Measures Agreement and the Global Record of fishing vessels, primary resources were used in great abundance. These included the June 2008 and January 2009 draft versions of the draft Port State Measures Agreement, the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, and numerous FAO reports and texts.

This dissertation does not seek to evaluate States' implementation of various components of the international legal regime, and instead relies on other documentation that indicates that implementation has been poor and new compliance mechanisms need to be found. This dissertation does not seek to evaluate the *capacity* of individual countries or international organizations to implement the proposed legal tools. It does not assess likely political will or other political matters. It leaves these matters open for future research.

Research Questions

This dissertation sets out to answer four primary research questions:

1) What international measures are currently employed to reduce IUU fishing?;
2) How will the draft Port State Measures Agreement and Global Record work?;
3) Can trade and market-related measures effectively support these two new tools?; and
4) Will these two new instruments significantly contribute to solving the problem of global IUU fishing?

Dissertation outline

Chapters 1 & 2 – Introduction

Chapters 1 and 2 will set the context for the dissertation's substantive discussions by identifying the state of world fish stocks, the ever-increasing demand for seafood and the rise of IUU fishing. This is necessary background material for the balance of the dissertation.

Chapters 3, 4 & 5 – The existing international legal regime and why it has not worked

Chapters 3, 4 and 5 will describe the existing international legal regime of marine capture fisheries and the threat of IUU fishing. The tools that this dissertation explores – the draft Port State Measures Agreement and the Global Record of fishing vessels – will ultimately reside within this framework. These chapters seek to discover why, despite twenty-five years of significant political energy and international legal efforts, IUU fishing persists on all of the world's oceans. These chapters seek to answer the dissertation's first research question: What international measures are currently employed to combat IUU fishing?

Chapter 3 will describe and evaluate the binding agreements that make up part of the international legal framework surrounding fisheries. These agreements have attempted to: a) redistribute fisheries resources; b) rebuild and conserve fish stocks; and c) combat IUU fishing. The chapter examines the foundational treaty upon which all the others (including the two legal agreements this dissertation recommends) lie: the 1982 UN Convention on the Law of the Sea (LOSC).[3] This treaty has been signed by 158 States, plus the European Community. Among other things, it creates a regime for the regulation of high seas fisheries and another for the exploitation of fish stocks in the Exclusive Economic Zones of coastal States. It provides for the declaration by coastal States of 200-mile Exclusive Economic Zones. These jurisdictional extensions tie up 36% of the ocean and 90-95% of the world's marine fisheries. The LOSC enshrines two important customary international law concepts: freedom of the high seas and freedom of high seas fishing, subject to the general limitation to have "due regard for the interests of other States in their exercise of the freedom of the high seas."

One major weakness in the LOSC regime was the management of shared international fish stocks – that is, straddling and highly migratory stocks. To try and

[3] United Nations Convention on the Law of the Sea. 10 December 1982. 21 ILM 1245. This treaty entered into force on 16 November 1994.

better manage these important stocks, the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement) was adopted.[4] It made cooperation through RFMOs the primary vehicle of management. States were required to make it an offence for flagged vessels to undermine regional and international conservation and management measures, and, if necessary, use enforcement measures to achieve compliance.

The third piece of hard law this dissertation will examine in chapter 3 will be the 1993 FAO Compliance Agreement.[5] This treaty sought to address two needs: a) the collection of better information on high seas fishing vessels; and b) the deterrence of the practice of reflagging vessels for the purpose of avoiding compliance with international conservation and management measures. It does this, in part, by setting out in great detail the responsibilities of States. Article III(1)(a) mandates that parties must "take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures."

Chapter 4 will examine the so-called 'soft law' that has evolved to deal with IUU fishing. The non-binding FAO Code of Conduct for Responsible Fisheries (Code of Conduct) was adopted in 1995 as an umbrella agreement. Under the Code of Conduct, *inter alia*, the non-binding FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU) was elaborated. It acknowledged that "existing international instruments addressing IUU fishing have not been effective due to a lack of political will, priority, capacity and resources to ratify or accede to and implement them."[6]

The IPOA-IUU was designed as a 'toolbox' of measures for States to employ, and it included important new and important ways to exert control over fishers. While flag States were to remain the 'first defence' against IUU, port State controls and internationally agreed market-related measures became second and third pillars upon which enforcement of international fisheries rules would rest. This part of the dissertation seeks to discover why the Compliance Agreement, the Fish Stocks Agreement, the Code of Conduct and the IPOA-IUU have not, collectively, been successful in combatting IUU fishing.

Chapter 5 will explore monitoring, control and surveillance (MCS) in fisheries. The enhancement of these activities is likely to play a key role in combatting IUU fishing. This chapter will look at the role played by *information*. To that end it will investigate the promise of Vessel Monitoring Systems (VMS) and examine the vessel lists kept by RFMOs. In addition, it will also explore the FAO High Seas Vessels Authorization Record (HSVAR). This was the first attempt at creating a large-scale, long-term fishing vessel record.

---

[4] Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. 8 September 1995. 34 ILM 1542. This treaty entered into force on 11 December 2001.

[5] Food and Agriculture Organization. Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. 24 November 1993. 33 ILM 968. This treaty entered into force on 24 April 2003.

[6] Paragraph 1, IPOA-IUU.

Chapters 6 & 7 – Two proposed new international tools to eliminate IUU fishing

The balance of the dissertation represents the original contribution to the academy that is required for the award of a doctorate. IUU fishing operations can be removed from an area by enhancing monitoring, control and surveillance measures, but oftentimes this merely shifts the problem.[7] It has been recognized for some time that increasing the transparency of operations and obtaining greater and better quality information about vessels, their movements and ownership are keys to gaining more effective control over fishing activities.[8]

While the High Seas Vessels Authorization Record (discussed in chapter five) was meant to help in this regard – it has not worked as it was envisaged. Insufficient numbers of States released information to the international community and what information was released was poor and out of date. This means that comprehensive data still does not exist. In addition, the HSVAR was not widely accessible and it was barely used. In April 2004 the Organisation for Economic Cooperation and Development (OECD) hosted a workshop which was attended by around 120 experts on IUU fishing. The workshop identified major concerns regarding information:

- a lack of systematic and comprehensive information on the extent of IUU operations and impacts, compounded by "the varying level in quality, accessibility, reliability and usefulness of the available data";
- a lack of integration between international instruments regarding information collection;
- inconsistent information collection by market countries;
- the scope of the information gathered is too narrow.[9]

A FAO Expert Consultation, which was convened to examine the possibility of implementing a comprehensive record of fishing vessels, agreed that a lack of transparency in combination with an absence of information was a major constraint on the deterence of IUU fishing.[10]

Chapter 6 will therefore describe and analyze a newly proposed international tool to curb IUU fishing: a Global Record of fishing vessels (Global Record). This is currently under consideration within FAO and is not yet in the physical shape of either an international implementing agreement or a working database. The chapter will seek to understand why such a record of vessels has come to be considered important and how the Global Record might work. It will examine how, if adopted, it could add significant value to the imperfect suite of tools currently in use to combat IUU fishing.

Chapter 7 will describe and analyze a second proposed international tool, a Port State Measures Agreement. This agreement is currently in draft form within FAO. The

---

[7] Indeed, the international legal regime appears to have gaps of such size that rather than shutting down IUU it has, Lugten notes, instead led: "to a proliferation of activity that falls beyond the law..." Lugten, G.L. 2008. "Legal consultation for the Food and Agriculture Organization of the United Nations – Development of a comprehensive Global Record of fishing vessels, refrigerated carriers and support vessels." Appendix H. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* Rome, Italy. 25–28 February 2008. FAO Fisheries Report No. 865. FIIT/R865. p.58.

[8] See generally: FAO. 2008. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. Food and Agriculture Organization of the United Nations. Rome, Italy; and OECD. 2004. *Workshop on IUU Fishing Activities: Key Observations and Findings by the Workshop Chairs.* pp.1-2

[9] OECD. 2004. Above, n.5. p.2.

[10] See generally: FAO. 2008. Above, n.5.

chapter will seek to understand how measures taken by port States can be valuable to combatting IUU fishing. It will investigate how an international legally-binding agreement sanctioning the enhanced use of port state measures came to be seen as a vital addition to the international legal regime surrounding fisheries. It will look at the experience of the International Maritime Organization's (IMO) port State control regimes. Most importantly, this chapter will examine the draft treaty itself and outline its major substantive provisions. It will assess how effectively it might work in practice.

Chapter 8 – Market-related measures and enforcement

It is believed by many in the international community that making IUU fishing operations less profitable (even *un*profitable) is the key to eliminating the trade in fish caught outside of the regulations. If it is a crime of opportunity and profit, then denying access to the market-place and consumers should force operators to abandon what would become a loss-making trade.

This chapter will examine how States have used trade-related measures to enforce national environmental standards. It will move on to examine various private, market-based initiatives, in particular the Marine Stewardship Council. Both the Global Record and the draft Port State Measures Agreement would use access to the market as a lever to enforce compliance with its rules. The market approach therefore brings a unique set of capabilities to the suite of measures employed by the international community to combat IUU fishing. This chapter will explore the market as a potentially effective and cost-efficient way in which international fisheries rules can be enforced. It will evaluate whether the market approach can support the draft Port State Measures Agreement and the Global Record. In doing so, this chapter's research will seek to answer a third research question: Can trade and market-related measures effectively support fisheries agreements?

Chapter 9 – Conclusion

Chapter 9 will summarize the major findings from the preceding chapters and seek a comprehensive answer to this dissertation's fourth research question: Will the Global Record of fishing vessels and the Port State Measures Agreement significantly contribute to solving the problem of global IUU fishing? It will discuss whether or not these instruments, together with enhanced and better coordinated market-related measures of compliance and enforcement, can prevent, deter and eliminate IUU fishing.

Chapter 1 – Fish Stocks in Trouble

Introduction

This opening chapter will explore the state of global fish stocks, to give the problem of IUU fishing a meaningful context. It will be seen that the difficulties of managing commons areas of the globe has combined with an ever-increasing demand for seafood. Fishing subsidies have promoted long-term over-harvesting. Aquaculture is still inefficient. After nearly six decades of poor fisheries management, these factors in combination have created what has been described as a crisis in world fisheries.[1] IUU fishing is so destructive because it has come on top of this world fisheries crisis. The 'race to fish' has encouraged unsustainable harvesting and the destruction of primary elements within marine ecosystems. This short chapter is meant as a backdrop to later substantive discussions on what can be done about illegal, unreported and unregulated fishing.

Fish, or products shaped like fish?

Ocean fisheries have existed since the English cod fishery in the 11th century.[2] Since their subjection to industrialization in the mid-20th century, fisheries have been characterized by periods of 'boom and bust'.[3] There is broad agreement that the global fishing fleet is so large and employs such efficient harvesting technology[4] that many fisheries are now depleted or being fished at an unsustainable level. According to the Food and Agriculture Organization of the United Nations 2008 State of World Fisheries and Aquaculture report, some 25-30% of the more than 260 fish stocks that are monitored by the organization are either substantially depleted, overexploited or recovering from depletion.[5] The areas with the highest proportions (46-60%) of this category of stock are the Southeast Atlantic, the Southeast Pacific, the Northeast Atlantic and the high seas.[6] The fish most vulnerable are the tuna and tuna-like species

---

[1] World Bank, United Nations Development Programme, Commission of the European Communities, and Food and Agriculture Organization of the United Nations. 1992. *A Study of International Fisheries.* Policy and Research Series No. 19. World Bank. Washington DC.

[2] Roberts, Callum. 2007. *The unnatural history of the sea.* Island Press. Washington DC, USA; Roberts, Callum. Monday, 17 December, 2007. "Quota calls fail to catch the drift." *BBC News.* Online edition. http://news.bbc.co.uk/2/hi/science/nature/7144337.stm. Accessed 11 March 2008.

[3] Baird has identified the improvements in technology that helped make commercial fishing so efficient that it facilitated this cycle vastly more rapidly than at any other period in human history: high powered ships, drag nets and onboard freezers. See chapter: "Economic and Political Factors influencing the development and practice of High Seas Fisheries and the emergence of IUU Fishing." In Baird, Rachel J. 2006. *Aspects of Illegal, Unreported and Unregulated Fishing in the Southern Ocean.* Springer. Netherlands. p.68. According to Myers and Worm, industrialized fishing tends to reduce stock numbers by 80% in about fifteen years. Myers, Ransom A. and Worm, Boris. 2003. "Rapid worldwide depletion of predatory fish communities." 15 May 2003. *Nature.* Vol. 423. p.280.

[4] Such as military sonar. In Amos, Jonathan. "Deep fish 'trawled to oblivion'." 18 February 2002. *BBC News Online.* http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2002/boston_2002/1823575.stm. Accessed 19 May 2009. Sylvia A. Earle, former chief scientist of the US National Oceanic and Atmospheric Administration has observed that: "Fleets of squid boats can be seen by astronauts" due to the use of lights to attract the creatures. In Broad, William J., and Revkin, Andrew C. "Has the Sea Given Up Its Bounty?" *The New York Times.* New York, N.Y. 29 July 2003. pg. F1. http://www.nytimes.com/2003/07/29/science/29OCEA.html. Accessed 2 June 2009.

[5] FAO. The State of World Fisheries and Agriculture. (Hereafter, SOFIA). 2008. p.30. The proportion of fisheries that are exploited to their full capacity has remained steady – at around 50% – for some years.

[6] FAO. SOFIA. 2006. p.32

of the Atlantic and Indian Oceans.[7] Noted environmentalist Prince Charles told a fundraising gala in early 2004 that a fisheries collapse was well underway.[8] Roberts estimates that cod was previously "30 to 50 times more abundant in the North Sea than it is today."[9] Atlantic cod populations have declined by almost 90%, down from 2 billion breeding individuals in the 1960s.[10] It is widely acknowledged that Canada's Atlantic cod stocks suffered a population collapse in the early 1990s[11] and that the fishery may never recover. There is evidence that the ecosystem – without the cod – may have moved to a new, stable state, with no room anymore for the cod.[12]

Researchers have warned that tuna fisheries around the world are facing a similar collapse.[13] The total world catch of tuna (all species combined) increased from 0.4 to 3.9 million metric tons over the last fifty years, according to FAO.[14] Northern stocks were the heaviest hit. Spawning stocks of the highly prized Atlantic blue-fin tuna have fallen by 90% since 1970. In the Mediterranean, blue-fin tuna stocks were reduced by 80% from 2004 through 2006.[15] In historical terms they have been reduced to approximately 50% of their natural abundance.[16] Between 2001 and 2004, the Western and Central Pacific Ocean yellowfin tuna industry fell from $1.9 billion in value to $1.1 billion – a drop of 40%.[17] Southern bluefin tuna was caught at a rate of around 12,000 to 15,000 tonnes a year in the 1950s. It is remarkable, now, to think that this was mostly for canning. Once Japanese longliners began fishing for the sushi and sashimi market using vessels with on-board freezers, Southern bluefin tuna leaped in value. Catch peaked at around 80,000 tonnes in the early 1960s. By the early 1980s it was fished down to 40,000 tonnes a year.[18] In 2007 the catch was 10,586 tonnes – not even

---

[7] FAO. SOFIA. 2006. p.32.

[8] Kirby, Alex. "Charles warns on vanishing fish." 4 March 2004. *BBC News Online.* http://news.bbc.co.uk/2/hi/science/nature/3530111.stm. Accessed 28 August 2005. It should be noted that a collapse is a loss of 90% or more of a stock's natural abundance. See: Worm, Boris, Barbier, Edward B., Beaumont, Nicola, Duffy, J. Emmett, Folke, Carl, Halpern, Benjamin S., Jackson, Jeremy B.C., Lotze, Heike K., Micheli, Fiorenza, Palumbi, Stephen R., Sala, Enric, Selkoe, Kimberley A., Stachowicz, John J., Watson, Reg. 2006. "Impacts of Biodiversity Loss on Ocean Ecosystem Services." *Science.* 3 November 2006. Vol. 314. No. 5800. p.788.

[9] Roberts. 2007. "Quota calls fail..." Above, n.2.

[10] Gewin, Virginia. "Troubled Waters: The Future of Global Fisheries." *PLoS Biol.* Vol. 2. Issue 4. April 2004. p.424, citing Hutchings, J.A., 2000.

[11] Its value dropped from $1.4 billion in 1968 to $10 million in 2004. A moratorium was implemented on 2 July 1992.

[12] Worm notes that: "Other species have increased in abundance, species that usually were preyed upon by cod... Things like herring or capelin or sand lance, for example, are now thought to prey heavily on the larvae and eggs of cod; so the prey now is the predator, and that may diminish the ability of cod to recover." Quoted in Black, Richard. 17 October 2007. "Last rites for a marine marvel?" *BBC News,* online edition. http://news.bbc.co.uk/2/hi/science/nature/7040011.stm. Accessed 7 March 2008.

[13] McKenna, Phil. 19 February 2008. "Tuna fisheries facing a cod-like collapse." NewScientist.com. http://environment.newscientist.com/channel/earth/dn13346-tuna-fisheries-facing-a-codlike-collapse.html. Accessed 3 March 2008.

[14] Miyake, Makoto Peter, Miyabe, Naozumi, and Nakano, Hideki. 2004. *Historical trends of tuna catches in the world.* FAO Fisheries Technical Paper No. 467. Food and Agriculture Organization of the United Nations. Rome, Italy.

[15] The Economist. January 27, 2007. "Asia: Fins with the blues." Vol. 382. No. 8513. London. p.59

[16] McKenna. Above, n.13. Citing Barbara Block, Professor in Marine Sciences, Stanford University, California, US; Roberts has estimated that: "there is probably only one bluefin left for every fifty present in 1940." See: Yardley, Jonathan. 29 July 2007. "The End of Bounty: Today the Vast Seas Aren't Enough For Fish to Escape Extinction." *Washingtonpost.com.* Book Review of Roberts, Callum. *The Unnatural History of the Sea.* Island Press. 2007.

[17] McKenna. Above, n.13.

[18] Miyake *et al.* 2004. Above, n.14.

reaching its quota.[19] Since then, management efforts by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and the curtailment of the Japanese unreported catch[20] have reduced fishing pressure on Southern bluefin tuna.[21]

In short, nearly two thirds of the world's straddling and highly migratory fish stocks are overexploited.[22] Thirty per cent of the world's tuna are either overexploited or depleted.[23] Around 50% of the stocks of oceanic shark species are either overexploited or depleted.[24] In fact, an estimated 90% of large predatory fish species have disappeared from the oceans:[25] the World Resources Institute estimates that "the quantity of large, commercially desirable fish such as cod, tuna, swordfish and salmon has dropped more than 90% in the world's oceans since the start of large scale industrial fishing."[26] Not only is this a dire situation for fish stocks and the ecosystems in which they live, it is a dire situation for people. Fisheries provide the world with 16% of its animal protein[27] and an estimated one billion people depend on fish for their livelihood.[28]

Ecosystems may have the capacity to adapt in limited ways to trophic changes such as those that take place when predatory species are removed or reduced. Pauly has observed that fisheries have long been characterized by unsustainable harvesting, serial depletions and the removals of predators from the food chain.[29] Between 1950 and 1994 the mean trophic level of exploited species changed from high trophic level, long lived, piscivorous bottom fish to low trophic level, short-lived invertebrates and planktivorous pelagic fish.[30] According to Pauly *et al*, fishing down the food web reaps good initial catches that are quickly followed by stagnation and decline.[31] Worm, Lotze and Myers

---

[19] CCSBT. *Global Southern Bluefin Tuna Catch By Flag*. The 2007 figures quoted are the latest figures available at the time of writing. www.ccsbt.org

[20] It is believed that up to 178,000 tonnes of unreported Southern bluefin tuna was caught over the course of twenty years up to 2006. See: http://www.amcs.org.au/default2.asp?active_page_id=485. Accessed 29 April 2009.

[21] A reduced total catch quota of 11,810 tonnes was agreed within the CCSBT in 2006. See: http://www.ccsbt.org/docs/management.html. Accessed 29 April 2009.

[22] Straddling stocks are those that occur within the exclusive economic zones of two or more coastal states, or that straddle between one or more exclusive economic zones and the high seas beyond it. Highly migratory stocks are those that migrate over long distances, crossing EEZs and back into the high seas during their travels.

[23] United Nations. First Review Conference of the 1995 United Nations Fish Stocks Agreement. 2006. "Review Conference On Conservation, Management Of Fish Stocks Opens In New York." United Nations. NY, USA. 22 May 2006. http://www.un.org/News/Press/docs/2006/sea1853.doc.htm Accessed 26 April 2007.

[24] FAO. SOFIA. 2006. p.33.

[25] Pauly, Daniel. *Strange Days on Planet Earth*. ABC TV. 15 Jan 2008.

[26] Denton, Peter. "Over-fishing the World's Seas." World Resources Institute. http://marine.wri.org/topic_content.cfm?cid=3299. Accessed 19 May 2009.

[27] FAO Newsroom. 1 July 2004. "Excess capacity and illegal fishing: challenges to sustainable fisheries." http://www.fao.org/newsroom/en/focus/2004/47127/index.html. Accessed 4 July 2008.

[28] ICTSD. "US Proposal Calls for Major Cuts to Commercial Fishing Subsidies." *TradeBioRes*. Vol. 7. No. 6. 30 March 2007. http://www.ictsd.org/biores/07-03-30/story1.htm. Accessed 21 June 2007.

[29] Pauly, Daniel. 2002. "Towards sustainability in world fisheries." *Nature*. 8 August. Vol. 418. p.689.

[30] Piscivorous fish are those types of fish that feed mainly on other fish. They are predatory fish. Planktivorous fish feed mainly on plankton.

[31] Pauly, D., Christensen, V., Dalsgaard, J., Froese, R., Torres Jr, F. "Fishing down marine food webs." *Science*. 6 February 1998. Vol. 279. No 5352. p.860. Trophic substitution might be acceptable (and undetectable) at the consumer level, but it is disastrous at the ecosystem level. Jacquet and Pauly write, "low-trophic level, farmed fish such as tilapia may be substitutable for high-trophic level, wild fish at dinnertime, but they cannot replace the function of wild fish in the ecosystem from which they were

note that overexploitation can result in "trophic cascades."[32] Their study suggests that industrial whaling undertaken in the Bering Sea between 1950 and 1975 may have initiated "a shift in food web structure."[33] To Worm *et al*, the effect of fishing activities (in the case of their study, North Atlantic whaling) should be understood as "part of a bigger, emerging picture: the destabilizing effects of removing most large predators, such as whales, seals, turtles, bony fishes, sharks and rays, effectively terminating their roles as key functional components of marine ecosystems."[34] While their analysis suggests a certain resilience to depredation,[35] such patterns of exploitation are commonly held to be unsustainable.[36] They are also unpredictable. The removal of predator species can have dangerous flow-on effects that may not have been considered at the time of the removals.[37] The most benign result has been that catches from most fisheries have reached a plateau.[38] FAO has reported that "the maximum wild capture fishery potential of the world's oceans has probably been reached."[39] Juda has observed that "qualitatively the portion of total fish catch representing high-quality, high-priced, and high-demand fish stocks is declining."[40]

---

extracted." Jacquet, Jennifer L., and Pauly, D. 2007. "The rise of seafood awareness campaigns in an era of collapsing fisheries." *Marine Policy*. Vol. 31. p.311, citing Pauly and McLean, 2003.

[32] Worm, Boris, Lotze, Heike K., and Myers, Ransom. 2006. "Ecosystem effects of fishing and whaling in the North Pacific and Atlantic Oceans." In Estes, James A., Demaster, Douglas P., Doak, Daniel F., Williams, Terrie M., and Brownell Jr, Robert L. *Whales, whaling, and ocean ecosystems.* University of California Press. p.335.

[33] Worm, Lotze and Myers. 2006. Above, n.32. p.341.

[34] *Ibid.*

[35] Worm *et al* note that "marine ecosystems can change rapidly in response to perturbations", leading "to new stable states" or a complete reorganization, with outbreaks of some species and collapses of others. Above, n.32. p.341.

[36] Pauly *et al*. 1998. Above, n.31. p.860.

[37] Most of this work investigates the hypothesis that "top predators are often essential to the integrity of ecological communities". Soulé, Michael E., and Terborge, John (eds). 1999. *Continental Conservation: Scientific Foundations of Regional Reserve Networks.* Island Press. Washington, D.C. p.40. Investigations of trophic cascades in terrestrial systems caused by loss of top non-human predators show that these ecosystems may "have high herbivore densities with associated negative impacts on plant communities, leading to reductions in biodiversity." Hebblewhite, Mark, White, Clifford A., Nietvelt, Clifford G., McKenzie, John A., Hurd, Tomas E., Fryxell, John M., Bayley, Suzanne E., and Paquet, Paul C. 2005. "Human activity mediates a trophic cascade caused by wolves." *Ecology*. Vol. 86. No. 8. p.2136. For example, the removal of wolves from the North American wilderness allowed elk to forage more intensively than when wolves were present. Reintroducing the wolves appears to have allowed the regeneration of aspen trees (and canopies, thus, in time, biodiversity) by altering the movements, browsing patterns, and foraging behavior of elk. Ripple, William J., Larsen, Eric J., Renkin, Roy A., and Smith, Douglas W. 2001. "Trophic cascades among wolves, elk and aspen on Yellowstone National Park's northern range." *Biological Conservation*. Vol. 102. No. 3. December. p.227. In Banff National Park in Canada, a similar effect has been seen. Aspen, willow trees, beavers and the riparian songbird were all affected by the reintroduction of wolves – the trees negatively and the others positively. (Hebblewhite *et al*, above this n.)

[38] FAO. COFI. 2008. *Analysis of the implementation and impact of the FAO Code of Conduct for Responsible Fisheries since 1995.* Meeting document for Twenty-Eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/Inf.10. Food and Agriculture Organization of the United Nations. Rome, Italy. p.1. It is believed that world marine fish catch may have peaked in 1994. Since then it has contracted and leveled off. Biello, David. 2 November 2006. "Overfishing Could Take Seafood Off the Menu by 2048." *Scientific American.* http://www.scientificamerican.com/article.cfm?id=overfishing-could-take-se. Accessed 7 May 2009, citing Worm *et al* (2006). Above, n.15.

[39] FAO. "Strengthening regional fisheries governance." http://www.fao.org/fishery/topic/14908/en. Accessed 19 May 2009.

[40] Juda, Lawrence. 2001. "The United Nations Fish Stocks Agreement." *Yearbook of International Cooperation Environment and Development 2001-2002.* Earthscan/The Fridtjof Nansen Institute. London. p.53.

With few traditional stocks for fishers to expand into,[41] fishers have also been enticed further down the water column.[42] 40% of the world's trawling grounds are situated beyond the edges of continental shelves,[43] where trawlers seek slow-growing, low-fecundity deep-water fish.[44] These are deeply fragile stocks. With the effects on these ecosystems still largely unknown, this author emphasizes that wild fish are not just wild food, they are wild *life* and part of a much greater and still not wholly known system of wild*ness*.

Lost fish of the past

Because global fish catches have reach a plateau, the only way that industrial fishing has been able to sustain catch sizes is to burn ever more billions of gallons of fuel.[45] Roberts observes that the global industry has had to invent "ever better ways of catching fish and spreading across the globe in search of less intensively exploited stocks."[46] Once these stocks are found, Myers and Worm note that "industrialized fisheries typically reduced community biomass by 80% within 15 years of exploitation."[47]

Fisheries may be reaching the limits of the natural system. If so, it is possible that the wild-capture fish stocks crisis will be provided with a *sui generis* solution – through the cost of wild fish soaring so high that it becomes a food for only the very wealthy. It has been observed that "Unless we fundamentally change the way we manage all the ocean species together, as working eco-systems, then this century is the last century of wild food."[48]

Indeed, it has been predicted that commercial fish stocks will collapse worldwide by 2048 if present exploitation patterns continue and biodiversity loss continues.[49] This will affect both developed and developing countries.[50] It has been observed that if over-harvesting continues, "in a few decades our definition of fish will have to change; people will not know real fish, they will only know processed stuff that is shaped like fish."[51] CCAMLR Executive Secretary Denzil Miller has said that if we

---

[41] Fishers have begun to exploit areas that are opening up as a result of climatic changes, for example the Northwest and Northeast Passages in the Arctic.

[42] FAO reports that between 2002 and 2004 there was a 20% increase in the total catch of deep-water species. FAO. SOFIA. 2006. p.10.These fish generally have infinitely slower recovery times from fishing depredation than do stocks in shallower waters.

[43] Amos. 2002. Above, n.4.

[44] *Ibid.*

[45] In 2005, scientists calculated that global fisheries burned close to 50 billion litres of fuel to land 80 million tonnes of seafood. The authors observed that "fisheries account for about 1.2% of global oil consumption, an amount equivalent to that burned by the Netherlands... and directly emit more than 130 million tonnes of CO2 into the atmosphere. From an efficiency perspective, the energy content of the fuel burned by global fisheries is 12.5 times greater than the edible-protein energy content of the resulting catch." Tyedmers, Peter H., Watson, Reg and Pauly, Daniel. 2005. "Fueling Global Fishing Fleets." *Ambio.* Stockholm. December. Vol. 34. Iss. 8. p.635.

[46] Roberts. 2007. "Quota calls fail..." Above, n.2.

[47] Myers and Worm. 2003. Above, n.3.

[48] Pearce, Fred. 2 November 2006. "No more seafood by 2050?" *NewScientist.com.* http://environment.newscientist.com/channel/earth/dn10433-no-more-seafood-by-2050.html. Accessed 3 March 2008.

[49] Worm *et al.* 2006. Above, n.8.

[50] Pauly, Daniel. 1995. "Anecdotes and the Shifting Baseline Syndrome of Fisheries." *Trends in Ecology and Evolution.* Vol. 10. No. 10. p.430.

[51] These products will be made, for example, of plankton or jellyfish. Amos, Johnathon. "Fish 'massacre' in North Atlantic". 16 February 2002. *BBC News Online.* http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2002/boston_2002/1825166.stm. Accessed 28 August 2005. Amos interviewed Daniel Pauly of University of B.C., who describes the study's findings regarding fish

do not change the way we deal with the oceans, "we'll fish down every fishery until wild protein from the sea is a dream."[52]

Consumers may be unaware of the state of wild fisheries, in part because it is now typical to sell what might once have been rejected.[53] Jacquet and Pauly give the example of Rock and Jonah crab: previously routinely discarded, it is now "marketed in spring rolls and crab congee." Hastings observes that when fish species disappear from markets and shelves, "people shrug and eat something else."[54] Ancient Africans "eradicated a six-foot-long catfish 90,000 years ago" then moved onto another species,[55] they were conducting a "species trade-in scheme."[56] Worm calls this a thousands of year old habit.[57]

Public tastes are altered as marine ecosystems are altered[58] and the one overpowering, invisible, coordinating driver for this destruction is *demand*. Driving this exploitation are the high market prices that are now paid for the fish products many people like to eat. These prices are made higher by their increasing rarity. Phillips, describing the fatal plight of the Spix's Macaw, observes that "It is big business to make resources scarce."[59] Indeed, in 2001 a 444lb (~200kg) Atlantic bluefin tuna sold at auction at Tsukiji Central,[60] Japan's largest fish market, for a record USD173,600.[61]

Subsidizing over-capacity in the world's fishing fleet

This demand pressure has been enabled by three primary factors at the heart of the global fish stocks crisis. A triangle can be drawn which shows these factors (below). The top point is over-capacity (i.e. there too many boats), the bottom right is the

---

stocks in the North Atlantic Ocean as "far worse than people had anticipated." Accessed 28 August 2005; Roberts describes this in Chapter 23 of *The unnatural history of the sea*, entitled "Barbequed Jellyfish or Swordfish Steak?" Roberts. 2007. Above, n.2.

[52] Miller, Denzil. Presentation to IASOS, University of Tasmania. 23 April 2008.

[53] Rosenberg notes that when individual stocks become overexploited, fisheries typically expand "to additional species previously regarded as by-catch, and possibly discarded." Rosenberg, Andrew A. 1998. "Controlling Marine Fisheries 50 Years from Now." *J. Northw. Atl. Fish. Sci.*, Vol. 23. p.95.

[54] Hastings, Max. 31 October 2005. "We need to start caring about fish, or there won't be any left to eat." *The Guardian*. http://www.guardian.co.uk/environment/2005/oct/31/fish.food. Accessed 19 May 2009.

[55] Greenberg, Paul. "The Catch." *The New York Times*. October 23, 2005. Pitcher reviews past eradications of fish species into antiquity. Pitcher, Tony J. 2001. "Fisheries Managed to Rebuild Ecosystems? Reconstructing the Past to Salvage the Future." *Ecological Applications*. Vol. 11. No. 2. April. p.603.

[56] For Pauly, this human pattern has created multitudes of "lost fish of the past." In Greenberg. 2005. Above, n.55.

[57] Boris Worm told *Scientific American*, "We have a 1,000-, probably 10,000-year habit of taking the oceans for granted and moving from one species to the next, or replacing it with a technological fix like aquaculture." In Biello. 2006. Above, n.38.

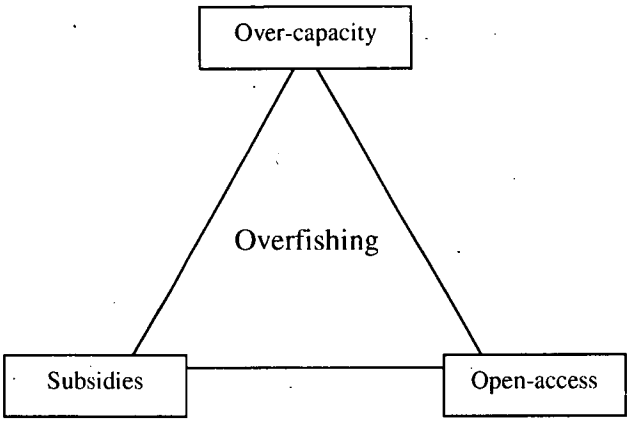
[58] Jacquet and Pauly. 2007. Above, n.31. p.308

[59] Phillips, Adam. 31 October 2002. "Plumage and Empire." *London Review of Books*. Vol. 24. No. 21. Reviewing *Spix's Macaw: The Race to Save the World's Rarest Bird* by Tony Juniper. 2002. (The Spix's Macaw was one of four extremely imperiled species of blue macaw. After 13 years with only one bird remaining, this species is now extinct in the wild.)

[60] Bestor calls Tsukiji "the command post for a global seafood trade". Bestor, Theodore C. 2000. "How sushi went global." *Foreign Policy*. Nov – Dec. No. 121. p.60.

[61] AP Press Release. "Giant Tuna Sells for Record $173,600." January 5, 2001. In 1996, a 250-pound bluefin fetched a comparatively paltry $44,100. http://www.flmnh.ufl.edu/fish/innews/gianttuna.htm. Accessed 23 March 2007.

essentially open-access nature of fisheries, and the bottom left point is government subsidization.[62]



There is currently thought to be 30-50% more fishing capacity than is needed to catch the world's fish sustainably.[63] This excess capacity might actually be as high as 200 or 300%.[64] Over-capacity is a major factor in IUU fishing for three reasons: It reduces the profitability of legal operations, drives down individual vessel costs and leads to periods of idleness, during which illegal fishing becomes more attractive.[65]

This has come about, in part, through the provision of financial incentives that have put all those vessels to sea – government subsidies to the global fishing industry.[66] Many national fleets are widely considered to be oversubsidised.[67] Bache, Haward and Dovers note a lack of precision as to what exactly constitutes a "subsidy",[68] but there are reliable estimates. A 1998 World Bank estimate was that fisheries subsidies were

---

[62] Personal communication with Jesse Kreier, WTO. 4 September 2007. Pauly calls government subsidization the "Achilles heel" in fisheries, because it drives over-capacity. Personal communication with Daniel Pauly, University of British Columbia. 15 August 2007.

[63] Zeller, Dirk. 2005. "From Mare Liberum to Mare Reservarum: Canada's Opportunity for Global Leadership in Ocean Resource Governance." *Ocean Yearbook.* Vol. 19. pp.1–18. The University of Chicago, citing Garcia and De Leiva Moreno, 2001. p.9.

[64] *Ibid.*, citing Pauly, 1995. It should be noted that while national schemes exist which are beginning the process of scrapping excess vessels, they are too often simply replaced by even more powerful vessels – the net effect being a further increase in fishing capacity.

[65] Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combatting IUU operations?" In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD Environment and Sustainable Development. Vol. 11. p.36.

[66] Personal communication with Daniel Pauly, University of British Columbia. 15 August 2007.

[67] In a piece about the British fishing industry, *The Economist* reports "while the number of fishermen working is falling, the amount of British taxpayers' money being spent on them is going up." In *The Economist.* January 3, 2004. "Britain: Heavy seas." Vol. 370. Iss. 8356. London. p.20. Gréboval does not see subsidies as necessarily rising. He writes that "There is no doubt that heavy subsidization contributed substantially to the rapid and often excessive growth of the fishing fleets in the 1970s and 1980s. Although this remains insufficiently documented, subsidization programmes appear to have been significantly reduced in many countries since the late 1980s" and "have globally decreased and are nowadays used increasingly to support activities others than outright capacity building." Gréboval, Dominique F. 2000. "The FAO International Plan of Action for the Management of Fishing Capacity." Paper given to International Institute of Fisheries Economics and Trade conference. July 2000. pp.6-7.

[68] Bache, Sali Jayne, Haward, Marcus, Dovers, Steve. 2000. *The impact of economic, environmental, and trade instruments on Australian fisheries policy and management.* Report prepared for Fisheries And Aquaculture Branch, Department of Agriculture, Fisheries and Forestry — Australia. p.23.

between USD14 and 20 billion (accounting for 20-25% of the sector's revenue).[69] Ruckes cites year 2000 estimates of global fishing subsidies in the order of USD7-14 billion per year, while in 2006 it was estimated that fisheries subsidies spending was USD34 billion annually.[70] Japan (USD5.3 billion), the EU (USD3.3 billion) and China (USD3.1 billion) are reportedly the top three fisheries subsidizers.[71]

Stokke and Vidas note that subsidies are provided for many sound public policy reasons, such as providing employment, shipbuilding and food security.[72] Many industries receive government subsidies, for example during import substitution periods or when new, important industries need assistance to get off the ground. When coastal fishing fleets found their local resource base too small to support them, they were encouraged to expand into distant waters, in part through government subsidies. This allowed them to steam further afield in order to catch quantities of fish for food and trade; achieving important social goals.[73] Fisheries subsidies can and do fulfill economic and development goals, especially in the case of developing countries.[74]

However, when global fish stocks are under the sort of pressure described in the previous section, government subsidization can seem anachronistic. Even so-called 'buy-back' or de-commissioning schemes have been shown to increase fishing effort.[75] Subsidies of all kinds have recently been condemned by the G20 leaders as contributing to restricted global economic growth.[76] Some of the subsidies themselves appear to be poorly designed: They encourage fishing effort to rise at a time when fish stocks continue to fall. This will keep fishers in jobs, but at the short or long term expense of the stocks they are harvesting. The UN observes that, "many fisheries have come to rely on subsidies to persist."[77] Garcia and Newton estimated in 1997 that world fishing capacity would have to reduce by 25% for revenues to cover operating costs, and by 53% for them to cover total costs.[78] Freestone and Bodansky pithily sum up this lack of

---

[69] Milazzo, M. 1998. "Subsidies in World Fisheries: A re-examination." *World Bank Technical Paper No. 406.* Fisheries Series. World Bank. Washington D.C. p.77.

[70] Stokke and Vidas. 2004. Above, n.65. p.36; Sumaila, Ussif Rashid and Pauly, Daniel. 2006. *Catching more bait: A bottom-up re-estimation of global fisheries subsidies.* Fisheries Centre Research Report. Vol. 14. No. 6. p.1.

[71] ICTSD. 2007. Above, n.28.

[72] Stokke and Vidas. 2004. Above, n.65. p.37. For example, China's Bureau of Fisheries is attempting to reduce its fishing capacity – in line with international commitments to do so – by moving "200,000 fishermen (4% of the total) to other jobs by 2007, largely through subsidizing fish farming and offering training." FAO. 2004. "Implementation of the International Plan of Action for the Management of Fishing Capacity: Review and Main Issues." *Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management Of Fishing Capacity.* Rome, Italy, 24–29 June 2004. TC IUU-CAP/2004/4. Food and Agriculture Organization of the United Nations. Rome, Italy. p.8.

[73] Personal communication with Jesse Kreier, WTO. 4 September 2007.

[74] Marilyn Whan-Kan of the Mauritanian Ministry of Finance and Economic Development has said: "Subsidies are provided to support local industry to protect employment and to improve income distribution in fishing communities." Whan-Kan, Marilyn. 2006. "Discussant's note on the role of trade policies and how to benefit developing conutries' consumers." *Fishing for Coherence. Proceedings of the workshop on policy coherence for development in fisheries.* Chapter 13. p.178.

[75] Clark, C.W., Munro, G, and Sumaila, U.R. 2003. "Subsidies, buy-backs and sustainable fisheries." *Three essays on the economics of fishing.* Sumaila, U.R. (ed). Fisheries Centre Research Report. Vol. 11. No. 3. The Fisheries Centre. University of British Columbia. pp.4-18.

[76] G20. "London Summit – Leaders' Statement." 2 April 2009. http://www.g20.org/Documents/g20_communique_020409.pdf. Accessed 27 May 2009.

[77] UN Atlas of the Oceans. May 2001. "Controlling fishing capacity." http://www.oceansatlas.org. Accessed 2 July 2008.

[78] Ward, J.M.; Kirkley, J.E.; Metzner, R.; Pascoe, S. 2004. *Measuring and assessing capacity in fisheries. 1. Basic concepts and management*

fiscal logic: "US$124 billion is spent each year to catch 90 million tones of fish worth US$70 billion."[79]

Fisheries subsidies also interact with demand in a distorted way. Marcos Orellana Cruz observes that subsidies "artificially render destructive and unsustainable fishing practices profitable."[80] The localized tactics of fish sellers can further baffle consumers. Jacquet and Pauly write:

> seafood awareness campaigns as well as health and safety organizations have stressed the benefits of tilapia, a vegetarian farm-raised freshwater fish. As a result, the demand for tilapia has increased. In response, the Whitefish Association of Ecuador now sells South Pacific hake, a pelagic, oceangoing fish caught with longlines, filleted and labeled as tilapia. Sharks, considered undesirable in Ecuadorian city markets, are filleted, relabeled and sold instead as weakfishes or even tuna. Using DNA testing, Marko et al found that three-quarters of the fish sold in the US as 'Red snapper' belong to a species other than *Lutjanus campechanus*, 'the' Red snapper (in the US).[81]

Despite the parlous state of Atlantic fish stocks, the North Atlantic fishing fleet attracts subsidies of an estimated USD2.5bn a year.[82] Jerry Taylor, director of natural resource studies at the Cato Institute, told *The New York Times* in 2003 that trying to regulate fishing fleets while giving them this kind of support was "like trying to drive a car by hammering the brake and accelerator at the same time."[83] The effect is not only deleterious to fish stocks, it is also unfair. Government subsidies have allowed the first world to exploit what the third world did not or could not. It was reported in August 2005 that in coastal west Africa "the annual catch of EU boats increased twenty-fold between 1950 and 2001, alongside rising levels of subsidy from European governments."[84] A reduction in subsidies appears necessary.[85]

The World Bank is looking at the effects of fishing subsidies,[86] as is the World Trade Organisation. Fisheries subsidies not only encourage overfishing, they also distort trade.[87] The GATT Uruguay Round[88] committed members to tariff reduction on industrial products by 33% across the board beginning from 1 July 1995 over a 5-year period. Additional reductions were proposed by major overseas markets for fish. These

---

options. FAO Fisheries Technical Paper. No. 433/1. Rome, Italy.

[79] Bodansky, Dan and Freestone, David. 2001. "Preface." In Kaye, Stuart M. 2001. *International Fisheries Management*. Kluwer Law International. The Hague. London. Boston.

[80] Cruz, Marcos Orellana. 2000. "The Swordfish in Peril: the EU Challenges Chilean Port Access Restrictions at the WTO." *Bridges Monthly Review*. Comment. Issue 1. p.12.

[81] Jacquet and Pauly. 2007. Above, n.31. p.310.

[82] Amos. 2002. "Massacre..." Above, n.51.

[83] Broad and Revkin. 2003. Above, n.4.

[84] Black, Richard. 24 August 2005. "New plan targets illegal fishing" *BBC News Online*. http://news.bbc.co.uk/2/hi/science/nature/4181652.stm. Accessed 28 August 2005.

[85] Russ and Zeller cite modelling that suggests that 40-50% of fisheries should close. They calls for the onus to be placed on the exploiters to justify a fishery's remaining open. This would replace the outdated concept of all ocean areas being open for fishing unless limited by some sort of regulations. Russ, G.R., and Zeller, D.C. 2003. "From Mare Liberum to Mare Reservarum." *Marine Policy*. Vol. 27. pp.75–78. It should be noted that there are problems with closing areas to fishing vessels, because illegal operators thrive in areas where there are no other boats but theirs. There would also be problems managing the race to fish in the areas that remained open to fishing.

[86] The World Bank's Director of Environment, Warren Evans, has suggested that, "It may be that European nations will have to look at their levels of subsidy". Interviewed in Black. 2005. "New plan..." Above, n.84.

[87] Personal communication with Jesse Kreier, WTO. 4 September 2007.

[88] The Uruguay Round of the GATT created the World Trade Organisation.

reductions did not occur.[89] While fishing subsidies were specifically excluded from the Uruguay Round Agreement on Agriculture, they were on the agenda in the lead-up to the 1999 Seattle Ministerial.[90] When the Doha Round was successfully launched, two years later, fishing subsidies were part of the WTO's work program.[91] Because of their trade distorting nature, it was decided that the WTO Rules Division was the "natural place" to deal with the issue of fisheries subsidies.[92] It was discussed alongside countervailing and anti-dumping duties, agriculture subsidies and issues concerning Non-agricultural Market Access.[93] The WTO, through the Negotiating Group on Rules, has a mandate to "to strengthen disciplines on subsidies in the fisheries sector, including through the prohibition of certain forms of fisheries subsidies that contribute to overcapacity and over-fishing, while formulating appropriate and effective special and differential treatment that addresses the interests and concerns of developing Members."[94]

Within the WTO Secretariat it is hoped that a "triple win" might be achieved regarding fisheries subsidies. That is, that agreement on stricter disciplines governing fishing subsidies will benefit development, liberalization of market access and environmental protection.[95] The meetings on fisheries subsidies are apparently informal; generally no minutes are kept.[96] Members are broadly taking one of two positions – those States favouring a top down approach (implementing broad disciplines across the sector, with the exception of x, y and z) and those States favouring a bottom up approach (implementing no sector-specific disciplines, with the exception of x, y and z). A draft text concerning anti-dumping, horizontal subsidies and fisheries subsidies was tabled by the Chair of the Rules Negotiating Committee, Ambassador Guillermo Valles Galmes of Uruguay, in late 2007.[97] Another was issued in December 2008 but without a new text regarding fisheries subsidies.[98] Instead, a "roadmap" is in place for further discussions on fisheries subsidies.[99] The bottom up approach has been strongly favoured by members as agreement has been difficult to reach. Some positions remain intransigent. Indeed, in late 2008 the Chair declared that members must not look to him for any "magic solutions in the many areas where Members' positions differ dramatically and where the alternatives remain as delegations originally tabled them – i.e. very far apart."[100] Fisheries subsidies are being negotiated separately from agricultural subsidies, which are widely considered to be the hardest issue to agree in

---

[89] Bache *et al.* Above, n.68. p.30. Bache *et al* report tariff reductions of 20-35% by Japan, USA, Canada and Australia, New Zealand and South Korea, while the EU only achieved a 7.4% reduction. Less developed countries lowered their tariffs more significantly, averaging a 76.9% tariff reduction. p.30.

[90] Personal communication with Jesse Kreier, WTO. 4 September 2007. Due, partly, to unprecedented demonstrations by citizens and NGOs, the negotiations in Seattle foundered. Ministers failed to launch a new trade round.

[91] Negotiations began in January 2002.

[92] Instead of the WTO's Committee on Trade and Environment.

[93] Personal communication with Jesse Kreier, WTO. 4 September 2007. Non-agricultural Market Access issues are better known under their acronym, 'NAMA'.

[94] WTO Negotiating Group on Rules. "New Draft Consolidated Chair Texts of the AD and SCM Agreements." TN/RL/W/236. 19 December 2008.
http://www.wto.org/english/tratop_e/rulesneg_e/rules_dec08_e.doc. Accessed 14 May 2009. Note that "AD" means anti-dumping and "SCM" refers to subsidies and countervailing measures.

[95] Personal communication with Marie-Isabelle Pellan, WTO. 4 September 2007.

[96] Personal communication with Marie-Isabelle Pellan, WTO. 4 September 2007.

[97] Personal communication with Jesse Kreier, WTO. 4 September 2007.

[98] 30 November 2007 TN/RL/W/213 and 19 December 2008 TN/RL/W/236 respectively.

[99] WTO Negotiating Group on Rules. TN/RL/W/236. Above, n.98.

[100] WTO Negotiating Group on Rules. TN/RL/W/236. Above, n.98.

the Doha Round.[101] Even so, while agreement may be reached on fishing subsidies, under the WTO's "single-undertaking" rule, nothing is agreed until everything on the agenda is agreed.[102] An additional complication is that the Doha Round is currently virtually moribund.

Fishers and "the commons"

While offshore fishing apparently remains the industry within which a worker is most likely to be killed on the job,[103] it still has a mythical, almost romantic quality to it. Fishing has been described by Daniel Pauly as the last hunter-gatherer industry.[104] While many fishers are acutely aware of the need for sustainability, in general individual fishers face a classic "commons" dilemma, whereby if they "limit their catch to a sustainable level, they believe this saving will only benefit a more aggressive fisher. They feel that, acting alone, they are powerless to halt the destruction of the fishery."[105] For Oran Young, fishers "lack incentives to conserve stocks, much less to invest resources in improving them."[106] Instead they spent years investing in more powerful vessels or other technological improvements to their harvesting capacity.[107] Fishers have their careers (and possibly their children's) to consider, and also their immediate livelihood.[108] So, when a fishery flattens out or collapses, the fishers move on (if they can), to target a different ocean, or a different species. In some cases they may sell their licences and get out of the business, giving up their boats for lucrative jobs in newer boom industries such as mining or offshore oil rigging.

Political and scientific failures have compounded these social effects of gross over-capacity. There has been only muted political support for solutions focused on conservation and rebuilding. Stock assessments are often based on poor data and are subject to political expediency or consensus decision-making. Assessments may be used by governments without appropriate caution. Gewin observes that, "by the time a significant declining trend has been detected by traditional catch assessments, stocks are

---

[101] The United Nations estimates that subsidies account for 31% of global farm income. In Bittman, Mark. January 27, 2008. "Rethinking the Meat-Guzzler." *The New York Times.* http://www.nytimes.com/2008/01/27/weekinreview/27bittman.html?pagewanted=all. Accessed January 27, 2008.

[102] In the absence of agreement on subsidy reduction, a dispute could be launched under the dispute settlement process of the WTO. Rigg *et al* suggest that a country that wanted to "protect its own fisheries from the activities of foreign subsidised fleets" could do so. Rigg, Kelly, Parmentier, Rémi, Currie, Duncan. 2003. *Halting IUU Fishing: Enforcing International Fisheries Agreements.* Prepared for Oceana. December. p.29. Stokke and Vidas report, however, that as at 2004 no fisheries subsidy has been challenged under WTO rules. Stokke and Vidas. 2004. Above, n.65. p.36

[103] Schlosser, Eric. April 2002. "Most Dangerous Job." Letter to the Editor. *The Atlantic Monthly.* pp.12-13.

[104] Gee, Henry. 8 August 2002. "The future on a plate." *Guardian Unlimited.* http://www.guardian.co.uk/science/2002/aug/08/research.science. Accessed 19 May 2009.

[105] http://weblog.greenpeace.org/pacific/background/pirate_laws.html. Accessed 19 May 2009.

[106] Young, Oran R. May 2000. *Environment.* Book review of *Fish, Markets, and Fishermen: The Economics of Overfishing* by Suzanne Iudicello, Michael Weber and Robert Wieland, 1999.

[107] Young, Oran R. 2000. Above, n.106.

[108] One issue the Fisheries Directorate of the OECD has been grappling with for some time is the question of why fishers' incomes continue to drop. Personal communication with Carl-Christian Schmidt and Anthony Cox, Fisheries Directorate, OECD. 25 October 2007; See also: Schmidt, Carl-Christian. 2002. "Fish crisis: A problem of scale." *OECD Observer.* OECD Fisheries Division. http://www.oecdobserver.org/news/fullstory.php/aid/748/Fish_crisis:_A_problem_of_scale.html. Accessed 2 June 2008. This suggests that restructuring is necessary in order for the world's 30 million fishers (and 100 million people who indirectly rely on the fishing industry) to maximize their incomes in the face of dwindling stocks.

likely to be in poor shape, if not already depleted."[109] Fisheries managers and the theories and science they rely upon is thrown into relief when fish numbers dive. Gaffney told *The New York Times* in 2003 that scientists often "only start studying a species in its death throes or terminal decline."[110] While fisheries science has developed successive methods of estimating management targets, Pauly observes that a continual downward shift in fish stock baselines has nevertheless taken place:

> each generation of fisheries scientists accepts as a baseline the stock size and species composition that occurred at the beginning of their careers and uses this to evaluate changes. When the next generation starts its career, the stocks have further declined, but it is the stocks at that time that serve as the new baseline. The result obviously is a gradual shift of the baseline, a gradual accommodation of the creeping disappearance of resource species and inappropriate reference points for evaluating economic losses resulting from overfishing, or for identifying targets for rehabilitation measures.[111]

If fisheries science has, as Pauly believes, a "suffered from a lack of historical reflection,"[112] governments have suffered similarly. When they make politically unpopular decisions, such as closing down fisheries or reducing quotas, Ministers typically do it so late as to be ineffective.[113]

Supply and demand

The annual wild marine fish catch is 81.9 million tonnes.[114] On top of that, somewhere between 20-27 million tonnes is killed annually as by-catch, or is caught and then discarded.[115] These figures are, Pauly says, "well past most previous estimates of global potential." At the same time, global consumption of seafood products has almost doubled in the past four decades. Per capita fish consumption has increased from 9.9 kg

---

[109] Gewin. Above, n.10, citing Constable.

[110] Broad and Revkin. 2003. Above, n.4.

[111] Pauly, D. 1995. Above, n.50. p.430. It is not only the size of stock populations that have suffered from the "shifting baseline" – in some cases it is the size of the fish themselves. Broad and Revkin: "In the early 20th century, harpooned swordfish were routinely 300 pounds apiece. Swordfish caught on long-line hooks by the mid-1990's averaged less than 90 pounds, barely big enough to reproduce. Improvements since then, biologists say, hardly represent a resurgence." Broad and Revkin. 2003. Above, n.4.

[112] Pauly, D. 1995. Above, n.50. p.430.

[113] It should be noted that fishing may be a primary industry facing difficult times, but the bureaucracies that manage them are expanding. According to *The Economist*, in Britain four ministers and "about 950 bureaucrats and researchers" oversee an industry producing just 0.06% of the GDP. *The Economist.* 2004. "Heavy seas..." Above, n.67.

[114] FAO. SOFIA. 2008. p.3.

[115] In 2002, Ray Hilborn, Professor of Aquatic & Fishery Sciences at the University of Washington, put worldwide annual fisheries discards at 27 million tons (with 84 million tons retained) and considers this a much bigger problem than the loss of yield created by overfishing. See: http://courses.washington.edu/susfish/2002/hilborn_info.html. In 2005 FAO observed that while by-catch and discards problems were still a major challenge in fisheries, there had been a "re-evaluation of global discards from capture fisheries [which] shows that these are far less than earlier estimates had indicated or less than 10 million tonnes per year instead of 27 million tonnes." See: FAO. 2005. *Achievements of Major Programme: 2.3 Fisheries, 2002-2003.* Committee on Fisheries. Twenty-sixth Session. Rome, Italy. 7–11 March 2005. COFI/2005/Inf.6. Food and Agriculture Organization of the United Nations. Rome, Italy. However, in 2008 FAO reported that: "Although no detailed estimate of bycatch is available, a crude estimate suggests that it could be more than 20 million tonnes globally (equivalent to 23% of marine landings) and growing." FAO. SOFIA. 2008. p.76.

in the 1960s, 11.5 kg in the 1970s, 12.5 kg in the 1980s, 14.4 kg in the 1990s to 16.4 kg in 2005.[116]

Factoring in population expansion, income growth, dietary changes and supply constraints, the Government of Canada notes that global seafood consumption is projected to increase to approximately 150 to 160 million tonnes annually by 2030. However, given the current rate of production, global capture fisheries provide only around 80-100 million tonnes of wild fish annually. This leaves a global shortfall of approximately 50-80 million tonnes of fish.[117] Demand is projected to grow at 1.5% per year through 2020.[118] This ever-increasing demand for seafood products, coupled with the effects of globalization, has led to a global transfer of fish. Fish are caught, frozen and shipped many thousands of miles from the harvesting area (most often that of a developing State). From there they go to fattening enclosures or fish and chip shops, restaurant tables and the freezer section of supermarkets in countries whose fish stocks have already largely been depleted and/or have heavy quotas in force (such as Europe). In effect, this hides the global fisheries crisis from consumers.[119] Globalization has encouraged this: Sandra Postel of the Worldwatch Institute writes that international trade may "foster unsustainable consumption by creating the illusion of infinite supplies."[120] The World Resources Institute has observed that "most people have little idea of what the 'fisheries crisis' is, or what it means to them. From a consumer's point of view the sad condition of fish stocks is not obvious. There are still plenty of fish available in markets and restaurants, although the types and prices may have changed."[121]

Adding to this perception of plenty has been the growth of aquaculture. In 1970, aquaculture accounted for 3.9% of the total world fish production; that figure was 9% in 1980, 27.1% in 2000 and is now 47%.[122] It has an annual growth rate of nearly 7%.[123] Aquaculture production is centred predominantly in Asia, primarily due to China's large aquaculture industry.[124] China's aquaculture production is now reportedly worth USD35 billion.[125] This accounts for more than half the total value of aquaculture production and about 70% of the volume.[126] ICTSD notes that 12 million people are now dependent on fish farming for their daily income.[127] Ninety-eight percent of these people are based in

---

[116] FAO. SOFIA. 2008. p.9.

[117] Report of the Commissioner for Aquaculture Development. http://www.dfo-mpo.gc.ca/aquaculture/ref/vision-eng.htm. Accessed 27 May 2009.

[118] Kura, Yumiko, Revenga, Carmen, Hoshino, Eriko and Mock, Greg. October 2004. *Fishing for answers: Making sense of the global fish crisis.* World Resources Institute. Washington DC. http://www.wri.org/publication/fishing-answers-making-sense-global-fish-crisis. Accessed 1 July 2006. Matthews and Hammond note that demand for food fish is projected to increase by 34-50% by 2010. Matthews, Emily and Hammond, Allen. 1999. *Critical Consumption Trends and Implications Degrading Earth's Ecosystems.* World Resources Institute.

[119] Amos. 2002. "Massacre..." Above, n.51, quoting Reg Watson.

[120] Postel, S. "Carrying Capacity: Earth's Bottom Line." In Brown *et al. State of the World 1994.* New York. W.W. Norton. 1994, cited in Charnovitz, 1995.

[121] World Resources Institute. 2004. Above, n.118.

[122] FAO. SOFIA. 2008. p.17.

[123] FAO. SOFIA. 2006. p.16.

[124] FAO. "State of world aquaculture." http://www.fao.org/fishery/topic/13540/en. Accessed 7 May 2009.

[125] Barboza, David. "A Slippery, Writhing Trade Dispute." *The New York Times.* http://www.nytimes.com/2007/07/03/business/worldbusiness/03fish.html. Accessed 3 July 2007.

[126] FAO. SOFIA. 2008. p.17.

[127] ICTSD, using FAO figures. *Bridges, Trade BioRes.* Vol.7. No.11. 8 June 2007. "Meeting the challenges of transnational aquaculture." Citing FAO Newsroom. "Fishfeed scare highlights challenges of aquaculture boom." 28 May 2007. http://www.ictsd.org/biores/07-06-08/inbrief.htm#1. Accessed 17 June 2007.

developing countries, making the industry important not only to fish consumers, but to the economic development of countries.

The aquaculture industry views itself as addressing the wild capture fisheries crisis. It produces in pens an increasing amount of the shortfall between wild capture and global demand.[128] Yet this industry is not sustainable either. While the environmental effects of aquaculture, particularly coastal aquaculture, are not yet fully understood, FAO reports that aquaculture will soon "overtake capture fisheries as a source of food fish."[129] Most aquaculture operations in developed countries produce carnivorous fish.[130] This involves either breeding or catching other fish in order to feed them.[131] Even with the increasing use of vegetarian diets for farmed fish and some dabbling in transgenics, Gewin reports that it still takes about 3 pounds (1.36 kg) of fish to create 2.2 pounds (1 kg) of desirable meat.[132] The 'fishmeal trap', as it is known,[133] needs to be resolved in order for aquaculture production to stop creating more net losses to marine fish stocks.

As worrying as dwindling fish stocks are for marine environments, fishers and their families and the consumer at large, environmental and resource issues can also be considered security issues.[134] In 1992 the UN Security Council President said that "non-military sources of instability in the... ecological fields have become threats to international peace and security."[135] When a Canadian fisheries patrol vessel in March 1995 fired three 50-calibre machine-gun volleys over the bow of the Spanish trawler

---

[128] Norwegian cod farms claim that they will be producing "five times more cod than the British fleet now catches." *The Economist.* 2004. "Heavy seas..." Above, n.67.

[129] FAO. "State of world aquaculture." http://www.fao.org/fishery/topic/13540/en. Accessed 7 May 2009.

[130] Gewin. 2004. Above, n.10.

[131] Gee. 2002. Above, n.104.

[132] Gewin. 2004. Above, n.10, citing Aldhous, 2004.

[133] New, Michael B. and Wijkström, Ulf N. 2002. *Use of fishmeal and fish oil in aquafeeds: Further thoughts on the fishmeal trap.* Food and Agriculture Organization of the United Nations. Rome, Italy.

[134] According to Paul Hamm, the thousand-year occupation of Vietnam by China can be seen, at least partly, as the securing of rice supplies. Paul Hamm, author of *Vietnam, The Australian War*, speaking on Australian Broadcasting Corporation Classic FM radio. 31 January 2008. Hamm adds that Vietnam is one of only a couple of places in the world (the other being Thailand) with conditions that are "almost perfect" for rice growing. The Rwandan genocide is considered by some to have been partly a war over grass, fought between roving cattle herdsmen and farmers over land. Rice observes that, "A number of experts say the "ethnic" war in Darfur is really a fight over grass." See: Rice, Andrew. January 27, 2008. "A Dying Breed." *The New York Times.* http://www.nytimes.com/2008/01/27/magazine/27cow-t.html?pagewanted=all. Accessed January 27, 2008.

[135] Note by the President of the Security Council. 1992. "The Responsibility of the Security Council in the Maintenance of International Peace and Security." 31 January 1992. *UN Doc.* 523500. p.2, quoted in Sands, Philippe. 1996. "Compliance With International Environmental Obligations: Existing International Legal Arrangements." In Cameron, J., Werksman, J., and Roderick, P. 1996. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. p.49. In May 2007 British foreign secretary, Margaret Beckett, said climate change could spawn a new era of conflicts around the world over resources. She compared the threat to the cold war and said, "The threat to our climate security comes not from outside but from within: we are all our own enemies." Borger, Julian. "Climate change could lead to global conflict, says Beckett." *The Guardian.* Friday May 11, 2007. http://politics.guardian.co.uk/green/story/0,,2077429,00.html. Accessed May 11, 2007. Beckett was president of the fifteen nation UN Security Council in April 2007 and presided over a Council debate on the security impact of climate change. At the time she said climate change was about "our collective security in a fragile and increasingly interdependent world." UN Press Release. 17 April 2007. Security Council 5663rd Meeting (AM & PM). "Security Council holds first-ever debate on impact of climate change on peace, security, hearing over 50 speakers." http://www.un.org/News/Press/docs/2007/sc9000.doc.htm. Accessed 14 November 2008.

Estai in the high seas off Newfoundland,[136] it was described as "the other shot that was heard around the world" and an "act of war."[137]

Conclusion

As fish catches across the world have leveled out or contracted and prices have risen, unsavoury elements have entered the industry. .Many fishing operations chose a wayward path: that of fishing outside prevailing regulations. This became known as illegal, unreported and unregulated fishing, or simply "removals of fish from a fisheries ecosystem that are either unauthorized or unrecorded."[138] It is now a problem so widespread that it is believed to affect all marine fisheries.[139] In January 2008 the World Conservation Union (IUCN) laid out the ugly features of this new 'wild west': fishing rules disregarded; pirate boats increasingly flying the flags of convenience bought from landlocked nations; fish falsely labelled "sustainable"; inspectors harassed and bribed; and one fifth of the global catch illegal.[140]

As this dissertation proceeds with its exploration of IUU fishing, it is worth repeating the central message from this chapter: that IUU fishing's effects are especially deleterious to the marine environment because fishers, governments and consumers have put industrial-strength pressure on global fish stocks for around six decades. The global fisheries crisis has been caused by vastly excessive fishing capacity trolling over a poorly regulated commons, sustained growth in consumer demand and market pressure[141] *and* the rise of IUU fishing, which will be explored in the following chapter.

---

[136] The *Estai* was fishing for turbot at allegedly unsustainable levels. (Turbot is another name for Greenland Halibut. It constituted the largest ground fishery in the Grand Banks after the collapse of several fisheries in the area, including the cod fishery.) See generally: Government of Canada. Department of Fisheries and Oceans . September 1994. "Greenland Halibut (Turbot) in the Northwest Atlantic." In *Backgrounder.* The EU was allocated 3,400 tonnes (out of a TAC of 27,000 tonnes set) by NAFO. Because the EU had objected to this quota, under NAFO rules it was not bound to it, and unilaterally set its quota as 18,630 tonnes instead. See generally: De la Fayette, Louise and Evans, Malcolm D. 1999. "The Fisheries Jurisdiction Case (Spain v. Canada), Judgment on Jurisdiction of 4 December 1998." In *The International and Comparative Law Quarterly.* Vol. 48. No. 3. July. pp.664-672.

[137] Harris, Michael. 1998. *Lament for an Ocean: The Collapse of the Atlantic Cod Fishery. A True Crime Story.* McClelland & Stewart Inc. Toronto. pp.1-2.

[138] Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. p.173.

[139] Baird, Rachel J. 2006. Above, n.3. Abstract.

[140] *New Scientist.* 30 January 2008. "Corruption is devouring the world's fish stocks." Upfront. http://environment.newscientist.com/channel/earth/mg19726413.500-corruption-is-devouring-the-worlds-fish-stocks.html. Accessed 3 March 2008.

[141] The global export value of seafood is USD71.5bn per year. FAO. SOFIA. 2006. pp.41, 113.

Chapter 2 – The Rise and Rise of IUU Fishing

Introduction

This chapter explores the extent and impacts of IUU fishing.[1] It looks at the damage IUU fishing has done to fish stocks, fish prices, opportunities for legal fishers, stock management efforts and other marine creatures. It explores the part played by flag of convenience States and questions the efficacy of flag State primacy. This chapter will set the context for the following three chapters which chart the international legal efforts that have been made to address these problems.

Illegal, Unreported and Unregulated Fishing

Definition

The Northwest Atlantic Fisheries Organization (NAFO) and the International Commission for the Conservation of Atlantic Tunas (ICCAT) were the first regional fisheries organizations to report dramatic levels of unauthorized fishing.[2] In the 1990s a specific term was coined for it: illegal, unreported and unregulated fishing. The acronym was originally "IU" (illegal and unreported) and was first used by the CCAMLR Commission. The 'IU' fishers were chasing the rising star of the Japanese sushi bar and American white table restaurant – the Patagonian toothfish (*Dissostichus eleginoides*).[3] Patagonian toothfish had been for many years the target of small-scale artisanal fishing off the coast of Chile. Until the commercial discovery of Patagonian and Antarctic toothfish, CCAMLR only had to concern itself with increasing commercial krill fishing and the conservation of a handful of already-depleted finfish

---

[1] It should be noted that there are problems with the construction 'IUU'. As recently as the 2007 CCAMLR Commission meeting some states were expressing concerns about the acronym. Argentina said it erroneously placed illegal, unreported and unregulated fishing (all of which are different offences) on "an equal footing," generating confusion and "contradictory consequences." (Paragraph 10.11 under "IUU fishing in the Convention area" in the 2007 CCAMLR Commission Report.) See also University of British Columbia Fisheries Centre Research Reports 15(2), 2008 and 16(9), 2008, which present statistics that flesh out the so-called "illegal" and widely "unreported" (primarily by small-scale fishers) catches around the world. For example, in FAO Statistical Area 18 – the Arctic –reported catches have dwarfed the reconstructed actual catches by a ratio of 1:50, primarily because the nations involved do not report to FAO the catches of small-scale fishers. See: Booth, Shawn and Zeller, Dirk. 2008. "Marine fisheries catches in Arctic Alaska." Fisheries Centre Research Report 16(9). University of British Columbia, Canada. For the purposes of this dissertation this author will proceed with the definition as framed above, and on the presumption that should 'illegal, unreported and unregulated fishing cases' begin to be heard in national or international courts in any meaningful way, the term 'IUU' may indeed be judged a legal nonsense and something else might take its place. It is beyond the scope of this dissertation to dissect this issue; it is nevertheless one that, in time, will need attention by the international legal and political community.

[2] Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. p.179.

[3] The Antarctic toothfish and Patagonian toothfish are two of the 100 fish species supported by the cold waters around Antarctica. Only about 25 of these are considered commercially exploitable. Koch, Michael. 1984. "The Antarctic challenge: Conflicting interests, co-operation, environmental protecton and economic development." In *Journal of Maritime Law and Commerce.* Vol. 15. No. 1. January. p.120; Also Wilder, Martijn. 1992. *Antarctica: An economic history of the last continent.* Department of Economic History. The University of Sydney. p.49. according to Powell, CCAMLR had imposed quotas and controls on all finfishing in Antarctica by 1991. Powell, Darry. "Antarctic fishing and its likely development." In *Significant Speeches.* 1993. Winter. p.52.

species.[4] But toothfish rapidly grew in popularity in Asia and the United States. *The New York Times* wrote in 2002 that "it is prized for its mild flavor and firm, milk-white flesh... It has a natural antifreeze in its blood, and it can live 50 years and grow to the size of a linebacker."[5] Because of its high oil content, it was said that "Chefs love it... its succulence makes it almost impossible to overcook."[6]

In 1995 unreported fishing of the two toothfish species was discussed at CCAMLR Commission Meeting XIV: the Fish Stocks Working Group noted that the unreported catch was the same or higher than the reported catch.[7] The term "IUU" – illegal, unreported and unregulated – appeared in 1997 at CCAMLR Commission Meeting XVI.[8] A year later, IUU fishing was described as a "cancer eating at the fibre of the Antarctic Treaty System."[9] The Australian government – whose sovereign territories of Heard and Macdonald Islands were predated early and voraciously by these fishers – called the fishers "pirates."[10] By 2002 the CCAMLR Standing Committee on Observation and Inspection reported that Southern Ocean IUU fishing had become "a highly organised form of transnational crime."[11]

'Illegal, unreported and unregulated fishing' has since been defined by the international community in the following way:

> 3.1 Illegal fishing refers to activities:
> 3.1.1 conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;
> 3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or
> 3.1.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.
> 3.2 Unreported fishing refers to fishing activities:
> 3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or

---

[4] Commercial finfishing in the Antarctic began in 1969-70 and focused on three species: *Champsocephalus Gunnari, Notothenia buntheri* and *Notothenia rossii*. Catches of *Notothenia rossii* were initially so high that, by 1975, stocks were already exhausted. According to Wilder, 431,900 tonnes of *Notothenia rossii* were taken by the Soviets alone in the 1969-70 season – a "phenomenal amount" when the total fish biomass in the early 1990s was around 10,000 tonnes." Wilder, Martijn. 1992. Above, n.3 p.49. It has been said that as much as 60% of the fish caught in Antarctic waters during the 1970s and 1980s were caught in their very first fishing season. Stokke, O.S. 1991. "Symposium report: the Antarctic Treaty System in World Politics." In *International Challenges*. Vol. 11. No. 2. p.60. These depletions preceded the emergence of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) which was signed in 1980 and entered into force in 1982.

[5] Revkin, Andrew C. "Chefs joining boycott in effort to save imperiled sea bass." *The New York Times*. 21 May 2002.

[6] Fabricant, Florence. "Chilean sea bass: More than an identity problem." *The New York Times*. 29 May 2002.

[7] Indeed, in the 1996/1997 season, the estimation of IUU fish catch as a percentage of the total catch in the Convention area was 72.4%. http://www.ccamlr.org/pu/E/sc/fish-monit/iuu-est-table.pdf.

[8] CCAMLR-XVI (1997). Paragraphs 8.7-8.13.

[9] CCAMLR-XVII (1998). Paragraph 5.9.

[10] October 1, 2002. "Toothfish Pirates May Face Armed Australian Ships." Canberra, Australia. *ENS*. http://www.flmnh.ufl.edu/Fish/InNews/toothfishpirates2002.htm. Accessed 20 May 2009, citing then-Fisheries Minister, Senator Ian Macdonald; CCAMLR Executive Secretary Denzil Miller has called this type of fishing "Insidious, Unfair and Unsustainable." Miller, Denzil. Presentation to IASOS, University of Tasmania. 23 April 2008.

[11] CCAMLR XXI (2002). Annex 5, Paragraph 5.3.

3.2.2 undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.
3.3 Unregulated fishing refers to fishing activities:
3.3.1 in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or
3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.[12]

Agnew and Barnes offer a well-accepted, more straightforward definition: "IUU fishing is now commonly understood to refer to fishing activities that are inconsistent with or in contravention of the management or conservation measures in force for a particular fishery."[13]

It should be noted that although the term "IUU fishing" is less than fifteen years old, fishing outside of prevailing regulations is not new. It may have been present, to a greater or lesser extent, for as long as fisheries regulations have existed,[14] that is to say, ever since people began to *manage* fisheries by keeping some fishers out, drawing boundaries across the oceans, defining fishing seasons and restricting gear. But this newer, more organized, more brutal style of fishing is what Agnew and Barnes call "IUU fishing in a global sense."[15] In the last decade the issue has garnered intense and high-level interest by national governments, non-governmental organizations (NGOs) and international organizations. In March 2003 the FAO Committee on Fisheries reported that "IUU fishing and its impact on resources sustainability is a matter of international concern."[16] In 2004 it reported that "IUU fishing is increasing in both intensity and scope and... it is continuing to undermine national and regional efforts to sustainably manage fisheries."[17] The international community clearly believes that it is important for solutions to be found to the problem of IUU fishing.

---

[12] This definition comes from the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing, which will be discussed in detail in chapter four. It is the generally-agreed definition of IUU fishing used by the 130+ members of FAO COFI (the body that adopted the IPOA-IUU). Shorter definitions are generally modification of this broad definition.

[13] Agnew and Barnes. 2004. Above, n.2. p.171. Brack and Hayman have defined it in this way: "illegal fishing takes place where the fishery is against the law; unreported fishing takes place where legal instruments are in place to control the fishery, but no requirements for reporting, or penalties for non-reporting, exist; and unregulated fishing occurs where legal instruments are not required, not applied, or not adequate." Brack, Duncan and Hayman, Gavin. 2002. "International Environmental Crime: The Nature and Control of Environmental Black Markets." *Background paper for RIIA workshop.* 27-28 May 2002. Sustainable Development Programme, Royal Institute of International Affairs. p.9.

[14] Agnew and Barnes. 2004. Above, n.2. p.171.

[15] Agnew and Barnes. 2004. Above, n.2. p.179.

[16] In Baird, Rachel. 2004. "Illegal, Unreported and Unregulated Fishing: An analysis of the legal, economic and historical factors relevant to its development and persistence." *Melbourne Journal of International Law.* Vol. 5. Iss. 2. October. p.303, citing FAO Newsroom. "Strong support for firmer action against IUU fishing." http://www.fao.org/english/newsroom/news/2003/14660-en.html. Accessed 2 June 2009.

[17] Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: How flags of convenience provide cover for Illegal, Unreported and Unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation and WWF International. p.8.

Drivers

According to Agnew and Barnes, "vessel owners would prefer to engage their vessels legally in regulated fisheries rather than in IUU fishing, as long as the opportunity to do so exists and legal fishing is sufficiently profitable."[18] Indeed, somewhere between 50-90% of fishers normally comply with the regulations imposed upon them.[19] Many of them refer to the desire to "do the right thing."[20] However, it appears that highly financed distant-water IUU fishing operations may involve a different style of fisher, working for a different type of business: an IUU *operation*.[21] Their levels of organisation, funding, multinational logistical support and market linkages are so sophisticated that, as Stokke and Vidas observe, "the basic purpose of an IUU operation is not fishing *per se*, or for avoidance of legal measures: it is a profit-making venture that seeks to maximize net income."[22] This suggests a multiplicity of deceptive methods and a web of facilitators for the extraction of maximum profits.[23] Lone IUU vessels are less successful than whole fleets of fishing vessels and refrigerated vessels operating under one parent company.[24]

While a high level of profit is the primary driver for IUU fishing activities, other factors help explain the persistence of these operations. One is the lack of consequences for engaging in these activities: According to Kuperan and Sutinen, two of the variables determining compliance with fisheries regulations are *severity* and *certainty* of sanctions.[25] In many, if not most, high seas fishing grounds, there remains only a small chance of detection for unauthorized fishers, a small chance of apprehension, and the imposition of extremely modest penalties (as a proportion of what the catch is worth) if they are convicted – despite national and international political attention.[26] Along with this low probability of detection, these operations are blessed with lower operating costs, no or low licence fees and no need to meet national or international safety or labour standards. All of this, according to Agnew and Barnes, makes "the opportunity cost" of IUU fishing "probably quite low."[27] After examining the costs of operating an IUU vessel in the Patagonian toothfish fishery, they write:

---

[18] Agnew and Barnes. 2004. Above, n.2. p.193.

[19] Kuperan, K., and Sutinen, Jon G. 1998. "Blue water crime: Deterrence, legitimacy, and compliance in fisheries." *Law & Society Review*. Amherst. Vol. 32. Issue 2. p.310, citing Sutinen *et al* 1990; Sutinen & Gauvin 1989; Bean 1990. p.311.

[20] Kuperan and Sutinen. 1998. Above, n.19. p.312.

[21] Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combatting IUU operations?" In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing*. OECD Environment and Sustainable Development. Vol. 11. p.20.

[22] Stokke and Vidas. 2004. Above, n.21. p.44.

[23] Alistair Graham of the non-governmental organization International Southern Oceans Longline Fisheries Information Clearing House (ISOFISH) told the Australian Broadcasting Corporation's Four Corners program in 2002: "... probably the easiest way to make a million bucks is to put together a boat and go fishing for a season in the Southern Ocean." *Four Corners*. 30/9/2002. "The Toothfish Pirates." Australian Broadcasting Corporation. Transcript available at: http://www.abc.net.au/4corners/stories/s689740.htm. Accessed 22 June 2008.

[24] There are other benefits to having many IUU boats under a parent company's wing. See: Agnew and Barnes. 2004. Above, n.2. p.195.

[25] Kuperan and Sutinen. 1998. Above, n.19. p.310.

[26] Gallic and Cox cite the AUD130,000 fine against an Indonesian fisherman in 2005, an exception to the rule. Gallic, Bertrand L., and Cox, Anthony. 2006. "An economic analysis of illegal, unreported and unregulated (IUU) fishing: key drivers and possible solutions." *Marine Policy*. Vol. 30. p.694. It should be noted that any conviction will depend on the flag state choosing to make a case against the vessel's operators and imposing a penalty.

[27] Agnew and Barnes. 2004. Above, n.2. p.169.

> In terms of toothfish, [profits] are likely to be between GBP 3 million and GBP 4 million per year (USD 4.5-6 million), based on a fishing year of about 200 days, current likely catch rates and market prices of toothfish... the likely profit far exceeds the costs, even if a vessel was to be arrested and confiscated once a year.[28]

IUU fishing operations generally fish for the lucrative international marketplace. This means that Asia (primarily Japan, South Korea, China and Hong Kong), Europe and North America are the primary destinations for fish caught outside prevailing regulations. Almost by definition this means it is 'high value' fish species that draw the attentions of these fishers, the very species that have been hit so hard by industrial fishing: Patagonian toothfish – the succulent cod substitute;[29] tuna – the sushi and sashimi heavy-hitter; swordfish – ocean exotica with plump, juicy, boneless steaks; and shark – with its precious fins.[30]

With few obstacles in the way of making that money, the economic incentives to engage in IUU fishing have so far outweighed the disincentives. Many IUU fishing vessels are flagged to flag of convenience States, which means oversight is generally minimal. With profit-making comparable to trade in endangered wildlife and drug and weapons smuggling, highly organized criminal elements have attached themselves to fishing operations.[31] These operations involve coordinated fishing, refrigerator and supply vessels; create fraudulent paperwork; use deception and physical concealment of catch in fake holds or mixed with legitimate catches; misreport their activities to their governments; corrupt and bribe officials at friendly ports; use front companies, flags of convenience and tax havens.[32]

---

[28] Agnew and Barnes. 2004. Above, n.2. p.181.

[29] Patagonian toothfish is especially valued in Singapore, Hong Kong and Malaysia. See Australian Broadcasting Corporation. 2002. Above, n.23.

[30] Roheim and Sutinen note that "most studies identify tuna, sharks, shrimp, toothfish, cod, sturgeon, abalone, and beche-de-mer as the principal high-value species that are taken by IUU fishing." Roheim, Cathy A., and Sutinen, Jon G. March 8, 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices.* Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force. Footnote 1 at p.9.

[31] According to Haward, the oceans are routinely used to transport three major types of illegal product: smuggled people, drugs and illegally-caught fish. Comment made during presentation at *2006 Fulbright Symposium – Maritime Governance and Security: Australian and American Perspectives.* University of Hobart. 28-29 June 2006. The High Seas Task Force notes that IUU fishing has much in common with illegal trade in endangered species, illegally-logged timber and the illegal dumping of waste products and that "IUU fishing boats provide an ideal platform for illicit activities such as people-smuggling and smuggling of drugs, arms and contraband." High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. pp.22,54. Indeed IUU fishing boats are increasingly transporting guns, drugs and people *along with* fish, leading Interpol to be increasingly interested in IUU fishing. Stølsvik notes that "South African abalone is being shipped out of the country and drugs smuggled into the country... abalone poaching is only one component in a crime-based chain of events stretching from the actual poaching to theft and prostitution to pay for the drugs when they reach the streets of South Africa." Stølsvik, Gunnar. 2008. "Transnational organised fisheries crime as a maritime security issue." Panel presentation (and abstract). Ninth meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea. See also: Schofield, Clive, Tsamenyi, Martin and Palma, Mary Ann. 2008. "Securing Maritime Australia: Developments in Maritime Surveillance and Security." *Ocean Development & International Law.* Vol. 39. p.95.

[32] Rigg *et al* note that: "The owners of these vessels also seek to avoid detection through deceptive business practices. For example, they create extended and complex corporate arrangements to hamper investigators, they repeatedly change the names and call signs of their vessels and they regularly re-flag the vessels in States that continue to maintain open registries." Rigg, Kelly, Parmentier, Rémi, Currie,

IUU fishing (at least, *illegal* fishing) can be seen as crime, *environmental* crime[33] and increasingly, as seen above, a maritime security problem.[34] It is submitted that in its broadest definition, IUU fishing is also a manifest symptom of deep management problems.[35] It is just one form of the unsustainable fishing that has been a feature of ocean fisheries for six decades, detailed in the previous chapter. Ineffective management that focused on deriving maximum harvests from the oceans has allowed unsustainable fishing to morph into a multi-billion dollar illegal industry. The current vogue at the governmental level is to see IUU fishing as something quite apart from poor management. It could be argued that this has allowed States to distance themselves from their collective responsibility for supplying the conditions that created the growth of IUU fishing.[36]

The extent and impact of IUU fishing

Extent

Until very recently, much of the international community's attention was focused on high seas IUU fishing.[37] But with around 90% of the world's commercial fish stocks situated within 200 miles of shore, or around sovereign islands and seamounts, a large proportion of IUU activity clearly occurs within areas of sovereign jurisdiction – within EEZs. The problem of foreign fleets fishing illegally in coastal State waters, particularly in developing countries, is significant.[38] Many of these States have little capacity to

---

Duncan. 2003. *Halting IUU Fishing: Enforcing International Fisheries Agreements.* Prepared for Oceana. December. p.5.

[33] The FAO has observed that "IUU fishing [is] now recognized as an environmental crime." FAO. SOFIA. 2006. p.71. Brack and Hayman observe that "Of all the areas of international environmental crime, IUU fishing is probably the most difficult to prevent. Added to the familiar problems of lack of enforcement capability and the difficulties in detection of illegal material (i.e. distinguishing it from legally caught fish) there is the problem of detection of the illegal activity in the first place." Brack and Hayman. 2002. Above, n.13. p.10.

[34] See: Stølsvik. 2008. Above, n.31. It should be noted that this may present an opportunity to take more effective action against IUU fishing operations: with security fears in the wake of terrorist attacks in the United States, London and Mumbai, there is, as Miller notes, a "heightened sensitivity to transnational crime." Miller, Denzil G.M. 2004. "Patagonian toothfish: The storm gathers." Chapter 7. In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. p.124.

[35] See, for example: Ichiro, Nomura. 2004. "State of world fisheries and future sustainability issues." The Twelfth Biennial Conference of the International Institute of Fisheries Economics and Trade. *What Are Responsible Fisheries?* IIFET 2004. July 2004. FAO. Rome, Italy. p.5.

[36] By focusing on IUU fishing on the high seas, governments are also able to deflect responsibility for poor management of the fish stocks in their own EEZs. For example the Australian government has been highly vocal internationally regarding IUU fishing, but it was reported in 2007 that, of the fisheries under its sole management, 20% of stocks were overfished and/or subject to overfishing. According to TRAFFIC, this represented 20% of Australian stocks being "at risk" with the status of 51 other stocks "uncertain." It was suggested that only around a third of the assessed Australian stocks were harvested sustainably. Fishupdate.com. "20% of Australian-managed fisheries still in the red." Published 4 July 2007.
http://www.fishupdate.com/news/fullstory.php/aid/7993/20%25_of_Australian-managed_fisheries_still_in_the_red.html. Accessed 5 December 2007.

[37] Andrews-Chouicha and Gray note that "it is difficult to move beyond 'good guesses'" about the state of IUU fishing on the high seas. Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: The economics of Illegal, Unreported, and Unregulated fishing.* Organisation for Economic Co-operation and Development. OECD Publishing. p.28.

[38] For example, Ntetema reports that more than 70 ships were operating illegally in the Tanzanian territorial sea, catching high value fish: tuna, kingfish, lobster and prawns. Ntetema, Vicky. 2 August

monitor their maritime territories. Even Australia, which deploys significant resources to monitor and control its waters, has seen its maritime boundaries repeatedly permeated by small-scale foreign fishing boats.[39] It has been seen that IUU fishing activities are believed to be prevalent in most fisheries. While some Regional Fisheries Management Organizations (RFMOs) were slower than others to react to the problem, most are now engaged in efforts to combat IUU fishing.[40] The secretive, oftentimes criminal, nature of the IUU fishing industry makes a global assessment of its extent or impact difficult to make. IUU fishers under-report or do not report their catches and are, in general, deceptive about their activities.

Through regional bodies, national governmental agencies, international organizations like FAO and the OECD, think-tanks, task forces and industry bodies, estimations can be made about the global picture of IUU fishing. These estimations rely on statistics, direct observations by fishers and fisheries patrol vessels, deductions based on "unseen" sightings of vessels, and on discrepancies between catch quotas and trade data.[41] Many RFMOs consider IUU operations to be widespread in their areas of competence. They report that IUU fishing handicaps their efforts to manage the fisheries under their mandate.[42]

The Marine Resources Assessment Group estimated in June 2005 that the value of IUU fishing on the high seas alone could be USD1.2 billion per year.[43] The 2006 final report of the Ministerially-led High Seas Task Force on IUU Fishing on the High Seas put the global value of IUU fish catches at $4–9 billion, accounting for between 5-19% of the global landed fish catch.[44] In 2008 it was estimated that the value of

---

2004. "Tanzania probes illegal fishing." *BBC News Online.* http://news.bbc.co.uk/2/hi/africa/3529058.stm. Accessed 28 August 2005.

[39] These vessels come mostly from the Indonesian islands and target shark, turtles and sea cucumbers. According to Jon Ford of the WA Department of Fisheries, Western Australia was subjected to "20 illegal boats a day" in 2005. (Presentation at *Sharing the Fish* Conference. Fremantle, WA. February 2006.) In 2005 the Department of Agriculture, Fisheries and Forestry, reported that 111 vessels were apprehended by Australian authorities in the 2002 calendar year for illegally fishing and all but two of these were fishing in Australia's Northern waters. Schofield *et al* report that illegal fishing in Australia's northern waters has been steadily increasing. "The 2005–2006 period showed an 80 percent increase in activity over the previous year (367 foreign fishing vessels apprehended as compared with 203 in 2004–2005), which itself marked a 67 percent increase over the year before that (134 foreign fishing vessels apprehended in 2003–2004)." Schofield *et al.* 2008. Above, n.31. p.98.

[40] They are, to a greater or lesser extent, pursuing such fishing activities with innovative measures and tools. Because most IUU fisheries has involved both parties to the organizing agreement and non-parties, it could be argued that it took IUU fishing to force the modernization of RFMOs.

[41] Agnew, D.J. and Kirkwood, G.P. 2005. "A statistical method for estimating the level of IUU fishing: Application to CCAMLR Subarea 48.3." *CCAMLR Science.* Vol. 12. pp.119–141; Helfman, Gene S. 2007. *Fish Conservation: A Guide to Understanding and Restoring Global Aquatic Biodiversity and Fishery Resources.* Island Press. p.286.

[42] Cochrane, Kevern, L., and Doulman, David J. 2005. "The rising tide of fisheries instruments and the struggle to keep afloat." *Philosophical Transactions of the Royal Society B.* Vol. 360. p.84. Andrews-Chouicha and Gray give estimates of the size of the IUU problem in the following RFMO areas: CCAMLR – estimates that a quarter of total allowable catch of toothfish is IUU-caught. NEAFC – estimates that up to 20% of redfish traded internationally is IUU-caught. ICCAT – estimates that 10% of the tuna caught in its convention area is IUU-caught. IOTC – estimates that 10% of the tuna caught in its convention area is IUU-caught. CCSBT – estimates that a third of its total allowable catch of Southern bluefin tuna is IUU-caught. IATTC – IUU fish catches "are not considered important." Any simplification of Andrews-Chouicha and Gray's detailed research is solely the present author's responsibility. Andrews-Chouicha and Gray (eds). 2005. Above, n.37.

[43] Cited by Gianni and Simpson. 2005. Above, n.17. p.6.

[44] The High Seas Task Force was formed in 2003 and released its final report, *Closing the Net*, in 2006.

worldwide IUU fishing to be $10bn and $23bn annually, representing between 11 and 25 million tonnes of fish.[45] While some fisheries (for example, CCAMLR-area Patagonian toothfish) have come under significantly better control in the last few years,[46] the UN considers IUU fishing to be the main obstacle to achieving sustainability in world fisheries.[47]

Impact

While this dissertation is focused on *international* legal solutions to combat IUU fishing, the OECD has noted that the impacts of IUU fishing on both humans and ocean ecosystems is localized for some fisheries (such as orange roughy, or Patagonian toothfish) but global in others (such as tuna and tuna-like species).[48] This suggests the need for global, regional and local solutions based on the characteristics of the species targeted.[49] In addition, the OECD observed that "no single strategy is sufficient to eliminate or reduce IUU fishing – a concerted and multi-pronged approach is required nationally, regionally and internationally, and by type of fishery."[50]

All this means *work:* valuable time and energy, diverted away from the crucial job of modernizing fisheries management. Executive Secretary of CCAMLR, Denzil Miller, believes that the problem of IUU fishing within its mandate area has consumed a decade worth of the organization's valuable time and scientific, enforcement, political and logistical energy and resources. All of this has been, Miller says, "a massive distraction, particularly for an organization with limited resources."[51]

IUU fishing impacts legal fishers, who are cheated out of harvesting potential. Taking unknown quantities of fish from a system creates gaps in already-limited scientific data, so IUU fishing makes a nonsense of catch quotas. As a fishing practice, IUU fishing makes worse a situation already made bad by industrialized overfishing. It inspires a cascade effect, too: IUU operations (at least, the owners of the catch and the vessel masters) make a great deal of money, so more fishing is encouraged to go under the radar, potentially encouraging a race to the bottom. It confers a great disadvantage on legal fishers who absorb ever-increasing costs of regulation. Legal fishers pay a higher cost for entry to the market than the IUU fishers.[52] They are pummeled another way: to

[45] MRAG and Fisheries Ecosystems Restoration Research, Fisheries Centre, University of British Columbia. April 2008. *The Global Extent of Illegal Fishing: Final report.* p.1.
[46] Estimates of IUU toothfish catches (tonnes) in the CCAMLR Convention Area from the 1996/97 to the 2005/06 fishing seasons. In the 1996/97 season IUU fish catch as a percentage of the total catch was 72.4%. in 2005/2006, this was down to 20%. See: http://www.ccamlr.org/pu/E/sc/fish-monit/iuu-est-table.pdf. Accessed 14 May 2009.
[47] Report of the Secretary General of the United Nations. 26 August 2004. "Sustainable Fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related Instruments." A/59/298. Paragraph 36. Accessible at http://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm
[48] OECD. 2004. "Key observations and findings by the workshop chairs." *OECD Workshop on IUU Fishing Activities.* p.2. Available at http://www.oecd.org/dataoecd/55/6/31603545.PDF.
[49] OECD. 2004. Above, n.48. p.2.
[50] OECD, above at n.50. p.2.
[51] Miller, Denzil. Informal talk at CCAMLR, December 2005; University of Tasmania, 23 April 2008; Email communication with Denzil Miller, CCAMLR. 14 May 2009.
[52] The High Seas Task Force estimates that IUU toothfishing operations make between 2 and 8 times the profit that legal toothfish operators do. High Seas Task Force. 2006. Above, n.31. p.23.

get rid of product quickly, IUU-caught fish is often dumped onto the market.[53] These floods result in unstable markets and lower prices.[54]

As seen, IUU fishing affects the budgets and work programs of international organizations and, possibly, also their stability. It has a clear impact on fish stocks. It also has dramatic effects on ecosystems and biodiversity more broadly.[55] The widespread incidental deaths of seabirds, marine mammals and non-target fish species (collectively known as 'by-catch') that occurs to a greater or lesser extent in all fisheries[56] is profoundly exacerbated by IUU fishing. Birdlife International estimate that over 300,000 seabirds are killed by both legal and illegal longline fishing fleets every year.[57] This includes around 100,000 albatrosses.[58] All 21 species of albatross are now on the IUCN endangered list. 19 species are threatened with extinction.[59] It is not known how much of this mortality can be attributed to illegal vessels. However, it is known that such boats eschew the seabird by-catch mitigation technologies and methods that the legal longline fishers are obligated to use.[60] These include: setting longlines at night; not discarding processing wastes (at least not while setting lines); flying streamers from long poles to scare birds; colouring bait to disguise it; and using thawed instead of still-frozen bait.[61] The seabird deaths are commonly believed to be a problem with the longlining fishing method, but trawl fisheries are also a major contributor to these deaths. Warne reports disturbing results from recent albatross mortality investigations which show that nearly half of the 4,000 dead albatrosses autopsied in one study had died as a result of collisions with the warps used in trawl fishing.[62]

---

[53] Williamson, Angela. 2001. *The Development, Management Response and Economic Consequences of IUU Fishing for Patagonian toothfish.* Unpublished Honours thesis. p.56.

[54] Williamson. 2001. Above, n.53. p.56, citing Exel, 1998.

[55] Agnew and Barnes cite anecdotal evidence that IUU fishing vessels have shot orcas to keep them away from the fish they are targeting. Agnew and Barnes. 2004. Above, n.2. p.196.

[56] While chicks benefit when their parents forage in commercial fishing areas (discarded fish from fishing boats has been found in chicks' stomachs), studies suggest that this is ultimately disastrous for the birds: "the long-term negative impact of adult death far outweighs the short-term benefit of chick survival. It may take three, four or even five successful chick rearings to compensate for the death of just one parent." In addition, Warne notes that: "The lengthy albatross "chickhood" is an adaptation to a patchy food supply: a slow-maturing chick needs food less often than a fast-maturing one... The chick's nutritional needs cannot be met by a single parent." Warne, Kennedy. "The Amazing Albatrosses." *Smithsonian.* September 2007. Vol. 38. Issue 6. Washington. http://www.smithsonianmag.com/specialsections/ecocenter/alba.html. Accessed 20 May 2009.

[57] Birdlife International Press Release. "Fisheries failing to safeguard seabirds." 7 March 2005.

[58] Renowned naturalist Sir David Attenborough was moved to make a rare plea in 2006 on behalf of albatross species: "For an albatross, taking a fish from a baited hook is no different to a blue tit taking peanuts from a garden feeder. The contrast is that the albatross will pay the heaviest price of all for its meal – its life." Birdlife International Press Release. "Sir David's personal plea for albatrosses." 3 February 2006. http://www.birdlife.org/news/news/2006/02/attenborough.html. Accessed 22 June 2007.

[59] Small reports that of the 21 albatross species, 19 were now under threat of extinction, the deaths coming chiefly as a result of incidental mortality during (legal and illegal) fishing operations. Small, Cleo. 2005. *Regional Fisheries Management Organisations: Their duties and performance in reducing bycatch of albatrosses and other species.* Birdlife International. Cambridge, UK. p.7.

[60] See, for example, the CCAMLR seabird by-catch mitigation program known as "Fish the sea, not the sky." http://www.ccamlr.org/pu/E/e_pubs/ftsnts.pdf

[61] Thawed bait sinks faster than frozen bait.

[62] Warne. 2007. Above, n.56, citing data on dead albatrosses gathered by New Zealand researcher Christopher Robertson. Warne writes, "The finding has surprised the fishing industry and conservation groups, which have considered longline fishing... a greater threat to seabirds."

IUU fishing also distorts markets. Responsibility for the rise of IUU fishing can be claimed by unscrupulous companies engaged in IUU fishing operations and slow-to-act (or even complicit) governments. But just as demand drove unsustainable fishing for decades, and drives inefficient aquaculture operations now, so demand underpins the interplay between the legal and illegal fish market. Every year around 140 million tonnes of fish and fishery products enters international trade.[63] Australia, not a fish-rich nation despite its huge EEZ, imports AUD1 billion worth of seafood a year and local demand is increasing.[64] IUU fishing supplies a shortfall. For example, Lack and Sant note that despite a major reduction in reported catch of toothfish in the year 2000, "[t]he USA and Japan were able to maintain their total imports over the two years 1999 and 2000" which strongly suggests that there was an increase in IUU fishing that year.[65]

Brack and Hayman report that "pressure from retailers (usually supermarket chains) to supply regular quantities of fresh fish often force the processors to buy from the black market."[66] Williamson reports that the presence of the IUU Patagonian toothfish catch has brought the total catch up to a level which approximately satisfies consumer demand for it.[67] Moreover, reliability of supply – from whatever source, legal or illegal – may even act to support an ongoing market for that particular fish. She notes that some "processors that use toothfish as the raw product have vowed to stop using toothfish and change to another fish species if the availability of toothfish becomes a problem."[68] Fish and fishery products are the most traded food in the world,[69] and one of the most traded commodities in the world. In the APEC region it is *the* most traded product.[70] One would therefore think that fish would be the most transparently traded of commodities. However, Williamson observes a "lack of market controls" and transparency within the market for fish.[71]

Flag States and free riders

Legal responsibility for the activities of fishing vessels in areas outside of national jurisdiction rests, in some cases, on the nationality of individual fisher,[72] and in all cases on the flag the vessel is flying. Flag State jurisdiction is a fundamental tenet of international law and the foundation for the organization and control of vessels on the world's oceans. But the phenomenon of IUU fishing has revealed its fragility: many flag States have not effectively controlled the activities of their flagged fishing vessels.

It has been observed that IUU activities exist "where governance is weak and where countries fail to meet their international responsibilities."[73] Flags of convenience constitute the primary manifestation of this "weak" governance. Countries that operate

---

[63] FAO. SOFIA. 2006. p.88.
[64] Haase, Barry. Member of the State Parliament of Western Australia. *Sharing the Fish* Conference. February 2006.
[65] Lack and Sant. 2001. Above, n.65. p.16.
[66] Brack and Hayman. 2002. Above, n.13. p.10.
[67] Williamson. 2001. Above, n.53. p.87.
[68] Williamson. 2001. Above, n.53. p.87, citing Falch and Chiba, 2000.
[69] FAO. SOFIA. 2006. p.88.
[70] Bergin, Anthony and Haward, Marcus. June 2003. *It's not just about fish: A strategic approach to Australia's external fisheries engagement.* Fisheries Resources Research Fund Project. p.30.
[71] Williamson. 2001. Above, n.53. p.36.
[72] Some states, notably Australia and Spain, have enacted laws which provide them with legal control over the activities of nationals while on the high seas. Erceg, Diane. 2006. "Deterring IUU fishing through state control over nationals." In *Marine Policy.* Vol. 30. pp.173–179.
[73] Energy, Environment and Development Programme of Chatham House. http://www.illegal-fishing.info/. Accessed 14 May 2009.

open registries are not unlike those that provide so-called 'pollution havens' – these are places where less strict standards apply.[74] In the context of IUU fishing, flag of convenience States are those "which allow vessels to land or transship product without confirming that it has not been taken by IUU fishing; and countries that refuse to take action against their nationals involved in IUU fishing."[75]

The International Transport Worker's Federation campaign against the use of flags of convenience in the merchant shipping sector began in 1948.[76] While Agnew and Barnes note that there are differences between the use of flags of convenience in merchant shipping and fishing,[77] in 1974 the International Transport Worker's Federation defined flags of convenience as those where "beneficial ownership and control of a vessel is found to lie elsewhere than in the country of the flag the vessel is flying."[78]

While 78% of operating fishing vessels have not changed flags since their launch, and more than two-thirds were built in the country in which they are also registered,[79] the High Seas Task Force has observed a marked trend in recent years away from fishing vessels flagging to traditional distant water fishing nations. Instead they are flagging to either known flag of convenience States, or are simply "unknown."[80] Somewhere between 5% and 10% of the world's fishing fleet is currently flagged to a flag of convenience.[81] This equates to around 1,200 large scale fishing vessels.[82] More than 1,600 more are "unknown."[83] The Cyprus-based website www.flagsofconvenience.com sells flags on behalf of 15 countries with open registries.[84] The International Transport

---

[74] It should be noted that analysis of the performance of open registers in the merchant shipping sector has shown that "there are [open registers] with excellent safety records and closed registers with very poor ones." Llácer, Francisco, J. 2003. "Open registers: past, present and future." In *Marine Policy*. Vol. 27. p.521.

[75] Lack and Sant. 2001. Above, n.65. p.7. It should be noted that 'a flag of convenience state' is not a static status. Agnew and Barnes explain that a state may exert effective control over their vessels in some circumstances but not in others. Sometimes it will depend simply upon the area in which a particular vessel is fishing and its obligations within the particular RFMO: "For instance, vessels under the Panamanian flag would be regarded as FOC in Antarctic waters, because, as a non-party to CCAMLR Panama would not be exerting effective control on its vessels in the waters of that RFMO. However, Panamanian-flagged vessels are not FOC vessels in waters administered by ICCAT, as Panama is a member of ICCAT." Agnew and Barnes. 2004. Above, n.2. p.176.

[76] Llácer notes that the terms "flag of convenience" and "open register" have been used since the 1950s. The *use* of flags of convenience goes back to the 16th century, when British ships flew the flag of Spain "to overcome the existing restrictions about trade in the West Indies." Llácer. Above, n.74. p.514.

[77] Agnew and Barnes. 2004. Above, n.2. p.176.

[78] International Transport Workers' Federation website. www.itfglobal.org. Accessed 13 September 2007

[79] FAO. SOFIA. 2006. p.28.

[80] High Seas Task Force. 2006. Above, n.31. p.36.

[81] Williamson. 2001. Above, n.53. p.41. In addition, Gianni writes that a growing number of fishing vessels are listed as flag "unknown" on Lloyd's Register of Ships. "The number of "unknowns" on the Register has grown by approximately 50% since 1999 to over 1,650 vessels in 2005" (of 20,000+ vessels). Gianni notes that 'unknowns' may include "scrapped, abandoned or sunk vessels" or vessels whose flag states have not yet provided information to Lloyd's Register. Including "unknowns," potentially 15% of vessels are flying the flags of a flag of convenience State (~17.5% by Gross Tonnage). Gianni and Simpson. 2005. Above, n.17. pp.13,18.

[82] Gianni and Simpson. 2005. Above, n.17. p.3.

[83] Gianni and Simpson. 2005. Above, n.17. p.3.

[84] These 15 flags are: Belize, Cambodia, Cyprus, Dominica, Georgia, Honduras, Jamaica, Malta, Mongolia, Panama, Slovak Republic, St. Vincent and the Grenadines, State of Delaware (US), Union of Comoros, Vanuatu. Accessed 14 May 2009.

Worker's Federation identifies 32 flag of convenience countries.[85] As well as Georgia, Cambodia and Vanuatu, Gianni reports that up-and-coming flag of convenience States are landlocked Bolivia and Togo (the latter particularly for toothfish).[86] When these vessels change flags, they will probably change to another flag of convenience, and the cost of doing so will apparently be quite small.[87] This can be achieved while at sea via the internet or fax.[88] Agnew and Barnes give an example of this 'flag hopping':

> [The] *San Raphael 1*, flagged to Belize, which following an encounter with a fisheries patrol vessel in December 1999 around South Georgia changed its name to the *Sil*, then the *Anyo Maru 22* and finally the *Amur*, flagged to Saõ Tome e Principe[89] before sinking around Kerguelen on 9 October 2000.[90]

Gianni observes that States which offer flags of convenience "externalize the costs of the failure to regulate 'their' fishing fleets."[91] Purpose-building IUU fishing vessels is a new trend. Gianni notes that "478 fishing vessels over 24m in length were built between 2001 and 2003 and flagged to one of the 14 FOC countries."[92] Another development reveals a further evolution in IUU fishing: Lack and Sant report an apparent trend towards the use of charter vessels in IUU fishing. This is where foreign-flagged vessels are chartered for the purpose of conducting IUU fishing.[93] States that allow such things benefit through increased taxes while incurring no responsibility for the activities of the vessels.[94]

It is accepted that there may be sound business reasons for an owner of merchant shipping vessels to seek a flag of convenience,[95] such as tax benefits and minimizing

---

[85] Gianni and Simpson. 2005. Above, n.17. p.12. The ITF agreed in 1995 to publish a black list of "companies and individuals...which seriously abuse seafarer's rights". There are 5 companies on this list as at 27 May 2009. The 5 companies are based in 5 countries: Ukraine, Turkey, Russia, Greece and the Philippines. Black listing dates range from 1999 to 2004, suggesting that this process may have been abandoned. http://www.itfglobal.org/flags-convenience/flags-convenien-186.cfm. Accessed 27 May 2009.

[86] Flag of convenience States can change quickly, and in response to external pressures. Gianni and Simpson note that in 1999 Cyprus had 62 large-scale fishing vessels on its registry. Cyprus joined the EU in 2004 and by 2005 it had just 27. Gianni and Simpson. 2005. Above, n.17. p.12. p.18.

[87] Agnew and Barnes suggest that the cost of flagging a fishing vessel to a flag of convenience State is minimal, between USD 1,000 and 5,000. This is mostly made up of legal fees. Agnew and Barnes. 2004. Above, n.2. p.186.

[88] Gianni and Simpson. 2005. Above, n.17. p.12. p.17; Agnew and Barnes. 2004. Above, n.2. p.186.

[89] The Democratic Republic of São Tomé and Príncipe is an island nation off the western equatorial coast of Africa, consisting of two islands: São Tomé and Príncipe.

[90] Agnew and Barnes. 2004. Above, n.2. p.175, citing Agnew, Kirkwood and Pierce, 2002.

[91] Gianni and Simpson. 2005. Above, n.17. p.64.

[92] Gianni and Simpson. 2005. Above, n.17. p.20.

[93] Lack and Sant. 2001. Above, n.65. p.16; See also Lugten, G.L. 2008. "Legal consultation for the Food and Agriculture Organization of the United Nations – Development of a comprehensive Global Record of fishing vessels, refrigerated carriers and support vessels." Appendix H. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* Rome, Italy. 25–28 February 2008. p.48; Also Smith, Lewis and Elliott, Valerie. *The Times Online*. "How the fish on your plate makes you an accessory to crime at sea." 21 June 2006. http://www.timesonline.co.uk. Accessed 11 June 2008. This article describes Russian "gangs" fishing illegally for cod which "cover their tracks by renting or leasing Russian vessels instead of buying them."

[94] Lack and Sant. 2001. Above, n.65. p.16.

[95] Indeed, the High Seas Task Force notes that traditional maritime countries such as Germany, Norway and the UK have each set up "quasi-open registers" because, it is claimed, there are legitimate business reasons for using open registers, at least in the shipping sector. This is less clear in the fisheries sector. High Seas Task Force. 2006. Above, n.31. p.36.

liability.[96] But the primary reason for fishing vessels to acquire a flag of convenience appears to be to avoid fisheries regulations.[97] Baird has observed that States operating open registries "are generally in breach of international obligations... and are not members of RFMOs."[98] Both the States and the vessels are therefore 'free riding.'[99] In fisheries, the term "flag of convenience" has been evolving. Stokke and Vidas use the term "flag of no responsibility."[100] In 1995 FAO suggested the use of the term "flag of non-compliance (FONC)." In 2002, CCAMLR adopted this term.[101] As a descriptor, "flag of non-compliance" is clearly more broad than "flag of convenience." Agnew and Barnes suggest that it may allow other States and RFMOs to act against them.[102] This is a welcome re-conceptualization. However, given the entrenched use of flags of

---

[96] In the shipping sector, Llácer notes that flags of convenience assist operators to keep crew costs low: "Annual crew costs, such as those from a typical North European closed register, can be double or even four times those of an [open register], depending on crew selection." Llácer. Above, n.74. p.520. Balton has noted that reflagging (though not necessarily to a flag of convenience State) is sometimes done to gain legal access to regulated fisheries. Balton, David A. 2004. "Dealing with 'Bad Actors' of Ocean Fisheries." Chapter 4. In OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. p.58.

[97] The International Transport Worker's Federation and other commentators believe there should be a 'genuine link' between the real ("beneficial") owner of a vessel and the flag the vessel flies. The notion of a 'genuine link' can be found in the 1982 UN Law of the Sea Convention, but it was not well defined and there are suggestions that the requirement for a 'genuine link' to exist between a flag state and a vessel was "watered down" in the negotiations surrounding the Convention. Agnew and Barnes. 2004. Above, n.2. p.175. Gianni poses the question: Without a genuine link, under what foundation can oversight and control even be exercised? Gianni and Simpson. 2005. Above, n.17. pp.60, 61.

[98] Baird, Rachel J. 2005. "CCAMLR initiatives to counter flag state non-enforcement in Southern Ocean fisheries." *Victoria University of Wellington Law Review.* Vol. 33. p.738. Within particular RFMOs there is now a presumption of non-compliance if a vessel flagged to a non-party is seen fishing in waters that are under the management competence of a regional fisheries management organisation. Rayfuse notes that vessels have "deliberately been deregistered from member states and re-registered in non-member states" in order to avoid the rules that pertain to RFMO members. Rayfuse, Rosemary Gail. 2004. *Non-flag state enforcement in high seas fisheries.* Martinus Nijhoff Publishers. Leiden. Boston. p.34.

[99] Free riding is a term widely used in economic game theory. Rose and Paelokrassis observe that agreements to manage international commons' are susceptible to raids by free riders. Rose, Gregory and Paleokrassis, George. 1996. "Compliance with International Environmental Obligations: A case study of the International Whaling Commission." In Cameron, J., Werksman, J., and Roderick, P. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. p.175. Gordon Munro defines free-riding as being when the economic benefits of everyone else's cooperation are scooped up by non-participants. He adds, "No matter how well designed the allocation scheme, if control over unregulated fishing is weak then free riding will be rampant" – controls to stop free-riding therefore need to be set up well in advance of the acts of free-riding. Professor Gordon Munro. *Sharing the Fish* Conference. Fremantle, WA. February 2006. Free riding offends the concept of *res communis* – a commons shared by all nations. As Joyner notes in a discussion regarding *res communis* (something shared by all nations) and *res nullius* (things belonging to no one can be appropriated by anyone), "if the ocean belongs to all people and all people have the right to use the oceans, how could any particular person or state legally justify a special right of exploiting and consuming ocean resources for their own personal gain?" Joyner, Christopher C. and Martell, Elizabeth A. 1996. "Looking Back to See Ahead: UNCLOS III and Lessons for Global Commons Law." *Ocean Development & International Law.* Vol. 27. p.75. Leigh says "The status of the high seas is usually explained as encapsulated in the concept of *res communis* which encompasses the notion that the high seas or parts thereof are: not owned by any one State; not *able* to be individually owned; and open to use by all." Leigh, Kathy. 1993. "Liability for Damage to the Global Commons." *Australian Year Book of International Law.* Vol. 14. p.130.

[100] Baird, Rachel J. 2006. *Aspects of Illegal, Unreported and Unregulated Fishing in the Southern Ocean.* Springer. Netherlands. p.59, citing Stokke and Vidas. 2004. Above, n.21.

[101] Resolution 19/XXI.

[102] Doing so allows the actions of these other states or the RFMO to remain consistent with WTO requirements of non-discrimination in the event that trade measures are used against the non-compliant flag state. Agnew and Barnes. 2004. Above, n.2. p.176.

convenience and the worrying trends mentioned above, it is likely that ineffective flag State control over fishing vessels will continue to hamper efforts to eradicate IUU fishing for some time. This is primarily because, as Baird notes, "there is little economic incentive for States to either decline applications for registration or to take effective enforcement action."[103] Løbach, has said that "[t]he failure of flag States to effectively control the fishing operations of vessels flying their flags is the core of the problem of IUU fishing."[104] For Gianni, IUU fishing is now so pervasive that it might be time to give up on flag State primacy altogether. Indeed this entire dissertation is predicated on the idea that the time has come to shift the enforcement burden away from flag States.[105] As flag States continue to provide "cover" for IUU fishing vessels, port and market States must now take up a greater volume of the enforcement burden. Enhancing the efforts of non-flag States is going to be critical to combatting IUU fishing.

Conclusion

With an estimated value of USD10-23 billion,[106] IUU fishing is clearly a major economic problem as well as an ecological problem. Fundamental loopholes in existing international law and practice, as well as the difficulty of monitoring the vast oceans, have combined to make it a valuable industry for those engaged in it. Rigg, Parmentier and Currie have identified the most significant loopholes aiding IUU fishing. In summary these are:

- Flags of convenience and open registries which allow unscrupulous operators to avoid regulation of their activities;

---

[103] Baird. 2006. Above, n.100. p.164. Baird observes that the Seychelles closed its ports to IUU perhaps because it wanted to gain international cooperation and assistance to set up a lucrative swordfish fishery in its EEZ. Baird. 2005. Above, n.98. p.747.

[104] Løbach, Terje. 2006. "Port state measures to combat IUU fishing: The FAO model scheme on port state measures." *FAO/FFA regional workshop to promote the full and effective implementation of port state measures to combat IUU fishing*. 28 August – 1 September 2006. Mocambo Hotel. Nadi, Fiji.

[105] Solutions for resolving the problem of ineffective flag states is beyond the scope of this dissertation. However, Gianni and Simpson write that the "widespread and pervasive failure of so many states to uphold their fundamental duties as flag states arguably makes a mockery of the notion of flag state sovereignty." They suggest that a radical solution, such as coastal states extending their jurisdiction even further into the high seas, may need to be contemplated. (The fact that many coastal states have vastly overfished their own resources might mitigate against this.) Another possibility Gianni and Simpson put forward is for responsible states to bring a case before the International Tribunal for the Law of the Sea and use the international judicial process to "strengthen the definition of flag state responsibility under international law." Another possibility is seeking compensation from free riding states for the costs incurred – in loss of fish stocks, at the very least – as a result of IUU fishing by vessels flying their flag. Gianni and Simpson. 2005. Above, n.17. pp.61,64. It is not clear how this would work: Gianni admits there is currently no legal mechanism that would allow it. States are already hindered by prevailing international norms when they attempt to prosecute the fish poachers they *do* apprehend. Fisheries offences committed by non-nationals are not criminal offences – a position supported by the LOSC. According to Schachte, William L. Jr., changing this would over-extend the jurisdictional basis reflected in the Law of the Sea Convention. 1992. "Comment: The Value of the 1982 UN Convention on the Law of the Sea: Preserving our Freedoms and Protecting the Environment." In *Ocean Development & International Law*. Vol 23. p.59. Nonetheless the problem is pressing and radical ideas may need pursuing. It should be noted that the 2007 session of COFI requested FAO to begin the development of criteria against which to assess the performance of flag states, including possible actions against flag states in light of this assessment. FAO. 2007. *Report of the Twenty-Seventh session of the Committee on Fisheries*. Rome, Italy. 5–9 March 2007. FAO Fisheries Report No. 830. FIEL/R830. Food and Agriculture Organization of the United Nations. Rome, Italy. p.xii. Thus, an Expert Consultation on Flag State Performance will take place in Rome, Italy from 23-26 June 2009.

[106] MRAG and University of British Columbia. Above, n.45.

- As one country or region more aggressively acts to deter IUU fishing, activities are displaced to another which is less willing or able to do so;
- Transshipping at sea means that vessels need never enter ports with their illegally caught fish. The mingling of illegally and legally caught fish onboard reefers essentially serves to whitewash the contraband fish;
- Monitoring, control and surveillance of the high seas and within the Exclusive Economic Zones (EEZs) of many countries (particularly poorer developing countries) are insufficient to ensure that illegal fishers will be apprehended.[107]

This chapter has looked at some of the factors hindering solution of the global IUU problem. These include many of the reasons fisheries sustainability itself has been difficult to achieve, such as: the ever-increasing level of demand for fisheries products; a lack of coordination at the regional and international level; and States that turn a blind eye to non-compliant behaviour. In addition, monitoring is insufficient, detection is difficult, apprehension is rare, and securing legally-relevant evidence of wrong-doing[108] is monumentally difficult and resource-hungry. Monetary penalties should a vessel be caught are reportedly written off. International finance laws offer beneficial owners a 'corporate veil' to hide behind. Globalization has spread affluence through the developing world and goods across the oceans for an ever-increasing population. This has created sustained demand for fish and markets for IUU-caught product. Importantly for this dissertation, there exists a crucial lack of data on the extent of the problem, the companies and vessels involved and their pathways into the market. This information desert is, in part, caused by an acute lack of centralized information regarding fishing vessels. In addition, political will on behalf of States to provide information to the international community regarding the vessels on their national registries has been in short supply.

The international legal regime which purports to regulate fishing activities on the world's oceans will be described in the following three chapters. But however laudable though these agreements are, the incentive and profit structures that sustain IUU fishing are barely touched by them. IUU-caught fish is still landed in ports, by vessels that are neither well tracked nor easily identified, flying the flags of States who refuse to enforce the rules, or do not have the capacity to do so. As a result, there have been increasing calls in recent years for the balance to be altered between flag State sovereignty and the duties and responsibilities that come with that sovereignty,[109] and calls for a more even distribution of the implementation and enforcement burden between flag States, port

---

[107] Rigg, Kelly, Parmentier, Rémi and Currie, Duncan. 2004. "Halting IUU Fishing: Enforcing International Fisheries Agreements." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* Committee for Fisheries. OECD Publishing. p.370.

[108] That is, catching IUU fishers 'red-handed' on the oceans and then keeping them within the canon's shot distance necessary to maintain a "hot pursuit." The 1958 Convention on the High Seas allowed for a right of "hot pursuit". According to Jessup, such a pursuit "may be undertaken if the suspected vessel or one of its boats is within the pursuer's territorial sea or in the contiguous zone, but in the latter case only "if there has been a violation of the rights for the protection of which the zone was established." Jessup, Philip C. 1959. "United Nations Conference on the Law of the Sea." *Columbia Law Review.* Vol. 59. No. 2. February. p.258. More recently, the 1982 UN Convention on the Law of the Sea allowed for hot pursuit under Article 111, which also set strict conditions for its use. For a discussion regarding the hot pursuits of two Southern Ocean IUU toothfishing vessels (the *South Tomi* and the *Viarsa 1*) and its legality under public international law, see: Molenaar, Erik Jaap. 2004. "Multilateral hot pursuit and illegal fishing in the Southern Ocean: The pursuits of the Viarsa 1 and the South Tomi." In *The International Journal of Marine and Coastal Law.* Vol. 19. No.1. Koninklijke Brill NV. pp.19-42

[109] Gianni and Simpson. 2005. Above, n.17. p.60.

States and market States. These evolutions may be crucial to successfully combatting IUU fishing and they will be fully explored in the following chapters.

Chapter 3 – International Instruments: Hard Law

Introduction

In 1968, Garrett Hardin published a discussion in the journal *Science* that has become, over the proceeding decades, a touchstone for scholars writing in the field of international natural resources. He presented the pervasive possibility of the "Tragedy of the Commons."[1] Hardin wrote about the tendency of humans to infinitely take from a finite commons.[2] They do this without curbing what they consider to be their freedom to do so. Hardin famously wrote that, "Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all."[3]

Hardin observed that humans relied on finding technical solutions to any problems that may arise. But there is "a class of human problems," he wrote in that paper, "which can be called 'no technical solution problems'." In a 'no technical solution problem' (his example is the game of tic-tac-toe) Hardin writes, "I can win only by giving a radical meaning to the word 'win.' I can hit my opponent over the head; or I can falsify the records."[4] To extend the metaphor – we can also obscure the problem. In fisheries this has been done by changing the names of overfished species. We can substitute species that have disappeared from shops and menus with new species from different waters. More than 800 species of fish are traded internationally.[5] We can leave the consumer to the imperfections and confusions of 'the market.'

For decades fisheries managers have searched for technical or scientific solutions to the problems in fisheries, while, in Hardin's words, "demanding little or nothing in the way of change in human values or ideas of morality."[6] In other words, this has been undertaken without exploring the ways the treatment of the commons could change. To Hardin, the application of *limits* is crucial to avoid a commons falling into ruin.[7] It is these limits on which the international community has attempted to agree over the past five decades.

---

[1] Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science*. Vol. 162. pp.1243-1248.

[2] Hardin's oft-quoted example is that of adding cattle to a common grazing area. A global commons is defined by Joyner and Martell as "an area beyond the limits of national jurisdiction to which all peoples have free and open access. Such commons are generally meant to include the oceans, outer space, and Antarctica." Christopher C. Joyner and Elizabeth A. Martell. 1996. "Looking Back to See Ahead: UNCLOS III and Lessons for Global Commons Law." *Ocean Development & International Law*. Vol. 27. p.74. It is defined by Leigh as "the areas over which no one State has ownership but which are available for the use of the world community." Leigh, Kathy. 1993. "Liability for Damage to the Global Commons." *Australian Year Book of International Law*. Vol. 14. p.130.

[3] Hardin. 1968. Above, n.1. p.1244. Hardin specifically pointed to the oceans as a commons facing such a 'ruin'. He said, "...the oceans of the world continue to suffer from the survival of the philosophy of the commons. Maritime nations still respond automatically to the shibboleth of the 'freedom of the seas.' Professing to believe in the 'inexhaustible resources of the oceans,' they bring species after species of fish and whales closer to extinction." Even Grotius, writing in the early 1600s, conceded that "in a way it can be maintained that fish are exhaustible." See: Steinberg, Philip E. 1999. "Line of Division, Lines of Connection: Stewardship in the World Ocean." *Geographical Review*. Vol. 89. No. 2. April 1999. p.263, footnote 3.

[4] Hardin. 1968. Above, n.1. p.1243.

[5] FAO. "Product identification: trade implications of fish species." http://www.fao.org/fishery/topic/14807/en. Accessed 24 May 2009.

[6] Hardin. 1968. Above, n.1. p.1243.

[7] Hardin's example is the National Parks of the United States. He writes, "At present, they are open to all, without limit. The parks themselves are limited in extent – there is only one Yosemite Valley – whereas population seems to grow without limit. The values that visitors seek in the parks are steadily eroded.

Hardin had two other ideas that have become deeply relevant to ocean fisheries. The first is that (quoting Fletcher, 1966) "the morality of an act is a function of the state of the system at the time it is performed."[8] For example, harvesting Patagonian toothfish outside the CCAMLR management regime did not much affect fish stocks in 1980, when the fishery was still largely artisanal. But those fish stocks have now been fished on a large, commercial scale (including by IUU fishing vessels) for the better part of fifteen years. So it certainly matters now. Hardin also suggested that "conscience is self-eliminating."[9] Hardin coined this phrase in the service of an argument for population control. Those who heeded the *conscience* call to have fewer children would be bred out by those who do not heed the call.[10] Translated into the fisheries context, a raised environmental conscience on the part of governments can displace fishers or put them out of work altogether.[11] This will leave the unscrupulous to thrive and, in any case, the government may be voted out at the next election. The effects of relying on consciousness-raising – or inducing guilt – as a tool for change are, to Hardin, dire.[12] Instead he endorses setting up "social arrangements." Much of this dissertation will be devoted to exploring the "social arrangements" that have been established in order to manage fisheries and avoid further destruction of this commons. The soft and hard laws and the regional and international regimes that implement them are the focus of this and the following chapters.

No absolute consensus exists between the UN's 192 sovereign States[13] as to how to deal with many, if not most, regional or global environmental problems. However, environmental issues and their effect on human, animal, terrestrial, marine and atmospheric health are now fixed firmly on the political and policy agenda of a great many countries. In 2007 Columbia University's SEDAC *Environmental Treaties and Resource Indicators* database listed 464 agreements relating to the key term "Marine Resources Conservation/Management."[14] These agreements are the result of almost numberless bilateral, multilateral and international conferences. This chapter will

---

Plainly, we must soon cease to treat the parks as commons or they will be of no value to anyone... We might sell them off as private property. We might keep them as public property, but allocate the right to enter them. The allocation might be on the basis of wealth, by the use of an auction system. It might be on the basis of merit, as defined by some agreed upon standards. It might be by lottery. Or it might be on a first-come, first-served basis, administered to long queues. These, I think, are all objectionable. But we must choose – or acquiesce in the destruction of the commons that we call our National Parks." Hardin. 1968. Above, n.1. p.1245.

[8] Hardin's example was the North American bison, once roaming in the millions but reduced to a few hundred by the turn of the century. Hardin wrote: "A hundred and fifty years ago a plainsman could kill an American bison, cut out only the tongue for his dinner, and discard the rest of the animal. He was not in any important sense being wasteful. Today, with only a few thousand bison left, we would be appalled at such behavior." *Ibid.*

[9] Hardin. 1968. Above, n.1. p.1246.

[10] *Ibid.*

[11] 30,000 Canadians reportedly lost their jobs when the northern cod fishery moratorium was imposed. In 1993 the initial 2-year moratorium was extended indefinitely and the fishery, at least for large offshore vessels, is still closed. (In response to pressure on the government, the cod fishery was reopened for small and recreational vessels in 1998.) It was described as "the single-largest mass layoff in Canadian history... Within a year, the entire $700-million enterprise – and way of life – was gone." *Canadian Press.* "Nfld. surviving 10 years after cod moratorium." June 30, 2002. http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20020630/nfld_cod_anniversary020630?s_name=&no_ads= Accessed 18 June 2008.

[12] Hardin. 1968. Above, n.1. p.1247.

[13] For UN General Assembly membership see, generally: http://www.un.org/ga/about/background.shtml. Accessed 26 June 2008.

[14] At http://sedac.ciesin.columbia.edu/entri/treatyTexts.jsp. Accessed 28 February 2007.

explore international fisheries instruments. It will look first at a series of multilateral environment conferences and their (non-binding) declarations and statements about the environment and fisheries. It moves on to discuss the disputes that set the scene for the 1982 UN Convention on the Law of the Sea. It then explores the two important pieces of fisheries "hard" law that were subsequently agreed in order to fill gaps left in the LOSC – the 1993 FAO Compliance Agreement and the 1995 UN Fish Stocks Agreement.

The slow awakening to environmental consciousness

Around thirty years ago international attention began to focus on the governance of the world's vast oceans, the marine living resources within them, and conservation of the broader environment and the ecosystems which sustain them. In that time, anxieties about human interactions with the global environment have come to the fore. It was recognized that the previous century's poor management of the world's fish stocks was based on overly optimistic notions about resource abundance.[15]

Other problems came to light, such as the widespread and unsustainably high mortality of non-target species during fishing operations. These included rare and ancient creatures like sharks and sea turtles. The charismatic albatross became a potent symbol of the effects of the business-as-usual approach to the commons. The depletion of fish stocks themselves created existential anxieties about poor human stewardship, as well as anxieties about food security. Fisheries and their management have become, according to Olav Schram Stokke, "increasingly... part of the broader discourse of environmental affairs."[16] This in turn reflects the way environmental affairs have become intertwined with international affairs and the global activities of States in a newly interconnected world.[17] A new period in western thinking about the earth, its species and systems began; a slow awakening perhaps, then a quick and panicked jolt to environmental consciousness.

In 1972 the UN Conference on the Human Environment was held in Stockholm. This was the moment, according to Haas:

> when the international community first became aware of the widespread impact of human behavior on the natural environment. Before then, national leaders were by and large unfamiliar with environmental issues, scientific understanding was rudimentary; and there were few national or international institutions available for promoting environmental protection.[18]

Out of the conference came the Declaration of the United Nations Conference on the Human Environment (the Stockholm Declaration),[19] an Action Plan for the Human

---

[15] The FAO Code of Conduct for Responsible Fisheries, in its preface, notes that "The wealth of aquatic resources was assumed to be an unlimited gift of nature."

[16] Stokke, Olav Schram. 2001. "Conclusions." In Stokke, Olav Schram. *Governing high seas fisheries: the interplay of global and regional regimes.* Oxford University Press. p.353.

[17] See, for example, Wilson, Edward O. 2000. "On the Age of the Environment." *Foreign Policy.* No.119. Summer. p.34. Wilson contends that with global resources dwindling and the population ever-increasing, the dawn of the new century marked the beginning of "the Age of the Environment." p.35.

[18] Haas, Peter M. 2001. "Environmental Pollution." In Simmons, P. J. and de Jonge Oudraat, Chantal. *Managing Global Issues: Lessons Learned.* Published by Carnegie Endowment for International Peace. p.310

[19] The Stockholm Declaration can be found at: http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=97&ArticleID=1503. Accessed 19 July 2008.

Environment, and an institution – the UN Environment Program.[20] The Stockholm Declaration contained twenty-six principles. These served, according to Haas, "as the basis for future legally binding multilateral accords."[21] These principles included intergenerational equity[22] and the precautionary principle.[23] Principle 24 emphasized the importance of cooperation within the international community:[24]

> International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities

---

[20] Haas calls UNEP "the environmental conscience of the UN system." Haas. 2001. Above, n.18. p.311

[21] *Ibid.*

[22] Principle 1 of the Stockholm Declaration: Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. Principle 2 stated that, "The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management..." The Stockholm Declaration. Above, n.20. Speaking during the early 1970s debates on dolphin mortality in the eastern tropical Pacific tuna fisheries, influential Congressman Thomas M. Pelly discussed intergenerational equity. He said, "the living natural resources of this planet are irreplaceable and should be protected and conserved for the benefit of future generations." 117 Cong Rec H44955 (1971) in Cheyne, I. 2000. "Law and ethics in the trade and environment debate: tuna, dolphins and turtles." *Journal of Environmental Law.* Vol. 12. No. 3. p.299. In the context of fish stocks it has been put this way by Sumaila: "To ensure that future generations are not left behind, ask yourself whose fish, yours or your grandchildren's, you are eating." Interviewed in McKenna, Phil. 19 February 2008. "Tuna fisheries facing a cod-like collapse." *NewScientist.com news service.* http://environment.newscientist.com/channel/earth/dn13346-tuna-fisheries-facing-a-codlike-collapse.html. Accessed 3 March 2008. An opposing view, observed by Cheyne regarding dolphin by-catch in the eastern tropical Pacific tuna fisheries, is that "we do not really know... if [future generations] will exist at all, who they will be, or what needs, interests and desires they will possess. In particular, we do not know whether they will share our values as to the constituting existence and flourishing of different species." Cheyne. 2000. Above, this n. p.301. For a discussion of intergenerational equity generally, see: Brown-Weiss, Edith. 1989. *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity.* Transnational Publishers.

[23] It should be noted that Principle 21 provides that states are able to use their own resources in whatever way they want so long as no transboundary harm or environmental damage to other states or areas beyond the limits of national jurisdiction occurs. The Stockholm Declaration. Above, n.20. According to Leigh, "Principle 21 significantly places damage to the environment in areas beyond national jurisdiction on the same footing as damage to the environment within a State...[it] sets down what might be described in general terms as an obligation to prevent damage to the environment. Leigh. 1993. Above, n.2. p.135. She observes that it is "far from clear" how Principle 21 might translate into a customary international law liability regime for damage to the environment, and cites one case where liability for damage to the global commons was never admitted but an *ex gratia* payment was made. This was made by the United States to Japan after nuclear tests in the Marshall Islands: "As a result of the tests, in addition to the death of a Japanese fisherman and serious radiation injury being suffered by several others, large quantities of fish were contaminated. These included fish caught after the tests. As a consequence, the Japanese fish market was seriously disrupted. The Japanese government claimed compensation for, amongst other things, the disruption to the Japanese fishing industry... while the United States government did not accept liability, the ex gratia payment, at least on one account, did cover this damage."

[24] It is outside of the scope of this dissertation to discuss environmental protection, development and sustainable development. However, it should be noted that "deep cleavages" between developed and developing countries characterized these 1970s negotiations, a schism which still exists today. Haas notes that while industrialized countries were concerned about industrial pollution, "developing countries were primarily concerned with natural resource usage and that they would have to forgo economic development to protect the environment." Haas. 2001. Above, n.18. p.311. The Group of 77 at the United Nations formed in 1964 and became a formidable negotiating bloc of 130 developing nations which endures today. See: http://www.g77.org/

conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.[25]

Soon after Stockholm, national governments began creating environmental bodies and environment portfolios.[26] The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted in 1973, providing three levels of control over the international trade in endangered species.[27] The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was adopted under the auspices of the Antarctic Treaty System in 1980,[28] in response to experimental fishing for Antarctic krill and the overexploitation of Antarctic finfish through the 1970s.[29] In 1982, the UN General Assembly adopted the non-binding World Charter for Nature, which seemingly covered every conceivable human-environment interaction.[30] In 1987 the World Commission on Environment and Development[31] released "Our Common Future" (more commonly known as the Brundtland report). Chaired by the Prime Minister of Norway, Dr. Gro Harlem Brundtland, the report famously defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[32] While there

[25] Principle 24. The Stockholm Declaration. Above, n.20.
[26] Haas. 2001. Above, n.18. p.311.
[27] In force July 1975. CITES is not currently used a fisheries management tool, although a small number of fish species are listed within its Appendices. For example, sturgeon and paddlefish species are listed in Appendix II, which allows controlled trade if it is not detrimental to the survival of the species.
[28] CCAMLR was negotiated as a free-standing treaty under the auspices of the Antarctic Treaty System. The Antarctic Treaty itself had come much earlier – it was adopted in 1959, entering into force on 23 June 1961. The Antarctic Treaty System has become best known for its protection of the Antarctic environment and the cooperative spirit of its membership. However, its beginnings were not environmental, at least in the modern sense of the world, it was about keeping the continent as unspoiled as possible in order for important science to take place. A quick review of the early waste disposal methods at the scientific bases provides an illustration of this mindset. Rubbish was buried in landfills or incinerated in the open air; sewage was pumped directly into McMurdo Sound; indestructible rubbish was buried in ice hoping it would 'disappear' with the summer melt. Rigg, K. Hemmings, Alan and Mathias, M. 1990. "Protecting the Antarctic environment by limiting human presence and activities: the case for a World Park." In *Proceedings of the First Pacific/Asia Offshore Mechanics Symposium.* Seoul, South Korea. 24-28 June. The International Society of Offshore and Polar Engineers. p.56. The Antarctic Treaty was negotiated primarily as a peace-making and peace-keeping accommodation to a series of territorial and strategic disputes between the twelve nations then active in the Antarctic – seven of whom claimed (and continue to claim) territory there. As at 3 March 2008 there are 46 parties.
[29] Soviet, Polish, Japanese, West German and Taiwanese vessels were involved in early Antarctic fishing. This caused concerns for governments which claimed sovereignty in Antarctica, territories off which these distant-water vessels were fishing. Department of Foreign Affairs. "Antarctica: A continent of harmony?" *Australian Foreign Affairs Record.* February 1980. Vol. 51. No. 2. Australian Government Publishing Service. NSW, Australia. p.10.
[30] A/RES/37/7. Adopted at the 48th UN General Assembly plenary meeting, 28 October 1982.
[31] This Commission was established upon a request from the UN General Assembly in Resolution 38/161. December 1983.
[32] Sustainable development involves integrating economic development goals with environmental objectives and comprises of three distinct elements: the preservation of the environment for future generations (*inter*generational equity); the equitable use of resources (*intra*generational equity); and the sustainable use of resources – to not deplete a species to the extent that it is unavailable for future generations of humans. Dasgupta writes that "sustainable development requires that each generation bequeath to its successor at least as large a productive base as it inherited." No one has spelled out how to balance these elements, though. Dasgupta asks how a generation is "to judge whether it is leaving behind an adequate productive base for its successor?" To Dasgupta, an "economy's productive base consists of its capital assets and its institutions" and the best measure of that productive base is not GNP or GDP but *wealth.* This wealth is comprised of: manufactured assets, like buildings, machinery, roads; human capital, like knowledge, skills, health; institutions, like government, civic society, the rule of law; natural

was nothing binding about the Brundtland report's call for development to be sustainable, and economic growth was still the priority, it could be argued that the principles the report elaborated have become foundations for much of the (developed) world's environmental policies.[33] The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal was adopted in 1989, referring in its preamble to the "spirit, principles, aims and functions" of the World Charter for Nature as "the rule of ethics in respect of the protection of the human environment and the conservation of natural resources."[34]

The combination of a rising environmental consciousness, concerns about equity disparity, future generations and natural resources reached its apex in 1992 at the Rio de Janeiro UN Conference on Environment and Development (UNCED). It was dubbed the "Earth Summit."[35] One hundred and seventy-two governments participated (108 of them at the level of heads of State or government), along with 2,400 NGO representatives.[36] The Earth Summit signaled that a new approach to international environmental law was in development – that which used incentives to help achieve its aims.[37] The United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity[38] were concluded at the UNCED, as well as Agenda 21, an 800 page document of "detailed workplans for sustainable development, including goals, responsibilities, and estimates for funding."[39] Where the 1972 Stockholm Action Plan for the Human Environment had set out 109 recommendations for national governments, Agenda 21 set out 2,509.[40]

---

capital, like ecosystems, minerals, fossil fuels." Dasgupta, Partha. 19 May 2005. "Bottlenecks." *London Review of Books*. Vol. 27. No. 10.

[33] Taylor, Annie. 1999. "The Trade and Environment Debate." In Taylor, Annie, Thomas, Caroline (eds). 1999. *Global trade and global social issues*. Routledge. London. New York, describing 'sustainable development' as an "appealing idea that sought to accommodate both continued economic development and solutions to further environmental degradation." p.73.

[34] The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal entered into force in 1992. The full text can be found at the Convention's website: http://www.basel.int. Accessed 19 June 2008.

[35] http://www.un.org/geninfo/bp/enviro.html. Accessed 4 March 2008. The 12-day conference of government delegations was called the United Nations Conference on Environment and Development (UNCED). It *concluded* with a two-day summit by many ministers and heads of state – the actual "Earth Summit." See, generally: Parson, Edward A, Haas, Peter M, Levy, Marc A. "A Summary of the Major Documents Signed at the Earth Summit and the Global Forum." *Environment*. Washington. Oct 1992. Vol. 34. Iss. 8. pp.12-36.

[36] According to the UN, the Earth Summit, "was unprecedented for a UN conference, in terms of both its size and the scope of its concerns... Hundreds of thousands of people from all walks of life were drawn into the Rio process. They persuaded their leaders to go to Rio and join other nations in making the difficult decisions needed to ensure a healthy planet for generations to come. The Summit's message — that nothing less than a transformation of our attitudes and behaviour would bring about the necessary changes — was transmitted by almost 10,000 on-site journalists and heard by millions around the world." http://www.un.org/geninfo/bp/enviro.html. Accessed 4 March 2008.

[37] Sand, Peter H. 1996. "International economic instruments for sustainable development: sticks, carrots and games." *Indian Journal of International Law*. Vol. 36. No. 2. p.1.

[38] Both of which contained economic incentives for developing countries to participate, in the form of funding to defray the "incremental costs" incurred by participating. Sand. 1996. Above, n.37. p.12.

[39] Parson *et al.* 1992. Above, n.35. See also: http://www.un.org/geninfo/bp/enviro.html. Accessed 4 March 2008. The Rio Declaration on Environment and Development and Statement of Forest Principles were also concluded at the conference.

[40] Haas. 2001. Above, n.18. p.311

Chapter 17 of Agenda 21[41] was a lengthy document of around 12,000 words. It dealt with the protection of the oceans, seas, coastal areas and the protection and development of their living resources. It has been argued that the Earth Summit fundamentally changed how the oceans were viewed. After Rio they could no longer be seen as just a place to find resources, but as natural systems which are interrelated, interdependent[42] and vulnerable to overexploitation. Agenda 21 was not a binding declaration. It was a political statement by the 113 States which signed it.[43] But at the time it was hoped it would comprise a blueprint to take the planet into the 21st century.[44] Freestone and Bodansky trace the "raft" of current fisheries instruments back to Agenda 21.[45]

Fisheries agreements

Bilateral and multilateral fisheries agreements were being struck much earlier. In 1881 a conference on North Sea fisheries was held, attended by all the North Sea powers. This was sparked, according to Kaye, by "conservation concerns and increasing levels of fishing" close to the coastlines of the concerned States.[46] The International Council for the Exploration of the Sea (ICES) was set up in 1902 by a number of European nations. It provided technical advice to a number of Northern hemisphere fisheries agreements.[47] In the late 1920s and into the 1930s attempts were made within the newly-established League of Nations for a codification of extant sea law, but these attempts failed.

At the end of the second world war, with Northern hemisphere waters already overfished, European and Soviet fishing fleets took to distant-water locations. When the Americans and Japanese began exhausting their local stocks, they did the same. These fleets were fueled by national subsidies and they expanded to fill the oceans. New gear and vessel technology allowed each fishing trip to both last longer and harvest more fish.

---

[41] Agenda 21 can be accessed at http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter17.htm. Accessed on 19 June 2008.

[42] Wolfrum, Rüdiger. 2006. "Review: Bringing New Law to Ocean Waters by David D. Caron and Harry N. Scheiber." *The American Journal of International Law.* Vol. 100. No. 1. January 2006. p.271, citing Juda, 2004.

[43] It should be noted that only two States sent Heads of State to the conference. Seyfang, Gill and Jordan, Andrew. 2002. "The Johannesburg Summit and Sustainable Development: How Effective Are Environmental Conferences?". In Stokke, Olav Schram and Thommessen, Øystein B. (eds.). *Yearbook of International Co-operation on Environment and Development 2002/2003.* Earthscan Publications. London. p.25. The Rio Conference cemented an enduring deal: the "North-South compromise that environment and development were complementary in the long term, so long as the North contributed financial assistance to developing countries to pay for much of their pollution control that would affect conditions elsewhere in the world." Haas. 2001. Above, n.18. p.311.

[44] Lugten, Gail L. April 1999. *A review of measures taken by regional marine fishery bodies to address contemporary fishery issues.* FAO Fisheries Circular No.940. FAO Fisheries Department. Food and Agriculture Organization of the United Nations. Rome, Italy.

[45] Bodansky, Dan and Freestone, David. 2001. "Preface." In Kaye, Stuart M. *International Fisheries Management.* Kluwer Law International. The Hague. London. Boston.

[46] Kaye. 2001. Above, n.45. p.45.

[47] Kaye. 2001. Above, n.45. p.61.

In 1945, a FAO Technical Committee recommended, *inter alia,* that Regional Fisheries Councils be established to improve fisheries research and management.[48] The fisheries commissions that were created from the 1940s onwards[49] had, as Bonucci observes, management of fishing as their primary objective (not biodiversity conservation). However, a more global approach to fisheries was gradually favoured. Regional fisheries management organisations (RFMOs) with *management* mandates began to be established. These were: the 1949 Convention between the United States of America and the Republic of Costa Rica for the Establishment of an Inter-American Tropical Tuna Commission (IATTC); the 1959 North-East Atlantic Fisheries Convention (NEAFC); the 1966 International Convention for the Conservation of Atlantic Tunas; the 1978 Northwest Atlantic Fisheries Convention;[50] and the 1980 Convention on the Conservation of Antarctic Marine Living Resources.[51] CCAMLR Executive Secretary Denzil Miller recently said that these regional organisations were designed to strike a better balance between human well-being and food security, with the environmental costs attached to fisheries exploitation.[52] They represented formal multilateral management of otherwise unregulated fisheries.[53]

Fisheries that existed on the high seas – by far the majority of ocean space – were subject to the long-standing customary international law principle that all States enjoyed the fundamental legal right of freedom of the high seas,[54] save for the three-mile belt of water running along the coast.[55] These areas were known as "territorial waters" or the "territorial sea." In 1702 it was declared that the distance would be three miles – the reach of a shore-based cannon shot.[56] This understanding stood until 1945, when

---

[48] Cochrane, Kevern, L., and Doulman, David J. 2005. "The rising tide of fisheries instruments and the struggle to keep afloat." *Philosophical Transactions of the Royal Society B.* Vol. 360. p.77.

[49] These were: Asia-Pacific Fisheries Commission (APFIC - adopted 1948, in force 1948), Fishery Committee for the Eastern Central Atlantic (CECAF – established 1967), Committee for Inland Fisheries and Aquaculture of Africa (CIFAA – established 1971), Commission for Inland Fisheries of Latin America (COPESCAL – established 1976), European Inland Fisheries Advisory Commission (EIFAC – established 1957), General Fisheries Commission for the Mediterranean (GFCM – adopted 1949, in force 1952), Regional Commission for Fisheries (RECOFI – established 1999), Southwest Indian Ocean Fisheries Commission (SWIOFC – established 2004), Western Central Atlantic Fishery Commission (WECAFC – established 1973) and Indian Ocean Tuna Commission (IOTC – adopted 1993, in force 1996). Details of these commissions can be found at: http://www.fao.org/fishery/about/bodies/regional/en. Accessed 19 June 2008.

[50] Entered into force in 1950, 1963, 1969, 1979 respectively.

[51] Entered into force in 1982.

[52] Miller, Denzil. Presentation to IASOS, University of Tasmania. 23 April 2008.

[53] Kaye. 2001. Above, n.45. p.80.

[54] First articulated by Hugo Grotius in *Mare Liberum* (1608). Dixon and McCorquodale observe that, "The 'freedom of the seas' has... been one of the cornerstones of maritime law ever since the rejection of the doctrine of closed seas in the seventeenth century. Many jurists would argue that the freedom of the seas has attained the status of *jus cogens*." Dixon, Martin and McCorquodale, Robert. 1991. *Cases and Materials on International Law.* Blackstone Press Ltd. London. p.380. Rules of *jus cogens* are norms that have been "accepted and recognized by the international community of States as a whole as one from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character". Lachs, M. 1980. "General Course on International Law". 169 RC 9 in Dixon and McCorquodale. Above, this n. p.35. They are "fundamental rules of customary law that not even a treaty can contradict." Dixon, Martin. 2007. *Textbook on International Law.* 6th Edition. Oxford University Press. p.36.

[55] Three miles was the reach of a cannon. See: Joyner, Christopher C. 1981. "The Exclusive Economic Zone and Antarctica." *Virginia Journal of International Law.* Vol. 21. No. 4. p.693.

[56] See Crowder, Cassandra. 1998. *Freedom of the sea to fishery conservation: An evolving ocean management regime.* MA Thesis. Memorial University of Newfoundland, Canada. pp.4-6, for a discussion of Grotian and pre-Grotian international law as it relates to freedom of the high seas.

President of the United States of America, Harry S. Truman, declared the 'Truman Proclamations' on the Continental Shelf and on Fisheries.[57] According to Joyner:

> The first proclamation provided, among other things, for the exercise of jurisdiction and control by the US government over the natural resources of the subsoil and seabed of the continental shelf. The second proclamation established conservation zones in areas of the high seas contiguous to US coasts, where fishing activities were to be regulated either by the United States exclusively, or by joint agreement with other States. Both proclamations explicitly recognized that the waters above the continental shelf and in the conservation zones were part of the high seas.[58]

Even though the Fisheries Proclamation was never implemented, these proclamations triggered national claims to the seas by Chile, Ecuador and Peru.[59] With tensions high, an arrangement had to be made. The exact breadth of coastal State jurisdiction and resource ownership had become an issue of international significance.[60] An agreement on the size of the territorial sea would define where the high seas began and ended.[61]

The law of the sea

The International Law Commission worked on a codification of sea law, beginning in 1949, with the appointment of a Special Rapporteur for the high seas. This built through meetings in 1950, 1951, 1953, 1955 and 1956.[62] In response to reports from the Commission, the General Assembly of the United Nations agreed to convene an

---

Higginson notes that the territorial sea was "usually recognized as three miles wide" but, at least in Europe, the territorial seas fluctuated between 3 and 12 miles, "depending on what they were designed to regulate: security, customs, or fishing." Higginson, Charles. 1993. "The UN Conference on High Seas Fishing." *Review of European Community & International Environmental Law.* Cambridge, Mass. Vol. 2 No. 3. p.237.

[57] Presidential Proclamation No. 2667. 28 September 1945. "Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf."

[58] Joyner. 1981. Above, n.55. p.694.

[59] Personal communication with Gail Lugten, University of Tasmania. 30 August 2006.

[60] In the 1950s a dispute erupted between the US and Chile, Ecuador and Peru (the so-called 'CEP' states), over lucrative tuna fishing grounds in the eastern Pacific. These fishing grounds were directly off the Latin American states' coastlines. In 1945 the US declared the Truman Proclamations on the Continental Shelf and on Fisheries. In retaliation, in June 1947 Chile proclaimed a 200-mile zone of national sovereignty – not to protect its fish stocks so much as exclusive access to Antarctic whale stocks, which its industries had enjoyed while the Europeans and the Japanese were fighting the second world war. See: Hollick, Ann L. 1977. "Notes and Comments: The Origins of 200-mile Offshore Zones". *The American Journal of International Law.* Vol. 77. No. 3. July. p.495. Hollick notes that the Chilean whaling companies had only expressed a need for a 50 mile zone. Two-hundred miles was settled on because the legal experts working for the primary whaling company thought it prudent to link it to an international precedent. They decided on the Declaration of Panama in 1939, which had set up (as a US initiative) a 200-mile "security zone" aimed to neutralize coastal waters. "Within the limits of this zone, belligerents were to be prohibited from engaging in hostilities," Hollick notes. After the Truman Proclamations, Peru proclaimed a 200-mile zone in August 1947 (primarily to develop its anchoveta fishmeal industry). Ecuador followed suit in 1951. pp.495-500. Much further North, a unilateral extension by Iceland erupted into the "Codfish War" with the UK, conflicts which clearly highlighted the need to increase participation in a high seas fisheries regime and the desire of states to agree on the size of the territorial sea and the nature of the jurisdiction over the resources in it.

[61] At this time, according to Kaye, the size of the territorial sea was going to be somewhere between 3 and 12 nautical miles, "with the former more strongly favoured than the latter." Kaye. 2001. Above, n.45. p.67.

[62] See generally: International Law Commission. *Law of the Sea.* http://untreaty.un.org/ilc/summaries/8_1.htm. Accessed 24 June 2008.

international conference.[63] The scene was set for the 1958 UN Conference on the Law of the Sea in Geneva. Eighty-six States attended. It produced four Conventions:[64]

- The 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas[65]
- The 1958 Convention on the High Seas[66]
- The 1958 Convention on the Continental Shelf[67]
- The 1958 Convention on the Territorial Sea and the Contiguous Zone[68]

The Convention on Fishing and the Conservation of the Living Resources of the High Seas is of most relevance to this chapter, although it was not successful. As Kaye observes, it only ever attracted a total of 37 parties.[69] It was the last of the four 1958 conventions to enter into force and with such low participation, 'unregulated' fishing activities (by the many States not party to the Convention) remained rife. Because parties could not agree on the size of the territorial sea, the point at which the high seas began remained unsettled.

The Second UN Conference on the Law of the Sea was convened quickly. It was held in 1960 and met for just two related purposes: defining fishery limits and the territorial sea.[70] By then, notes Kaye, "the favoured distance was 6 miles, together with a 6 mile fisheries zone."[71] The final text's adoption failed by one vote.[72]

The common theme running through the regional fisheries agreements noted above, and the 1958 and 1960 Conferences on the Law of the Sea, was: a) that flag States would be the primary vehicles of control and/or enforcement; and b) that regulation would occur via agreement between States parties.[73] A treaty creates neither obligations nor rights for a State without its consent.[74] This reflects the origins of international law, which,

---

[63] Resolution 1105 (XI) of 21 February 1957.

[64] An *Optional Protocol of Signature concerning the Compulsory Settlement of Disputes* was also adopted at the Conference providing for the compulsory jurisdiction of the International Court of Justice or arbitration or conciliation, as were nine resolutions, including one on convening another United Nations Conference on the Law of the Sea. See the International Law Commission at http://untreaty.un.org/ilc/summaries/8_1.htm. Accessed 19 June 2008.

[65] Entered into force 1966; attracted 37 parties by 2003. Reprinted at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_fishing.pdf. Accessed on 19 June 2008.

[66] Entered into force 1962; attracted 62 parties by 2003. Reprinted at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_high_seas.pdf. Accessed on 19 June 2008.

[67] Entered into force 1964; attracted 57 parties by 2003. Reprinted at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_continental_shelf.pdf. Accessed on 19 June 2008.

[68] Entered into force 1964; attracted 51 parties by 2003. Reprinted at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_territorial_sea.pdf. Accessed on 19 June 2008.

[69] Kaye. 2001. Above, n.45. p.66.

[70] See International Law Commission. http://untreaty.un.org/ilc/summaries/8_1.htm. Accessed 24 June 2008.

[71] Kaye. 2001. Above, n.45. p.67.

[72] Dixon and McCorquodale. 1991. Above, n.54. p.357, citing the International Court of Justice in the Fisheries Jurisdiction Case (UK v Ireland) 1973 ICJ Rep 3.

[73] See also: Kaye. 2001. Above, n.45. p.80.

[74] Article 34: "A treaty does not create either obligations or rights for a third State without its consent." Vienna Convention on the Law of Treaties. 1969. Done at Vienna on 23 May 1969. Entered into force on

Jenkins notes, is based on the Roman concept of *gentili ius gentium* – that is, law upon which all nations agree.[75] This tradition has been problematic in fisheries, because Kaye notes, non-signatory States could not be regulated.[76] This fact made the creation of a well-accepted high seas regime all the more important.

There was a gathering sense among post-colonial and other developing coastal States that expanding the area of ocean space under national jurisdiction would be one way to develop their economies. By the mid-60s, a broad consensus had emerged that fisheries jurisdiction for coastal States "could extend beyond the territorial sea."[77] At the same time, a strong sense of inequity was emerging among developing nations and newly decolonized States, inspired, in part, by the 'wins' over developed States that Organization of the Petroleum Exporting Countries (OPEC) nations had recently enjoyed.[78] The Group of 77 formed an ideological movement which swept the developing world calling for a "New International Economic Order."[79] A series of UN General Assembly Resolutions in the 1970s recognized the economic disparity between the developing and developed States.[80]

Wanting to secure greater sovereign access to fisheries resources as well as minerals residing in the seabed,[81] developing nations, with a strength in numbers, forged ahead with their agenda. The territorial claims of Chile, Ecuador and Peru had begun this charge for greater control of the ocean's resources. This was rapidly crystallizing as a norm in customary international law in the form of an Exclusive Economic Zone beyond the territorial seas.[82] In January 1971, Joyner notes, "a delegate from Kenya first advanced the notion of the Exclusive Economic Zone at the Colombo session of the Asian-African Legal Consultative Committee."[83] When the Organization for African Unity meet in Yaoundé, Cameroon, in 1972, it adopted the concept of an Exclusive Economic Zone.[84]

---

27 January 1980. United Nations Treaty Series. Vol. 1155. Full text available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf.

[75] Jenkins, Leesteffy. 1996. "Trade sanctions: Effective enforcement tools." In Cameron, J., Werksman, J., and Roderick, P. p.221. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. For an account of the Ambassador and his work, see: Hermina, Gesina and Molen, Johanna. 1937. "Alberico Gentili and the development of international law: His life, work and times." H. J. Paris. 342pp. For a discussion on the origins of the word "international" *(ius gentium)* and the law of nations see: Suganami, Hidemi. 1978. "A Note on the Origin of the Word 'International'." *British Journal of International Studies.* Vol. 4. No. 3. October. Cambridge University Press. pp.226-232.

[76] Kaye. 2001. Above, n.45. p.81.

[77] Kaye. 2001. Above, n.45. p.86.

[78] Shapley, D. 1985. *The Seventh Continent: Antarctica in a Resource Age.* Johns Hopkins University Press. p.148.

[79] This is a negotiating bloc of 130 developing states; it initially had 77 members. See: Joyner. 1981. Above, n.55. pp.696,723 among others.

[80] Murphy, B.R. 1991. "The Antarctic Treaty System – Does the Minerals Regime Signal the Beginning of the End?" *Suffolk Transnational Law Journal.* 14. pp.539-540.

[81] In particular, manganese nodules.

[82] Cruz, Marcos Orellana. 2000. "The Swordfish in Peril: the EU Challenges Chilean Port Access Restrictions at the WTO." *Bridges Monthly Review.* Comment. Issue 1. p.11.

[83] Joyner. 1981. Above, n.55. p.696.

[84] The Yaoundé Declaration stated: "(1) The African States have the right to determine the limits of their jurisdiction over the Seas adjacent to their coasts in accordance with reasonable criteria which particularly take into account their own geographical, geological, biological and national security factors. (2) The Territorial Sea should not extend beyond a limit of 12 nautical miles. (3) The African States have equally the right to establish beyond the Territorial Sea an Economic Zone over which they will have an exclusive jurisdiction for the purpose of control regulation and national exploitation of the living resources of the

The two superpowers of the time, the Soviet Union and the United States, had strategic concerns that would be directly affected by these new jurisdictional zones, that is, "the threat to over 100 strategic straits posed by the proliferation of unilateral state claims to territorial seas and economic zones beyond the accepted 3-mile territorial sea limit. The United States and the former Soviet Union both wanted to maintain the largest possible extent of high seas areas."[85] Failing that, they wanted codified navigational freedoms,[86] overflight and innocent passage rules. They wanted an agreement that the maximum breadth of the territorial sea would be 12 miles, not the 200 miles which some states were now declaring. In 1969 the superpowers both wanted some key issues agreed: "a maximum territorial sea breadth, unencumbered passage through international straits, and resource management outside of the territorial sea."[87] The Group of 77 adopted the concept of an Exclusive Economic Zone, and by 1976 all coastal States, then numbering more than 90, supported a 200-mile economic zone.[88] Though the exact *nature* of the jurisdiction was still not agreed, the extensions were evidence of the state practice required by customary international law. Shortly afterwards, the 200-mile Exclusive Economic Zone was codified into treaty law by the 1982 Convention on the Law of the Sea (LOSC).

Contracting the high seas

The Third UN Conference on the Law of the Sea began in 1973 and gathered together 150 States.[89] They met eleven substantive times[90] before the adoption, in 1982, of the LOSC.[91] This huge legal text comprises 320 Articles and nine annexes and covers 25 substantive issues. It comprehensively governs the use of the oceans, seas and the sea bed. It is the legal basis for all activities conducted on the world's oceans.[92] All ocean areas beyond the territorial sea are reserved, under the Convention, for "peaceful purposes."[93]

The LOSC laid down rules for drawing up boundaries, assigned legal duties and responsibilities and set up a framework for the mandatory settlement of disputes

---

Sea and their reservation for the primary benefit of their peoples and their respective economies, and for the purpose of the prevention and control of pollution. The establishment of such a zone shall be without prejudice to the following freedoms: Freedom of navigation, freedom of over-flight, freedom to lay submarine cables and pipelines." For full text see: http://www.intfish.net/treaties/yaounde.htm. Accessed 3 July 2008.

[85] Joyner and Martell. 1996. Above, n.2. p.76.

[86] These freedoms would enhance what Schachte called "the neutral buffer between belligerent operations and neutral land territory". Schachte, William L. Jr. 1992. "Comment: The Value of the 1982 UN Convention on the Law of the Sea: Preserving our Freedoms and Protecting the Environment." In *Ocean Development & International Law.* Vol 23. p.57. (Schachte's article is particularly interested in the strategic value of these provisions during the 1991 Persian Gulf War.)

[87] Schachte. 1992. Above, n.86. p.58. Schachte adds that "While compliance falls short of universal, these rules nevertheless have contributed much to the stability of these regimes."

[88] Hollick. 1977. Above, n.60. p.494.

[89] This number of states was almost twice as large as that which attended the 1958 Geneva law of the sea conferences, Oxman notes. Oxman, Bernard H. 1986. "Antarctica and the New Law of the Sea." In *Cornell International Law Journal.* Vol. 19. p.218.

[90] Joyner and Martell. 1996. Above, n.2. p.73.

[91] 21 ILM 1245 (1982). The LOSC entered into force on 16 November 1994.

[92] Dixon and McCorquodale note that, "This is a multilateral treaty of considerable significance, for it attempts to legislate in detail across the whole range of law of the sea issues." Dixon and McCorquodale. 1991. Above, n.54. p.343.

[93] Oxman notes that this might conflict with various arms control treaties which are global in application. Oxman. 1986. Above, n.89. p.221, footnote 69.

between parties. It settled the limits of the contiguous zone, the continental shelf and the 200-mile Exclusive Economic Zone.[94] The territorial sea was set at 12 miles and replaced the conflicting and extended claims of coastal States. It overcame the security concerns of the superpowers by enshrining the freedom of navigation,[95] innocent passage and overflight. Under Article 91(1) of the LOSC ("Nationality of ships"), vessels were to "have the nationality of the State whose flag they are entitled to fly" conditioned by the requirement for a "genuine link" to exist "between the State and the ship." It made provisions for marine scientific research,[96] created a framework for an internationalized seabed mining regime and set new rules for environmental protection from pollution.

Most importantly for this dissertation, the LOSC created a regime for the exploitation of fish stocks in the Exclusive Economic Zones, including the equitable sharing of "excess" stock.[97] It created a regime for high seas fisheries.[98] The Convention was a consensus-based "package deal." [99] It took nine years to negotiate and when it was opened for signature in December 1982 in Montego Bay, Jamaica, 119 States signed the convention.[100] It entered into force 16 November 1994. By 1 May

---

[94] Article 33; Part VI of the Convention (Articles 76-85); Part V of the Convention (Articles 55-75), respectively.

[95] This was achieved by making: "important compromises on the status of the exclusive economic zone, by the regime of innocent passage through the territorial sea, by the regime of innocent passage through the territorial sea, by the regime of transit passage through straits used for international navigation and by the regime of archipelagic sealanes passage." Koh, Tommy T.B. 1982. *A Constitution for the Oceans.* http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf. Accessed 29 May 2009. Part III of the Convention contains these provisions (Articles 34-45).

[96] This struck "an equitable balance between the interests of the research States and the interests of the coastal States in whose economic zones or continental shelves the research is to be carried out" according to Koh. 1982. Above, n.95.

[97] Coastal states held sovereign *rights* over the exploration, exploitation, conservation and management of the living and non-living natural resources and *jurisdiction* over environmental preservation in their Exclusive Economic Zone (EEZ) – up to of 200 miles off the state's coastline. Article 56(1). Coastal states also hold sovereign rights over the continental shelf (under Article 76 and 77) up to 350 miles from shore (or beyond, under special circumstances). It should be noted that sovereignty is *present*, but limited. It is not exclusive. Steinberg characterizes this as follows: "Within an EEZ... a coastal state may claim policing rights, but not full sovereign authority, in the interest of stewarding the zone's living and nonliving resources. Steinberg. 1999. Above, n.3. p.261.

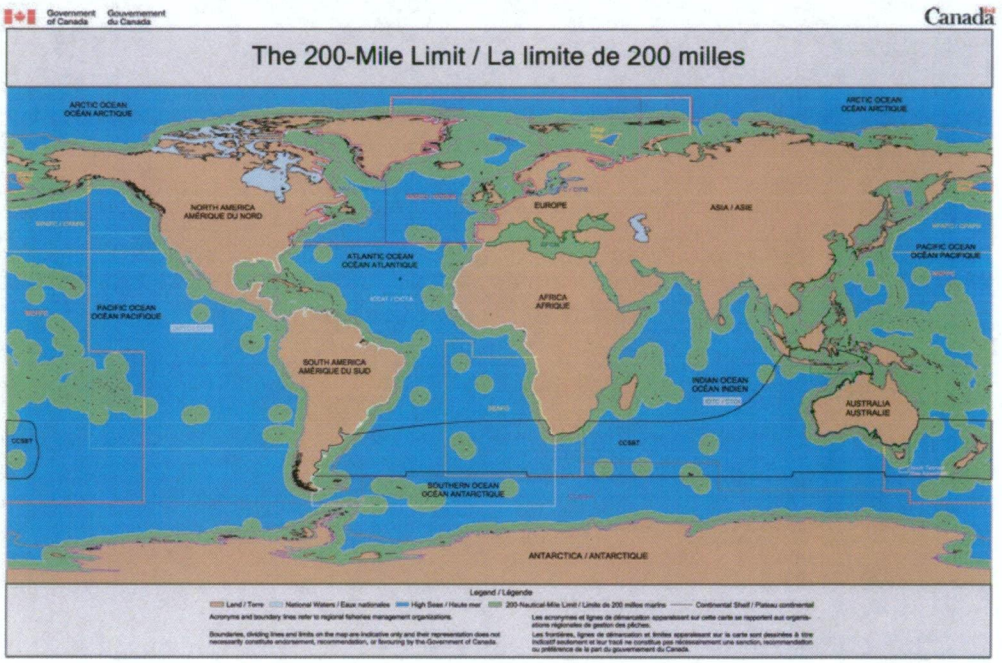
[98] Part VII of the Convention (Articles 86-120).

[99] Dixon and McCorquodale. 1991. Above, n.54. p.344. Dixon and McCorquodale further note that the Convention was not adopted by consensus. In the end the text's adoption went to a vote (as requested by the United States). 130 states were in favour, 4 were against, 17 abstained. p.344. In fact, according to Joyner and Martell, the US *forced* a vote. The LOSC negotiations had "proceeded on a consensus basis for nearly 9 years" until the US did this. "This act reflected a fundamental understanding by the US government that an international agreement reached by consensus carries relatively greater weight in creating customary international law..." In this way, the US was reserving itself a objection, contrary to the 'package deal' nature of the Convention. "When a formal opportunity is presented for "objectors" to officially assert their view, the case is made for those governments to elude being legally bound to an international agreement without their consent." Joyner and Martell. 1996. Above, n.2. pp.82,83. It is widely known that the US government was objecting to Part XI – the deep seabed mining regime (which has since been substantially revised and renegotiated), not the fisheries regime. In any case, the Convention was formally adopted by the international community on 30 April, 1982. regarding the legal significance of Articles 309 and 310 of the LOSC – allowing for declarations and reservations – see: Blay, S.K.N. Piotrowicz, R.W., and Tsamenyi, B.M. 1991. "Problems with the Implementation of the Third United Nations Law of the Sea Convention: The Question of Reservations and Declarations." *Australian Year Book of International Law.* Vol. 11. pp.67-107.

[100] President of the Third UN Conference on the Law of the Sea, Tommy T.B. Koh (Singapore) wrote the day after the Convention was signed: "Never in the annals of international law had a Convention been signed by 119 countries on the very first day... just as important was the fact that the Convention had been

2009, 158 States plus the European Community had signed it. It is the legal foundation for the fisheries instruments explored throughout this dissertation.

Coastal States gained significantly under the LOSC. Their rights to resources were enshrined. The adoption of Exclusive Economic Zones tied up under national jurisdiction around 36% of the ocean (105 million square nautical miles, according to Joyner).[101] This represents somewhere between 90 and 95% of the world's marine fisheries.[102] It effectively displaced distant-water fishers from these newly-nationalized fishing grounds.[103] Fishers now had to acquire permission from the coastal State to fish in those waters.[104] Foreign fishing vessels fishing in a coastal State's EEZ had to comply with the coastal State's conservation measures. The lime green areas in the figure below demonstrate the gains to coastal States through the LOSC's EEZ regime:



Reprinted without permission from *Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving from Words to Action* website at: http://www.dfo-mpo.gc.ca/fgc-cgp/images/200mile_limit.jpg. Accessed 18 April 2008.

---

signed by States from every region of the world, from the North and from the South, from the East and from the West, by coastal States as well as land-locked and geographically disadvantaged States." Koh. 1982. Above, n.95.

[101] Joyner. 1981. Above, n.55. p.696.

[102] Kaye gives the figure as 90%. Kaye. 2001. Above, n.45. p.2; Tsamenyi and Aqorau write that these areas account for 95% of the marine fish catch. Tsamenyi, Martin and Aqorau, Transform. 1996. "Fishing rights and Responsibilities at Sea: Analysis of Relevant Provisions of the United Nations Convention on the Law of the Sea." In Tsamenyi, M. and Herriman, M. (eds.) *Rights and Responsibilities in the Maritime Environment: National and International Dilemmas.* Maritime Policy Issues Conference, 1995. Centre for Maritime Policy. University of Wollongong. Wollongong, Australia. No. 5. p.67.

[103] The needs of distant-water fishing states, land-locked and geographically disadvantaged states were accommodated by the LOSC by giving them "access to the surplus of the allowable catch." Article 62(2). This was the total allowable catch minus the coastal state's harvest. Under Article 61(1) this would be calculated using the maximum sustainable yield formula, as determined by the coastal state. Kaye notes that this could be tempered, if need be, by "relevant environmental and economic factors." Kaye. 2001. Above, n.45. pp.95-98.

[104] Juda, Lawrence. 2001. "The United Nations Fish Stocks Agreement." *Yearbook of International Co-operation on Environment and Development 2001/02.* Earthscan/The Fridtjof Nansen Institute. London. p.53.

While the gains for coastal States were significant, they were not unfettered. It was clear that the exploitation and conservation of stocks still had to be balanced, so duties were enunciated.[105] While States could do whatever they wanted in their 12 mile territorial sea, subject only, as Kaye notes, to the general obligation to "protect and preserve the marine environment",[106] this was not the case for the EEZ. Obligations and limitations under the LOSC came in the form of duties to cooperate, consult and regard the rights and duties of other States. Kaye notes the duty to ensure the renewable resources of the EEZ were exploited in a rational and sustainable fashion.[107] The coastal State was to ensure "through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation."[108] To do this, the coastal State was to cooperate with "subregional, regional or global" organizations. In the same spirit of cooperation, and with the inclusion of "all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone", the coastal State was to contribute and exchange with the same organizations, "on a regular basis", scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks.[109]

High seas fish stocks

In 1974, one year into the nine-year negotiation of the LOSC, the International Court of Justice highlighted the tensions between the rights all States had to the high seas and the clear need to conserve and manage high seas living resources for the common good of all:

> The application of management principles to States fishing on the high seas has provided the source of much dispute between States over the last 25 years, and has been identified as one of the key challenges facing the law of the sea into the next century. While the source of much dispute, the origins of the difficulties lies in the basic tension between the Grotian view of freedom of the seas, and the moves to extend jurisdiction and regulation to prevent over-exploitation. While the tension was resolved in the case of the bulk of the world's fisheries by the creation of extended State jurisdiction under the EEZ regime, for those fisheries beyond 200 nautical miles, it still presents the same dilemma as faced the delegates at LOSC I – how does the international community retain freedom of the seas, and prevent over-exploitation of marine living resources?[110]

The LOSC codified the customary international law principle of freedom of the high seas[111] at Article 87:[112]

---

[105] Articles 61 and 62 correlated the rights with responsibilities and a duty to cooperate. As Koh noted at the conclusion of the conference: "Although the Convention consists of a series of compromises, they form an integral whole. This is why the Convention does not provide for reservations. It is... not possible for States to pick what they like and disregard what they do not like. In international law, as in domestic law, right and duties go hand in hand. It is therefore legally impermissible to claim rights under the Convention without being willing to assume the correlative duties." Koh. 1982. Above, n.95.

[106] Kaye. 2001. Above, n.45. p.91.

[107] Kaye says this is different to "the absolute control States exerted over the manner of their exploitation of the territorial sea, or their land territory." Kaye. 2001. Above, n.45. p.88.

[108] Article 61(1).

[109] Article 61(5).

[110] Kaye. 2001. Above, n.45. p.142.

[111] Given that the LOSC did not contain a definition of "high seas", there are two ways to view the interaction of EEZs and the high seas. The view that predominated during the LOSC negotiations was that the EEZ was part of the high seas, albeit a part over which the coastal State had certain rights. Leigh. 1993. Above, n.2. p.131, fn 4. The other view, now universally accepted, is that the high seas do not include EEZs. Leigh notes that this is made explicit in the LOSC; the high seas cannot be expropriated. Article 88.

1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law.[113]

At Article 87(1)(e) the LOSC also provided for the freedom of fishing on the high seas. This freedom was subject to a general limitation under Article 87(2), which stated that "These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area."

The conservation and management of high seas living resources is dealt with under Articles 116-119:

Article 116. All States have the right for their nationals to engage in fishing on the high seas subject to:

a. their treaty obligations;
b. the rights and duties as well as the interests of coastal States provided for, *inter alia*, in Article 63, paragraph 2,and Articles 64 to 67; and
c. the provisions of [Articles 117, 118 and 119].

Article 117. All States have the duty to take, or cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.

Article 118. All States shall cooperate with each other in the conservation and management of living resources in the areas of the high seas. States whose national exploit identical living resources, or different living resources in the same area, shall enter into negotiation with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, cooperate to establish subregional or regional fisheries organisations to this end.

Thus it can be seen that while Article 116 sets out the right to exploit high seas living resources, Articles 117, 118 and 119 set out limitations to that right. It is also clear that these limitations are very general. Article 119(1) provides that States shall "take measures which are designed... to maintain or restore populations or harvested species at levels which can produce the maximum sustainable yield."[114] They must also take

---

[112] For a lengthy discussion of the development of the freedom of the high seas, see: Baird, Rachel J. *Aspects of Illegal, Unreported and Unregulated Fishing in the Southern Ocean.* 2006. Springer. Dordrecht, The Netherlands, pp.36-42.

[113] Freedom of the high seas was initially codified in Article 2 of the 1958 High Seas Convention, which also placed general limitations on that freedom: "These freedoms, and others which are recognised by the general principle of international law, shall be exercised by all States with reasonable regard to the interests of other States in their exercise of the freedom of the high seas." Importantly, the LOSC explicitly prohibits certain kinds of activity from taking place on the high seas: the transportation of slaves (Article 99), piracy (Article 100-107), traffic in certain kinds of drugs (Article 108) and unauthorized radio or TV broadcasting (Article 109). It is beyond the scope of this dissertation to discuss these issues, but if illegal, unreported and unregulated fishing had been, in 1982, the problem that it is today, it is worth wondering whether it might have been one of the activities specifically prohibited. It should be noted that the provisions regarding unauthorized broadcasting allow for people engaged in the activity to be prosecuted by: the flag State, the State where the high seas installation is registered, the State of which the person is a national, any State where the transmissions can be received and any State where authorized radio communication is interfered with. A State which falls under any of those jurisdictions can arrest, on the high seas, any people or vessels engaged in the activity. Clearly, where it is deemed warranted, the international community of states can agree on very broad-based provisions.

[114] Article 119(1)(a).

into consideration the effects on associated or dependent species of harvesting "with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened."[115] This duty was, Gregory Rose notes, "mandatory but minimalist." As well as prescribing no concrete action beyond "consideration", the duty "is not onerous, being merely to avoid a serious survival threat, the science of which would in most cases be difficult to establish."[116]

Two types of fish proved particularly problematic during negotiations: straddling and highly migratory stocks. The OECD has noted that "there are more than 500 maritime boundaries in the world between adjacent EEZs, and significant proportions of the world's fish stocks lie across these boundaries and are fished by two or more nations."[117] Indeed, in the ocean, these borders are totally arbitrary. Juda observes that:

> it is the continental shelf rather than the EEZ that is most relevant to the fish, but there are a number of continental-shelf areas that extend beyond 200-mile limits. Fish swimming from the EEZ into adjacent shelf areas beyond that limit, as in the case of the Greenland halibut [turbot] in the 'Nose', the 'Tail', and the Flemish Cap off the eastern coast of Canada, then leave the coastal state's EEZ and enter into the high seas, where they are subject to a different legal regime.[118]

Straddling stocks are those that occur within the Exclusive Economic Zones of two or more coastal States, or that straddle between one or more Exclusive Economic Zones and the high seas beyond it. Article 63 of the LOSC addressed these:

> 63(1) Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate subregional and regional organizations, to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks...
> 63(2) Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional and regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

Though not actually defined in the LOSC,[119] *highly migratory stocks* are "fish species or stocks that carry out extensive migrations and can occur in both EEZs and high seas.

---

[115] Article 119(1)(b).

[116] Rose, Gregory. 1999. "Marine Biodiversity Protection through Fisheries Management – International Legal Developments." *Review of European Community & International Environmental Law*. Oxford, UK. Vol. 8. Issue 3. p.284.

[117] Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: the economics of illegal, unreported, and unregulated fishing*. Organisation for Economic Co-operation and Development. OECD Publishing. p.124, footnote 12.

[118] Juda. 2001. Above, n.104. p.53.

[119] Annex 1 contains a list of agreed highly migratory stocks. Barrington has noted that a range of stocks that are highly migratory in nature are not listed on this Annex, for example *Thunnus tonggol* (longtail tuna) and *Scomberomorus commerson* (Spanish mackerel). Barrington, Jonathon. Australian Antarctic Division. 1 May 2006. "Oceans governance beyond national jurisdiction." Informal presentation to ACE-CRC Policy Group on May 4, 2006. The FAO notes that "Some species that make large-scale migrations are not in the list. For example, Euthynnus lineatus, which is probably more oceanic than the other two Euthynnus species listed in Annex 1, is not included. Another three tuna-like species (*Acanthocybium solandri*, *Allothunnus fallai*, and *Gasterochisma melampus*), classified as oceanic... are not included in the list. Many other tuna-like species migrate long distances but remain close to the coast and, from a purely biological point of view, may be considered as highly migratory or straddling. In addition, some scientific names have changed in the meantime and the list, as it presently stands, is not satisfactory from

This term is usually used to denote tuna and tuna-like species, marlins and swordfish."[120] Article 64 sets out the rules of their exploitation:

> 64(1). The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall cooperate to establish such an organization and participate in this work.

The LOSC's solution for managing straddling and highly migratory stocks was for States to cooperate through subregional and regional arrangements. Outstanding questions in law, however, remain. These questions have, in part, led to the dire state of most straddling and highly migratory fish stocks, described in chapter 1. The primary question is what kind of obligation the LOSC describes. Is the *duty* to cooperate an obligation under customary international law? Is the duty one to consult, to negotiate, or to do both and come to an agreement.[121] Problems of interpretation have dogged implementation since the LOSC was adopted. As Bonucci notes, "the disagreement lies in the determination of the exact scope of this duty and the consequences of a failure to cooperate."[122] Baird observes that the obligations "are of such a general nature that in practice there has been little impact on flag States that are not already inclined to implement the concept of responsible fishing on the high seas throughout their flagged fishing fleet."[123] This fact will dog the rest of this dissertation.

The LOSC was a hugely ambitious undertaking, made even more so by its complex and contentious seabed resources negotiations.[124] Its structure was grand too: it was a consensus-based, package deal approach. Reservations were not permitted. Its negotiation through the 1970s and adoption in 1982 codified much state practice into rules. The establishment of EEZs settled a contentious question about property rights and the territorial sea was defined. A duty to cooperate was enshrined. But despite nine years of negotiation, the LOSC ultimately left a lot unresolved. The exact nature of the duty to cooperate was unclear. The nature of a vessel's "genuine link" or connection to its flag State was undefined.[125] While it is beyond the scope of this dissertation to

---

a taxonomic point of view." http://www.fao.org/fishery/topic/13686/en. Accessed 26 June 2008. Annex 1 of the LOSC can be found at:
http://www.un.org/depts/los/convention_agreements/texts/unclos/annex1.htm Accessed 26 June 2008.

[120] OECD Glossary of Statistical Terms. http://stats.oecd.org/glossary/detail.asp?ID=1233. Accessed 26 June 2008.

[121] For a general discussion around both issues, see Kaye. 2001. Above, n.45. pp.113-118; 151-153. Kaye notes that the 1958 Geneva Convention on the High Seas contained a provision (Article 7) that allowed "a coastal State to unilaterally impose conservation measure after negotiations had broken down" which the LOSC does not. p.119.

[122] Bonucci, Nicola. "Towards an International Code of Conduct for Responsible Fishing." *Review of European Community & International Environmental Law*. Vol. 2. No. 3. Cambridge, Mass. 1993. p.247.

[123] Baird. 2006. Above, n.112. p.42

[124] These negotiations proved, in some ways, to be even more problematic than fisheries. Over this, Joyner and Martell write that the Convention fell prey to a "North-South schism that impaired the search for consensus". Joyner and Martell. 1996. Above, n.2. p.73.

[125] Article 91 "Nationality of ships" of the LOSC provides that: (1) Every State shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the State whose flag they are entitled to fly. *There must exist a genuine link between the State and the ship.* 2. Every State shall issue to ships to which it has granted the right to fly its flag documents to that effect. (Emphasis added.) The term "economic genuine link" was rejected

explore the legal issues surrounding the concept of the "genuine link" in fisheries, it should be noted that it is now taken to be "a basis for securing more effective implementation of the duties of the flag State, rather than a condition for valid registration."[126] Under modern usage of the term "genuine link", flag States are to ensure that they can exercise their responsibilities effectively before registering a fishing vessel.[127] While information gathering requirements were laid down in the LOSC, they were not made systematic or mandatory. Rights and freedoms were paramount and duties and obligations were vague. Flag States retained sole jurisdiction over the activities of fishing vessels. The LOSC obliges flag States to exert jurisdiction and control over its flagged fishing vessels,[128] but there are no consequences when it does not. These loopholes have been exploited by a great many high seas fishers and the nations that flag them. This unresolved legal situation set the stage for continued over-fishing, poor management of shared stocks, continuing disputes between coastal and distant water fishing nations and the IUU fishing that began on a global scale soon after the LOSC was completed.

Modern law for a modern problem

The LOSC took nine years to negotiate and twelve years to come into effect in 1994. By then, it has been said that the ideas at the foundation of the LOSC were close to twenty years old.[129] It was still about maximizing exploitation and asserting rights.[130] It is submitted that the fisheries regimes established by the LOSC were more about economic development than the conservation of marine living resources. It had largely left aside the issue of fisheries outside national jurisdiction. It is accepted that this may be partly explained by what some see as the essentially *technical* nature of fishing and fisheries management and conservation. Bonucci observes that by the early 1990s, fisheries discussions taking place within the UN – a political forum – was "deplored by some fishing nations which claimed that the emotional and political considerations were preempting any serious technical debate."[131] The high seas and the resources in them were left, as suggested above, to vague notions of cooperation and collaboration in the development and subsequent implementation of the LOSC's fairly general ideas.[132]

---

during the 1986 conference which adopted the UN Convention on Conditions for Registration of Ships (which did not enter into force). Llácer, Francisco, J. 2003. "Open registers: past, present and future." *Marine Policy*. Vol. 27. p.519.

[126] Swan, Judith. 2003. "Executive Summary." FAO Fisheries Circular No. 980. *Fishing Vessels Operating under Open Registers and the Exercise of Flag State Responsibilities: Information and Options*. Food and Agriculture Organization of the United Nations. Rome, Italy. p.1.

[127] Swan. 2003. Above, n.126. p.3.

[128] Article 94.

[129] The magnitude of the task ahead of the LOSC negotiators should not be underestimated. However, the precautionary principle and ecosystem-based (rather than single species) management were not made explicit in the LOSC, while they were in the contemporary Convention on the Conservation of Antarctic Marine Living Resources (adopted in 1980, 2 years before the adoption of the LOSC) and the later 1995 UN Fish Stocks Agreement.

[130] Bonucci writes that at the time of the LOSC's adoption, it was widely felt that the extended jurisdiction that the Convention provided "would lead to a significant redistribution of the ocean's wealth in fisheries..." Bonucci. 1993. Above, n.122. p.245.

[131] Bonucci. 1993. Above, n.122. p.247. This could perhaps be likened to what whaling nations had for some time been feeling in the ICRW and the IWC.

[132] See: Maguire, Jean-Jacques, Sissenwine, Michael, Csirke, Jorge, Grainger, Richard, Garcia, Serge. 2006. *The state of world highly migratory, straddling and other high seas fishery resources and associated species*. Food and Agriculture Organization of the United Nations. Rome, Italy. "Introduction."

Without anything much more than guiding principles fleshing out the governance regime for shared high seas stocks, Gianni observes that much of the high seas was left "effectively without any multilateral fisheries regulation whatsoever"[133] except where a small number of particular stocks were covered by existing RFMOs. Juda notes that within a decade, "the inadequacy of the treatment of straddling and highly migratory stocks in the 1982 Law of the Sea convention could no longer be ignored."[134] .

Coastal fisheries were in trouble too. Ninety percent of commercial stocks are resident within EEZs and it was seen in chapter 1 that a "fisheries crisis" has been underway for some time. It is therefore self-evident that coastal States have *not* managed the resources under their stewardship as the LOSC had envisioned they would. They were accruing the benefits, but not upholding the conservation obligations contained in the LOSC. They were not cooperating as the LOSC envisaged. Fisheries problems were being exposed to the wider world: through the work of NGOs, the advent of satellite television and the beginnings of the world wide web, the public had access to long-hidden information about the collateral damage of industrial fishing.[135] The effects of high seas drift netting was gaining publicity in some important coastal States and the dolphin mortality in the eastern tropical Pacific tuna fishery came with graphic video images. Worldwide fish catches had tapered off and the price of seafood was rising. modern international agreements were made in response to global environmental problems. The international community adopted new, modern agreements to tackle environmental problems.

The non-binding 1992 UN Conference on Environment and Development's Agenda 21 Programme of Action for Sustainable Development, mentioned above, focused on important global issues like climate change, biological diversity, desertification, drought, forests and protection of the oceans.[136] The 1992 UN Framework Convention on Climate Change and the 1992 Convention on Biological Diversity were adopted.[137] It was natural that the international fisheries instruments developed since the LOSC therefore followed a more ecologically-oriented approach in their responses to the problems in global fisheries. What evolved is a network of interrelated agreements that built on the strengths of the LOSC and attempted to fill the gaps in the international oceans regime that were described above. While chapter 4 will examine non-binding fisheries instruments, the rest of this chapter will examine two

---

[133] Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: How flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. pp.8,9.

[134] Juda. 2001. Above, n.104. p.54.

[135] It should be noted that evidence is mounting that the barely uncounted effect small-scale fishers can have on some marine creatures can be equally – or more – devastating than commercial fishers. 2007 research by Peckham revealed that while the 120 vessel Hawaiian swordfish fishery was shut down in 2006 after the 17th loggerhead turtle was killed during its fishing activities, "a dozen Mexican fishermen, sailing six tiny boats with outboard motors [drowned] 700 loggerheads in a year." Aldhous, Peter. 19 October 2007. "Small-scale fisheries wreak havoc on turtles." *The New Scientist.* Issue 2626. http://environment.newscientist.com/channel/earth/mg19626264.500-smallscale-fisheries-wreak-havoc-on-turtles.html. Accessed 3 March 2008.

[136] For text of Agenda 21, see: United Nations Department of Economic and Social Affairs. Division for Sustainable Development. http://www.un.org/esa/sustdev/agenda21text.htm.

[137] This convention has attracted 175 ratifications. Its three principle aims are the conservation of the world's biodiversity, the sustainable use of the world's biodiversity and the sharing of benefits derived from the genetic resources of the world's biodiversity.

important pieces of 'hard law' which directly relate to IUU fishing. These are the 1993 FAO Compliance Agreement and the 1995 UN Fish Stocks Agreement.

The 1993 FAO Compliance Agreement

In the early 1990s large-scale IUU fishing was not yet on the international agenda. However, the flagging or reflagging of fishing vessels to certain States in order to evade fisheries controls had become a major governance issue.[138] In addition, inadequate flag State control over fishing vessels was hampering efforts to manage high fish stocks. In combination, these issues were clear barriers to the international community's efforts to control and manage high seas fishing.[139] These issues were on the agenda at the Rio Earth Summit in 1992. States agreed to take action to deter the reflagging of fishing vessels by their nationals.[140] Some months later, in November 1992, the FAO Council agreed that "the issue of fishing vessels reflagging into flags of convenience for the purpose of avoiding compliance with international conservation and management measures... should be addressed immediately by FAO."[141]

A legal instrument was considered necessary. A year later, in November 1993, the binding Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the Compliance Agreement[142]) was adopted under the auspices of FAO. Under the Agreement, Juda sums up, flag States are not to allow "the use of its flag unless it can effectively exercise its Compliance Agreement responsibilities."[143] Like all preceding fisheries agreements the Compliance Agreement's organizing principle is flag State responsibility. Flag States must exercise effective control over vessels that fly their flags while fishing on the high seas. They must ensure that those vessels do not engage in activities that undermine the effectiveness of international conservation and management measures (including measures adopted by RFMOs and other regional fisheries bodies).[144] Importantly, flag States have a duty to collect and disseminate fishing vessel data.

---

[138] The breakthrough issue was vessel reflagging in order to avoid anti-drift netting agreements. See Joyner, Christopher C. 1998. "Compliance and Enforcement in New International Fisheries Law." *Temple International and Comparative Law Journal.* Vol 12. No. 2. p.283.

[139] Smith notes that between 1994 and 1997 more than 2,000 fishing vessels over 100 tons reflagged to another state (though not necessarily a flag of convenience State). This a figure represents nearly 10% of the global fleet of vessels over 100 tons. Smith, Andrew R. 1999. *Analysis of the Vessels over 100 Tons in the Global Fishing Fleet.* FAO Fisheries Circular No. 949 FIIT/C949. Food and Agriculture Organization of the United Nations. Rome, Italy. 1999. p.19.

[140] Chapter 17, paragraph 52.

[141] Cited in Bonucci. 1993. Above, n.122. p.249.

[142] 33 ILM 968 (1994). The Compliance Agreement entered into force on 24 April 2003.

[143] Juda. 2001. Above, n.104. p.54. The provisions of the Compliance Agreement were designed, West notes, to combat two practices: reflagging to a country which is not a member of a regional fisheries organization "as a means to avoid fishing restrictions placed on member States" and "registering newly built high seas fishing vessels in States that are not members of the major multilateral fisheries organizations, precisely because these States are not bound by the restrictions adopted by those organizations." West, Mary Beth. 1998. "The Future of the International Law of Capture Fisheries." *J. Northw. Atl. Fish. Sci.* Vol. 23. p.22.

[144] Articles III and IV, Compliance Agreement. West observes that the overarching objectives of the Compliance Agreement are "to impose upon all States whose vessels operate on the high seas an array of obligations designed to make the activities of those vessels consistent with conservation and management needs" and to increase transparency through the collection and exchange of data. *Ibid.*

Deterring reflagging to flag of convenience States

One of the Compliance Agreement's primary objectives was to deter the practice of re-flagging vessels for the purpose of avoiding compliance with international conservation and management measures. To this end, the Agreement specified what a flag State's responsibilities were. Under Article III, a party to the Agreement is to "take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures."[145] Vessels must be specifically authorized by the flag State before it can fish on the high seas, and any conditions placed upon that authorization must be adhered to by the vessel.[146] A State cannot authorize a vessel to fish on the high seas unless the flag State is able, "taking into account the links that exist between it and the fishing vessel concerned," to effectively control its activities.[147]

This suggests that while "genuine link" is still left undefined, the State is at least charged to bear the link – or possibly the lack of one – in mind when deciding whether or not to authorize the vessel to fish on the high seas. Appreciating that contrary behaviour is, for some businesses, a long-term strategy, the Compliance Agreement provides that States consider a vessel's history when making the decision to allow it to fish on the high seas:[148]

> Article III(5)(a). No Party shall authorize any fishing vessel previously registered in the territory of another Party that has undermined the effectiveness of international conservation and management measures to be used for fishing on the high seas, unless it is satisfied that
>
> (i) any period of suspension by another Party of an authorization for such fishing vessel to be used for fishing on the high seas has expired;
>
> and
>
> (ii) no authorization for such fishing vessel to be used for fishing on the high seas has been withdrawn by another Party within the last three years.
>
> Article III(5)(b) the provisions of subparagraph (a) above shall also apply in respect of fishing vessels previously registered in the territory of a State which is not a Party to this Agreement, provided that sufficient information is available to the Party concerned on the circumstances in which the authorization to fish was suspended or withdrawn.[149]

In a sense, this provision extends beyond the parties to the Agreement, which is an important development. Third parties (non-signatories to Agreements and non-members of RFMOs) have been heavily implicated in IUU fishing. However, the subsection which provides that no vessel can be authorized to fish on the high seas if its activities have resulted in a suspension or withdrawal of the authority is immediately undermined by subsection (d). This allows a State to authorize a vessel it otherwise should not if, "having taken into account all relevant facts... has determined that to grant an authorization to use the vessel for fishing on the high seas would not undermine the

---

[145] Article III(1)(a). It should be noted that while states can exempt vessels under 24m in length from the application of obligations under the agreement, if those vessels subsequently act in way that undermines the effectiveness of international conservation and management measures, the obligations under the Compliance Agreement should then be applied to the vessel (Article III(1)(b).)

[146] Article III(2).

[147] Article III(3).

[148] Properly identifying vessels – which change their names, external paintwork and numbers to evade identification – in order to make this decision is of course problematic. It should also be noted that under Article III(5)(c) the provisions do not apply if the vessel has changed ownership "and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel."

[149] Article III(5)(b).

object and purpose of" the Compliance Agreement. This subsection could be characterized as a loophole, and the subject of abuse.

Keeping records of fishing vessels

Under Article IV of the Compliance Agreement, States are to keep a record of fishing vessels entitled to fly its flag and authorized to fish on the high seas. The State's authorizing authorities are to obtain sufficient information about the vessel and its operations to discharge its data collection responsibilities under the Compliance Agreement. Information pertaining to the area of a vessel's fishing operations and its catches and landings are emphasized.[150] A State is to take measures to ensure that all of its flagged high seas fishing vessels are entered into the national record and this data is to be exchanged. Article VI ("Exchange of Information") gives States some instruction on what information they are to collect and disseminate. States are to exchange with FAO:[151]

(a) name of fishing vessel, registration number, previous names (if known) and port of registry;
(b) previous flag (if any);
(c) International Radio Call Sign (if any);
(d) name and address of owner or owners;
(e) where and when built;
(f) type of vessel;
(g) length.

Discretionary data which States are to make available to FAO "to the extent practicable" are:[152]

(a) name and address of operator (manager) or operators (managers) (if any);
(b) type of fishing method or methods;
(c) moulded depth;
(d) beam;
(e) gross register tonnage;
(f) power of main engine or engines.

The data exchange between States parties and the FAO envisioned under the Compliance Agreement is to be "prompt", with the data made either "readily available" (the first list, above) or "available" (the second list). This may depend on the information's relative mutability (for example, changes of ownership) and importance to attaining effective control of the vessel. Parties are also obliged to notify FAO of any modifications to the information. Under the Agreement, FAO would periodically circulate all data to all parties and to any individual party, global, regional and subregional fisheries organization on request. When there are reasonable grounds to believe a vessel flagged to another party has contravened the obligations of the Agreement, other parties to the Compliance Agreement are obliged to notify the flag State and, if appropriate, FAO. The party must offer the flag State "full supporting evidence".[153] As to non-parties, the Compliance Agreement is brief. Parties are to encourage non-parties to become parties.[154] They may exchange information about the

[150] Article III(7).
[151] Article IV(1).
[152] Article IV(2).
[153] Article VI. 8(b).
[154] Article VIII. 1.

activities of non-parties that undermine the effectiveness of international conservation and management measures.[155]

Compliance

A note should be made here about the language of the Agreement. It is the Agreement to *Promote* Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, not the Agreement to *Secure* Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. Certainly this reflects the necessarily non-coercive nature of international law, but it could also be argued that the title sets the bar rather low.[156] In a domestic context, compliance with laws is ensured by enforcement measures that include consequences for non-compliance. These enforcement measures exist to *secure* compliance with the law. Rayfuse observes:

> In international law... while the rhetoric is littered with references to 'promoting' compliance, far less verbiage has thus far been expended on references to 'ensuring' or 'enforcing' compliance. Such considerations are admittedly circumscribed by the nature of the international legal regime which sees states bound only by their treaty commitments and rules of customary international law and heavily influenced by the dictates of political expediency and perceived self interest. Nevertheless, as has been amply demonstrated in international law, while there may be a presumption that states should comply with their international obligations, there can be no presumption that states always do. In situations of continuing non-compliance some form of international enforcement authority may ultimately be desirable.[157]

According to Rayfuse, the difference between the word 'compliance' and the word 'enforcement' is often poorly delineated. *Compliance* is acting in accordance with commands, demands or obligations. If that compliance is not forthcoming, 'enforcement' is needed. The goal of *enforcement* is to *achieve* compliance; it is a mechanism used to this end.[158] Under the Compliance Agreement, parties are required to assume what Brack and Hayman call enforcement responsibilities.[159] They must take action against any of their flagged vessels which undermine international conservation and management measures on the high seas, including those adopted by the RFOs with a mandate over the stocks fished by the vessel.[160] These responsibilities are part of their general flag State responsibilities.[161] Enforcement measures "including, where appropriate, making the contravention of such provisions an offence under national legislation" are to be initiated by the flag State. Information about the contraventions

---

[155] Article VIII. 3.

[156] However, it should be noted that in the Compliance Agreement's subsection regarding the application of sanctions, the word 'secure' *is* used.

[157] Rayfuse, Rosemary. "To our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *Backgrounder for the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement - Moving From Words to Action.* St John's, Newfoundland and Labrador. Canada. 1-5 May 2005.

[158] Emphasis added. Rayfuse also emphasizes that 'measures to promote compliance' and 'measures of enforcement' (control tools and sanctions) are not the same thing. Rayfuse, Rosemary. 2005. "To Our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *The International Journal of Marine and Coastal Law.* Vol 20. Nos 3–4. p.512.

[159] Brack, Duncan and Hayman, Gavin. 2002. "International Environmental Crime: The Nature and Control of Environmental Black Markets." *Background paper for RIIA workshop.* 27-28 May 2002. Sustainable Development Programme, Royal Institute of International Affairs. p.10.

[160] Rayfuse. 2005. Above, n.157.

[161] Article III.(8).

must be exchanged "promptly" between the flag State and FAO, "including the identity of the fishing vessel or vessels involved and measures imposed by the Party in respect of such activities".[162] Sanctions are to be "of sufficient gravity as to be effective in *securing* compliance with the requirements of the Agreement and to deprive offenders of the benefits accruing for their illegal activities (emphasis added)."[163]

Evaluation

Fifteen years after its adoption, just thirty-seven States plus the European Community have signed the Compliance Agreement (as at 14 May 2009).[164] While this number is low, it does seem to have captured some States which have, presently and in the past, provided flags for vessels that are identified as having engaged in IUU fishing. These include: Belize, Cook Islands, Cyprus, Georgia, Mauritius, St. Kitts & Nevis, Seychelles and Uruguay. However, two of the top three fisheries exporters, China and Thailand, have not signed the Agreement. China is the world's largest exporter of fish and fishery products.[165] Furthermore, a glance at the most recent RFMO black lists reveals that many vessels involved in IUU fishing fly flags of States which fall outside of the Compliance Agreement. **Non-signatories** to the Compliance Agreement appear in **bold** in the following RFMO black lists:[166]

CCAMLR
Togo – 6 vessels
Equatorial Guinea – 3
People's Republic of China – 4
Democratic People's Republic of Korea (North Korea) – 1
Panama – 2
Cambodia – 1
Nigeria – 1

ICCAT
Unknown – 20
Bolivia – 2

IATTC
Unknown – 14
Indonesia – 7
Colombia – 1

IOTC
Unknown – 3

NEAFC
Georgia – 3

[162] Article VI.(8)(a), subject to domestic arrangements regarding confidentiality.
[163] Article III.(8).
[164] Signatories are as follows, in alphabetical order: Albania, Angola, Argentina, Australia, Barbados, Belize, Benin, Canada, Cape Verde, Chile, Cook Islands, Cyprus, Egypt, European Community, Georgia, Ghana, Japan, Madagascar, Mauritius, Mexico, Morocco, Myanmar, Namibia, New Zealand, Norway, Peru, Republic of Korea (South Korea), St. Kitts & Nevis, St. Lucia, Seychelles, Sweden, Syrian Arab Republic, Tanzania, United States of America, Uruguay. http://www.fao.org/Legal/treaties/012s-e.htm. Accessed 17 June 2008.
[165] China exports USD8.96 bn in fisheries products annually, far outstripping that of the second larger exporter, Norway, which exports USD5.5 bn. FAO. SOFIA. 2008. pp.47,48.
[166] As at 4 June 2009. The ratification status of the Compliance Agreement can be found at Appendix D of this dissertation.

Cyprus – 5
Russian Federation – 2
Panama – 5
Guinea Conakry – 1
St Kitts and Nevis – 1
Sierra Leone – 1
Togo – 1
Unknown – 2

NAFO (does not include 6 scrapped vessels)
Georgia – 2
Guinea Conakry – 1
Russian Federation – 3
Cambodia – 1
Panama – 3
Sierra Leone – 1
St Kitts and Nevis – 1
Togo – 1
Unknown – 4

The Compliance Agreement places a duty on flag States not to allow vessels to fish on the high seas in a way that undermines measures designed to conserve and manage fish stocks. It provides for those obligations to be converted into national law and allowing for sufficient penalties to *effect* or *ensure* compliance are also requirements under the Agreement. It provides a duty to collect and exchange data on flagged vessels that fish on the high seas.

However, the ability of the Compliance Agreement to *secure* compliance with conservation and management measures is greatly limited by two elements. These are related to its coverage: Firstly, the Agreement as a whole only concerns high seas fishing. This dissertation has seen that somewhere between 90 and 95% of commercial fish stocks occur inside EEZs and that these are heavily predated by IUU fishers; Secondly, many important fishing nations and flag of convenience flag States fall outside the Agreement simply by not being parties to it. Those countries continue, with their knowledge or not, to provide succour to vessel owners that wish to avoid compliance with international and regional conservation and management measures.

The 1995 UN Fish Stocks Agreement

It has been seen that concerns were raised at the 1992 Earth Summit in Rio about the widespread re-flagging of vessels. The Compliance Agreement followed a year later, which sought to curb these practices. The indistinct protections provided to straddling and highly migratory high seas fish stocks under the LOSC were also an issue of great concern. Coastal States were frustrated that foreign fleets were sitting right outside their EEZs harvesting migrating stocks, or those that move inside the EEZs and then out again. Juda notes that these activities "undercut coastal-state attempts at stock conservation" as they siphon off "economic benefits that coastal states anticipated reaping from their control of fisheries in the EEZ."[167] High seas fishers wanted to exercise their high seas freedoms, which were codified in the LOSC. A lack of meaningful international cooperation between States regarding the conservation and

[167] Juda. 2001. Above, n.104. p.53.

management of these stocks, and some major disputes over particular stocks,[168] meant that a resolution was needed. In Rio's Agenda 21, States agreed that:

> management of high seas fisheries, including the adoption, monitoring and enforcement of effective conservation measures, is inadequate in many areas and some resources are overutilized. There are problems of unregulated fishing, overcapitalization, excessive fleet size, vessels reflagging to escape controls, insufficiently selective gear, unreliable databases and lack of sufficient cooperation between States. Action by States whose nationals and vessels fish on the high seas, as well as cooperation at the bilateral, subregional, regional and global levels, is essential particularly for highly migratory species and straddling stocks.[169]

States agreed to convene a UN conference to agree on operational ways to better implement the LOSC regarding straddling fish stocks and highly migratory fish stocks.[170] The proposal was endorsed by the UN General Assembly in its resolution 47/192 of 22 December 1992.[171] Negotiations began in 1993.[172] The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the Fish Stocks Agreement)[173] was adopted in 1995.[174] The Fish Stocks Agreement's sole focus is high seas stocks, straddling stocks, and highly migratory stocks. Its aim is to achieve the long-term conservation and sustainable harvest of these stocks by creating the means for effective implementation of the provisions of the LOSC which relate to them.[175] The OECD observes that the Fish Stocks Agreement comprises a "framework for international cooperation" over those stocks.[176]

As its long name suggests, the Fish Stocks Agreement is an implementing agreement. It puts detail and specific obligations around the broad provisions of the LOSC. As agreed at Rio, the new convention would uphold EEZ rights and the rights of vessels from any country to fish on the high seas in a way consistent with the LOSC –

---

[168] For example, between Spain and Canada over Northwest Atlantic straddling stocks. On this issue, see: De la Fayette, Louise and Evans, Malcolm D. 1999. "The Fisheries Jurisdiction Case (Spain v. Canada), Judgment on Jurisdiction of 4 December 1998." In *The International and Comparative Law Quarterly*. Vol. 48. No. 3. July. pp.664-672.

[169] Chapter 17, paragraph 45.

[170] Chapter 17, paragraph 49(e): "The conference, drawing, *inter alia*, on scientific and technical studies by FAO, should identify and assess existing problems related to the conservation and management of such fish stocks, and consider means of improving cooperation on fisheries among States, and formulate appropriate recommendations."

[171] UN General Assembly Resolution. A/RES/47/192.

[172] For detail on the preparatory work and the process involved in the Fish Stocks Agreement conference, see: Higginson. 1993. Above, n.56. p.237.

[173] 34 ILM 1542 (1995). At the time the LOSC, though nine years since its adoption, was still one year away from its entry into force.

[174] Entered into force on 11 December 2001.

[175] Article 2.

[176] Andrews-Chouicha and Gray (eds). 2005. Above, n.117. It should be noted that Article 5 of the Fish Stocks Agreement added detail to the LOSC's general obligation to take into consideration the effects on associated or dependent species of harvesting. Under the Agreement, states are to: *assess* the impacts of fishing...on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks; *adopt*... measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may be seriously threatened; *minimize*...catch of non-target species... through...the development and use of selective, environmentally safe and cost-effective gear and techniques; *protect* biodiversity in the marine environment. Rose notes that these obligations remain just a framework, while the "specific standards" that are clearly required are to be enumerated in regional agreements. Rose. 1999. Above, n.116. p.284.

that is to say, with responsibilities attached.[177] Under the Fish Stocks Agreement, the duties of coastal States and all states whose vessels fish on the high seas are to:

- adopt measures to ensure long-term sustainability of the stocks and their optimum utilization using the best available scientific evidence on which to base those measures;
- apply the precautionary approach;
- assess overall impacts on target stocks and associated or dependent stocks and adopt measures with a view to maintaining or restoring their populations above levels at which their reproduction may become seriously threatened;
- minimize pollution, discards, catch by lost or abandoned gear, catch of non-target species and other impacts through the development of less harmful gear and techniques;
- protect marine biodiversity;
- take measures to prevent excess fishing capacity and overfishing;
- take into account artisanal and subsistence fishers
- collect and share data;
- promote research and R&D in the fisheries sector;
- implement effective monitoring, control and surveillance.[178]

The duty to cooperate & RFMOs

It has been seen above that the traditional maritime right of freedom of fishing on the high seas was modesty limited by the 1958 Geneva Conventions and, more importantly, the LOSC. The Fish Stocks Agreement limited it further, such that Marcos Orellana Cruz has observed that freedom of fishing on the high seas is now "strongly qualified."[179] The most significant way it did so was by expounding on the duty of cooperation. The LOSC had obliged states to cooperate in the conservation and management of high seas living resources through negotiations to produce conservation measures and, where necessary, establish subregional or regional fisheries management organizations. The Fish Stocks Agreement made this obligation more specific.[180] Article 7 sets out the face of this cooperation:

> Article 7(1)(a). With respect to straddling fish stocks, the relevant coastal States and the States whose nationals fish for such stocks in the adjacent high seas area shall seek, either directly or through the appropriate mechanisms provided for cooperation for in Part III, to agree upon the measures necessary for the conservation of these stocks in the adjacent high seas area.
> Article 7(1)(b). With respect to highly migratory fish stocks, the relevant coastal States and other States whose nationals fish for such stocks in the region shall cooperate, either directly or through the appropriate mechanisms for cooperation provided for in Part III, with a view to ensuring conservation and promotion the objective of optimum utilization of such stocks throughout the region, both within and beyond the areas beyond national jurisdiction.
> Article 7(3). In giving effect to their duty to cooperate, States shall make every effort to agree on compatible conservation and management measures within a reasonable period of time.
> Article 7(4). If no agreement can be reached within a reasonable period of time, any of the States concerned may invoke the procedures for the settlement of disputes provided for in Part VIII.

---

[177] Article 4. "Nothing in this Agreement shall prejudice the rights, jurisdiction and duties of States under the Convention." Agenda 21, Chapter 17, Paragraph 49(e) had said: "The work and the results of the conference should be fully consistent with the provisions of the United Nations Convention on the Law of the Sea, in particular the rights and obligations of coastal States and States fishing on the high seas."
[178] Article 5. Part II 'General Principles'.
[179] Cruz. 2000. Above, n.82. p.12; Rayfuse observes, importantly, that both the LOSC and the Fish Stocks Agreement give the freedom to fish not to individuals but to states, and those states must only authorize vessels flying their flag to fish on the high seas if they are able to exercise effective control over their activities. Rayfuse, Rosemary Gail. 2004. *Non-flag state enforcement in high seas fisheries.* Martinus Nijhoff Publishers. Leiden. Boston. p.30.
[180] Stokke. 2001. Above, n.16. p.353.

Recognizing the transboundary nature of shared stocks, the common property nature of the high seas, and the essential vulnerability to predation of these fish stocks, more than any other preceding arrangement the Fish Stocks Agreement establishes that regional fisheries management organisations are the vital ingredient in managing shared stocks.[181] Articles 7(7) and 7(8) provide that coastal States and high seas fishing States are to "regularly inform" each other "either directly or through appropriate subregional or regional fisheries management organisations or arrangements, or through other appropriate means, of the measures they have adopted for straddling and highly migratory fish stocks." Article 8 sets out the mechanisms by which the duty to cooperate is put into operation. This is to be done in one of two ways: by the establishment of a bilateral arrangement to achieve the conservation and management of certain stocks,[182] or through the creation of, or participation in, a multilateral fisheries organization. In general the latter would be represented by a Regional Fisheries Management Organisation or a Regional Fisheries Body (RFB):

> Article 8(3). Where a subregional or regional fisheries management organisation or arrangement has the competence to establish conservation and management measures for particular straddling fish stocks or highly migratory fish stocks, States fishing for the stocks on the high seas and relevant coastal States shall give effect to their duty to cooperate by becoming members of such organization or participants in such arrangement, or by agreeing to apply the conservation and management measures established by such organization or arrangement.

States are to "enter into consultations in good faith and without delay."[183] Crucially, access to shared fish stocks were restricted to those States who played by the new rules. Article 8(4) states that "Only those States which are member of such an organization or participants in such an arrangement, or which agree to apply the conservation and management measures established by such organization, shall have access to the fishery resources to which those measures apply." By mandating cooperation between States and conditioning access in this way, the Fish Stocks Agreement seeks to ensure that States comply, by extension and perhaps more importantly, with those provisions adopted multilaterally at the regional level. Shutting out those States which are not members of cooperative arrangements meant that only vessels which fish in accordance with the measures adopted by those organizations could exercise their freedom to fish "free from interference."[184] Under the Fish Stocks Agreement, existing RFMOs were

---

[181] Rayfuse observes that the Agreement institutionalised the duty to cooperate through the medium of RFOs. Rayfuse, Rosemary. 2007. "Regional Allocation Issues or Zen and the Art of Pie Cutting." *University of New South Wales Faculty of Law Research Series*. Vol. 10. This is a development that Juda describes as "stunning". Juda. 2001. Above, n.104. p.55.

[182] Such as the 1998 *Arrangement between the Government of Australia and the Government of New Zealand for the Conservation and Management of Orange Roughy on the South Tasman Rise*. The Agreement text can be found at http://www.dfat.gov.au/geo/new_zealand/roughy.pdf. Accessed on 24 June 2008. The South Tasman Rise fishery, south of Tasmania, lies partly in Australia's EEZ and partly in the high seas. It was closed in November 2007 to allow the stock to rebuild. New Zealand's Fisheries Minister Jim Anderton said, "In less than two decades the New Zealand and Australian fishing industries have effectively mined this fishery down to unsustainable levels... these orange roughy stocks are a fraction of what they once were and now this area needs to be closed indefinitely to give the fishery a chance to rebuild... It is possible that we may not open this fishery again in the foreseeable future in order to protect the sea floor environment as well as the orange roughy that live above it." New Zealand government press release. http://www.beehive.govt.nz/node/31502. Accessed 24 June 2008.

[183] Article 8(2).

[184] Rayfuse. 2004. Above, n.179. p.42. Juda notes that in 2001/02 China and South Korea rushed to join RFMOs in anticipation of the entry into force of the Fish Stocks Agreement. Juda. 2001. Above, n.104. p.56. In order to capture as many states as possible under the Agreement, Article 8(3) provides that states with a "real interest" in a fishery cannot be kept out of any arrangement or organization which relates to

given a framework within which to strengthen[185] and modernize.[186] It provided that new RFMOs were to be created if none existed for a particular fishery or stock.[187] Soon after, a regional accord regarding the Barents Sea Loophole was agreed.[188] The South-East Atlantic Fisheries Organization (SEAFO) and the Western and Central Pacific Fisheries Commission (WCPFC) were created in 2003 and 2004, respectively. The South Pacific RFMO (SPRFMO) is currently under negotiation and will be the newest RFMO created.[189]

Flag State responsibilities

To effect their responsibilities under the Fish Stocks Agreement, flag State are obliged to introduce a range of measures to ensure that the fishing vessels which are flagged to them do not engage in activities that undermine the effectiveness of international conservation and management measures. This includes those measures adopted by regional fisheries bodies.[190] Article 18 sets out the controls flag State must apply to vessels flying their flags. Included are details such as licencing terms and conditions, prohibitions on fishing in places unless specifically authorized, vessel marking and position monitoring, control and surveillance, observer programmes and inspections, regulation of transshipment, and the use of by-catch measures. Because what States do about their non-compliant fishing vessels is crucial to the effectiveness of the conservation and management measures set by coastal States and RFMOs, the Fish Stocks Agreement crucially provides that states "take such measures as may be necessary to ensure that vessels flying its flag comply with subregional and regional conservation and management measures and that such vessels do not engage in any activities which undermines the effectiveness of such measures."[191] This implies the use of compliance and enforcement measures by the State, and Rayfuse notes the full gamut of obligations this requires:

---

the fishery. Nor can they be discriminated against. This provision will be a challenge in fisheries which are already fully subscribed. It may lead, at least in the short term, to less strict quotas and higher catches in some fisheries.

[185] Article 13 "Strengthening of existing organizations and arrangements" reads simply: "States shall cooperate to strengthen subregional and regional fisheries management organizations and arrangements in order to improve their effectiveness in establishing and implementing conservation and management measures for straddling fish stocks and highly migratory fish stocks."

[186] Articles 9-12 Article 9 "Subregional and regional fisheries management organizations and arrangements", Article 10 "Functions of subregional and regional fisheries management organizations and arrangements", Article 11 "New members or participants", Article 12 "Transparency in activities of subregional and regional fisheries management organizations and arrangements". According to Andrews-Chouicha and Gray, these provisions set up the framework for the activities of RFMOs and according to conferred on them "considerable powers", including the establishment of a programme for the monitoring, control and surveillance of vessels on the high seas. Andrews-Chouicha and Gray (eds). 2005. Above, n.117. p.111.

[187] Article 8(5).

[188] The Barents Sea Loophole regional accord was established in 1999. See generally: Stokke, Olav Schram. 2001. "The Loophole of the Barents Sea Fisheries Regime." In O.S. Stokke (ed). 2001. *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes.* Oxford University Press. pp.273-301.

[189] While the SPRFMO is not yet an established RFMO, the seventh international consultation on its establishment was held 18-22 May 2009 in Lima, Peru. Developments can be followed at: http://www.southpacificrfmo.org/. Accessed 14 May 2009.

[190] Rayfuse. 2005. Above, n.157.

[191] Article 18(1).

> Flag states are obliged to take enforcement action against their vessels for non-compliance with RFO measures irrespective of where violations occur and must conduct immediate and full investigations of alleged violations and report on the progress and outcome of those investigations to the state alleging the violation and the relevant RFO. They must require their vessels to provide information on the vessel's fishing activities to the investigating authorities and where sufficient evidence of a violation exists, flag states are obliged to refer the case to their authorities with a view to instituting proceedings without delay and to ensuring that further fishing activities are not carried out until any outstanding sanctions are complied with. Investigations and judicial proceedings are to be carried out expeditiously and sanctions imposed are to be adequate in severity to be effective in securing compliance and to discourage violations. Sanctions shall also deprive offenders of the benefits accruing from their illegal activities. Flag states are obliged to ensure that masters and other officers of their fishing vessels risk refusal, withdrawal or suspension of their tickets if they fail to comply with the flag state's obligations. In short, flag states are required to effectively enforce – and to enforce effectively.[192]

It has been the continuing dereliction of this duty by States, either through corruption, lack of interest or capacity, that has helped create the disaster of IUU fishing.

Extending enforcement jurisdiction

The Fish Stocks Agreement creates duties for those signatory States that are not members or cooperating non-members of RFMOs.[193] Parties to the Fish Stocks Agreement must abide by the regulations of these organizations, whether they are signatories to the particular organization or not. As non-participants in the RFMO, they are not to authorize their vessels to fish in waters or for stocks under an RFMO mandate.[194] Importantly, the Fish Stocks Agreement institutionalizes a significant qualification to traditional freedoms of the high seas: it widens the ability of non-flag States to enforce compliance. Members of RFMOs are to "take measures... to deter activities of such vessels which undermine the effectiveness of subregional or regional conservation and management measures."[195] For parties to the Fish Stocks Agreement, flag State jurisdiction is thus not the only form of jurisdiction over fishing vessels.[196] The Fish Stocks Agreement's preamble called for: "more effective enforcement by flag

---

[192] Rayfuse. 2005. Above, n.157.

[193] Under the terms of Part IV, Article 17(1), they are "not discharged from the obligation to cooperate... in the conservation and management of relevant straddling fish stocks and highly migratory fish stocks."

[194] Article 17(2): [A State which is not a member or a participant of a subregional or regional fisheries management organisation] shall not authorize vessels flying its flag to engage in fishing operations for the straddling fish stocks or highly migratory fish stocks which are subject to the conservation and management measures established by such organization or arrangement.

[195] Article 17(4).

[196] To some, this was a concept whose time had come: Rayfuse contends that flag state jurisdiction is not and never has been "absolute." She writes that it is "conditioned by reference to possible exceptions and to the requirement that flag states exercise certain responsibilities in respect of their vessels. In other words, flag state jurisdiction is merely primary, not exclusive." Rayfuse. 2004. Above, n.179. p.8. It should be noted that declarations and statements made by parties to the Fish Stocks Agreement express a discomfort with this reconceptualization, which will challenge implementation of these measures. Juda cites the European Union declaration: "The European Union in its declaration observes that the Agreement's provisions are not to be interpreted so as to conflict with the international law principle of freedom of the high sea. Since upon entry into force the Agreement becomes part of international law, at least for party states, it would seem the European Union is attempting to balance future interpretations of the Agreement so as to limit interference with high-seas freedoms as opposed to accenting the need for a managed fisheries environment in areas beyond national jurisdiction. And, by underscoring the flag-state enforcement role and flag-state discretion as to whether to prosecute ships under its flag, the European Union in its declaration raises questions regarding the future uniformity and effectiveness of enforcement efforts." Juda. 2001. Above, n.104. p.56.

States, port States and coastal States."[197] The Agreement "extends the rights of coastal States to react to unauthorized fishing outside the EEZs"[198] by providing for parties' vessels to be subject to enforcement measures by other parties.[199] The Fish Stocks Agreement provides for the boarding and inspection of vessels that are fishing in areas under an RFMO's mandate, if those vessels are flagged to other parties to the Fish Stocks Agreement:

> Article 21(1): In any high seas area covered by a subregional or regional fisheries management organization or arrangement, a State Party which is a member of such organization or a participant in such arrangement may, through its duly authorized inspectors, board and inspect, in accordance with paragraph 2, fishing vessels flying the flag of another State Party to this Agreement, whether or not such State Party is also a member of the organization or a participant in the arrangement, for the purpose of ensuring compliance with conservation and management measures for straddling fish stocks and highly migratory fish stocks established by that organization or arrangement.

What is immediately obvious about the provisions cited above is that they apply limitations to the long-standing international legal principle of *pacta tertiis*. Signing and ratifying the Fish Stocks Agreement is enough to subject a State's vessels to enforcement action, even if that State is not a member of the relevant RFMO. Non-parties to the RFMO face the choice of either becoming members of (or participants in) an RFMO or risk having RFMO members apply enforcement measures to their vessels. Rayfuse has suggested that this legal, binding foundation for non-State boarding and inspection may allow RFMOs to achieve greater control over high seas fisheries:

> For [Non-Consultative Parties] who are not parties to the FSA, RFOs could more aggressively and more promptly pursue flag state consent for boarding and inspection on an *ad hoc* basis, as is done in the North Pacific, and adopt provisions announcing their intent to board, inspect and possibly arrest suspected IUU vessels in the event of non-response from the flag state within a certain time frame.[200]

Upton and Vitalis observe that this "is as close as international law gets to curbing the otherwise sacrosanct rights of flag States and, at least in this respect, starts to place illegal fishing on a par with such obnoxious activities as slavery and piracy."[201] Despite allowing these limited aspects of non-flag State jurisdiction, under the Fish Stocks Agreement arrests may still occur only with the consent of the flag State.[202] Should the

---

[197] Market states are not mentioned.

[198] Andrews-Chouicha and Gray (eds). 2005. Above, n.117. p.112.

[199] Juda notes that upon the detection of a violation, "evidence is to be secured and the flag state promptly notified. The flag state is then obligated within three working days to respond, indicating that it will take enforcement action itself, keeping the inspecting state informed, or it is to authorize the inspecting state to take... action..." Juda. 2001. Above, n.104. p.55, citing Articles 21(6) and 21(7).

[200] Rayfuse. 2004. Above, n.179. p.242. Lugten notes that the issue of a reasonable time frame will be discussed at the FAO Expert Consultation on Flag State Performance which will take place in Rome, Italy from 23-26 June 2009. It may be as low as 24 hours. Personal communication with Gail Lugten, University of Tasmania. 25 May 2009.

[201] Upton, Simon and Vitalis, Vangelis. 2003. "Stopping the high seas robbers: Coming to grips with illegal, unreported and unregulated fisheries on the high seas." Background paper submitted to the *OECD Round Table on Sustainable Development: The sustainable development of global fisheries, with particular reference to enforcement against illegal, unreported and unregulated fisheries on the high seas*. 6 June 2003. p.6.

[202] While RFOs are increasingly adopting measures requesting members to board, inspect and, in some circumstances arrest, non-member vessels that are seen fishing in contravention of RFO measures, Rayfuse observes that: "With the exception of stateless or presumed stateless vessels this action is, however, dependent on the consent of the flag state. That consent may be manifested [by adopting] a multilateral treaty such as the FSA, or a bilateral agreement or it may be granted on an *ad hoc* basis. It

flag State not consent to such an arrest, Agnew and Barnes[203] note that it can only be done via the imperfect and old-fashioned method of so-called hot pursuit or if the vessel is stateless.[204] The flag State essentially retains a veto over the application of enforcement measures by other states. But these provisions do mean, Rayfuse observes:

> that in certain, albeit limited, circumstances a vessel may be subject to non-flag seizure and arrest and that failure by a flag state to then adequately investigate and, where relevant, take enforcement action including judicial proceedings and sanctions will be a breach of the flag state's international obligations.[205]

If the flag State has ratified the LOSC, this could bring a flag State under the jurisdiction of the International Tribunal for the Law of the Sea (ITLOS).

Data

The Fish Stocks Agreement calls on States and RFMOs to ensure that the measures devised to maintain or restore stocks are based on the best scientific evidence available, as well as relevant environmental and economic factors.[206] To this end the Fish Stocks Agreement contains detailed requirements for data collection.[207] Article 5(j) obliges States to "collect and share, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort, as set out in Annex I, as well as information from national and international research programmes." Better, more complete and reliable data will assist with making science-based decisions. It will also greatly assist monitoring, control and surveillance activities in fisheries. To that end, Article 18(3)(c) obliges States to establish a national record of authorized high seas fishing vessels and to share this information "on request" with "directly interested States".[208] Annex I of the Fish Stocks Agreement provides details about the types of vessel data that is to be collected:

> Article 4(1). States should collect the following types of vessel-related data for standardizing fleet composition and vessel fishing power and for converting between different measures of effort in the analysis of catch and effort data:
>
> a) vessel identification, flag and port of registry;
> b) vessel type;
> c) vessel specifications (e.g. material of construction, date built, registered length, gross registered tonnage, power of main engines, hold capacity and catch storage methods) and;

---

may also be presumed where a flag state revokes registration upon the request of an inspecting state." Rayfuse. 2005. Above, n.158. p.524.

[203] Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. p.190 and footnote 38.

[204] Article 111 of the LOSC allows for hot pursuit. A stateless vessel is one that is either unflagged or using two flags. Article 21(17) of the Fish Stocks Agreement provides that "Where there are reasonable grounds for suspecting that a fishing vessel on the high seas is without nationality, a State may board and inspect the vessel [and] take such action as may be appropriate in accordance with international law."

[205] Rayfuse. 2005. Above, n.157.

[206] Article 5(b).

[207] Annex I. Article 1(1) of the Agreement holds that: "The timely collection, compilation and analysis of data are fundamental to the effective conservation and management of straddling fish stocks and highly migratory fish stocks. To this end, data from fisheries for these stocks on the high seas and those in area under national jurisdiction are required and should be collected and compiled in such a way as to enable statistically meaningful analysis for the purposes of fishery resources conservation and management. These data include catch and fishing effort statistics and other fishery-related information, such as vessel-related and other data for standardizing fishing effort. Data collected should also include information on non-target and associated or dependent species."

[208] Subject to national confidentiality laws within the flag state.

d) fishing gear description (e.g. types, gear specifications and quantity);

Article 4(2). The flag State will collect the following information:

a) navigation and position fixing aids;
b) communication equipment and international radio call sign; and
c) crew size.

The Agreement does not provide for mandatory information sharing with international organizations (like FAO), only States.[209] This is important to discussions about a future Global Record of Fishing Vessels (which will be explored in chapter 6).[210] Under the Fish Stocks Agreement, a vessel is to provide its national fisheries authority and relevant subregional or regional fisheries management organisations (as agreed) with "logbook data on catch and effort, including data on fishing operations on the high seas, at sufficiently frequent intervals to meet national requirement and regional and international obligations."[211] In order to facilitate the collection of reliable and accurate data, Article 6 of the Annex provides that:

> States or, as appropriate, subregional or regional fisheries management organizations or arrangements should establish mechanisms for verifying fishery data, such as:
>
> a) position verification through vessel monitoring systems;
> b) scientific observer programmes to monitor catch, effort, catch composition (target and non-target) and other details of fishing operations;
> c) vessel trip, landing and transshipment reports; and
> d) port sampling.

The Fish Stocks Agreement provisions allow for the collection of data which had previously been atomized or not kept at all by many flag States. They provide the basis for more accurate, science-based management of fishing and vessels. They will help facilitate decision-making within RFMOs and coastal States regarding fishing capacity and harvest sizes in their areas. They also, at least in theory, form the basis of non-flag State enforcement action if the flag State shares information about the activities of particular fishing vessels. The Fish Stocks Agreement's provisions go a long way to addressing the dearth of data previously collected and held regarding fishing activities. However, as this dissertation will discuss in chapter 5, leaving the collection and dissemination of vessel information to flag States has proven to be problematic.

Ports

Another important provision within the Fish Stocks Agreement that is particularly important to this dissertation is contained in Article 23, which outlines port State measures. Ports are sovereign territories and, as such, port States have the right to inspect documents, fishing gear and catch on board fishing vessels when foreign vessels are voluntarily in port or in an offshore terminal.[212] While this matter will discussed in

---

[209] Annex I, Article 7(1) provides that "Data collected by flag States must be shared with other flag States and relevant coastal States through appropriate subregional or regional fisheries management organisations or arrangements." In addition, Article 7(2) provides that "At the global level, collection and dissemination of data should be effected through the Food and Agriculture Organization of the United Nations."

[210] Lugten, G.L. 2008. "Legal consultation for the Food and Agriculture Organization of the United Nations – Development of a comprehensive Global Record of fishing vessels, refrigerated carriers and support vessels." Appendix H. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* Rome, Italy. 25–28 February 2008. p.42.

[211] Annex I. Article 5.

[212] Article 23(2).

greater detail in chapter. 7, under the Fish Stocks Agreement, landings and transshipments can be prohibited where it has been established that catch has been taken in a manner which undermines the effectiveness of subregional, regional or global conservation and management measures on the high seas.[213] While the port State may not "discriminate in form or in fact against the vessels of any State," increasing practice is to target for port State action vessels flagged to certain countries – in general, flag of convenience countries. This is certainly done by the IMO merchant shipping regime, which will be discussed in chapter 7.

Evaluation

The Fish Stocks Agreement's main elements have been identified by Stokke as being:[214]

- Scientific: it contains detailed procedures for cooperative collection and exchange of data.
- Regulatory: it provides that only states that are members of, or adhere to, regional regimes shall have access to the fishery. It also contains a mandatory dispute settlement mechanism.[215]
- Conservation: it elaborated modern conservation principles such as precaution,[216] compatibility and ecosystem management,[217] basing conservation and management measures on the best scientific evidence, assessing the ecosystem impact of fishing, minimizing pollution, waste, discards and by-catch.[218]
- Compliance: it created global minimum standards that mobilize a broader range of compliance mechanisms than before, including stronger flag state responsibilities, procedures for non-flag state inspection and detention, enhancement of port state measures.

The Fish Stocks Agreement does more than reinforce the LOSC and operationalize certain parts of it. Juda observes that by dealing with "the void left by the 1982 Convention, the Agreement represents an effort in both codification and what is termed the progressive development of international law."[219] It supports the LOSC but also *builds* on its strong foundation and seeks to strengthen it. The Fish Stocks Agreement provides detail where little had existed under the LOSC. While some of its provisions are outside the focus of this dissertation, it introduces new tools for the more effective management of fishing: the precautionary approach, Vessel Monitoring Systems,

---

[213] Article 23(3).

[214] Stokke. 2001. Above, n.16. p.353.

[215] Article 27 of the UN Fish Stocks Agreement provides that "States have the obligation to settle their disputes by negotiations, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice." They also have an obligation to try and prevent disputes (Article 28).

[216] "General Principles." Article 5. The representative of Palau to the 2006 UN Fish Stocks Agreement Review Conference, Stuart Beck, said that the precautionary approach was appropriate as changes in fisheries systems were only slowly reversible and not yet well understood. http://www.un.org/News/Press/docs/2006/sea1853.doc.htm Accessed 26 April 2007.

[217] As Scott Parsons, representative of Canada, noted at the *Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving From Words to Action,* held at St John's Newfoundland and Labrador, Canada, 1-5 May 2005, when 'ecosystem management' is discussed, it is not 'managing ecosystems' that is being attempted, but management of the human of activities that impact on marine ecosystems. Conference on the Governance of High Seas Fisheries and the UN Fish Agreement: Moving from Words to Action St. John's, Newfoundland and Labrador, Canada. May 1 to 5, 2005. *Conference Report.* 1 June 2005. p.10.

[218] Stokke contends that by doing so, the Agreement "effectively globalized features that had previously been confined to the most advanced regional management regimes" such as CCAMLR. Stokke. 2001. Above, n.16. p.353.

[219] Juda. 2001. Above, n.104. p.54.

transparency within subregional and regional fishery management organizations, compliance principles regarding non-member States, boarding and inspection on the high seas, port State measures, and new data requirements and gathering standards.[220] The Fish Stocks Agreement and agreements within FAO have, according to the Under-Secretary-General for Legal Affairs at the UN, "brought a fundamental change in the approach of the international community towards the management of high-seas fisheries. That management was now increasingly based on the principle of long-term sustainability."[221]

With such a lofty aim and strong guiding principles take-up has, perhaps predictably, been patchy and slow. The Fish Stocks Agreement has been signed by 75 States plus the EC (at 14 May 2009).[222] Some flags States that have been implicated in IUU have recently signed the Agreement, including Panama in December 2008. Many important fishing nations have signed and ratified the Fish Stocks Agreement, including Japan (in 2006), Spain (in 2003), Poland (in 2006), Republic of Korea (in 2008) and the Russian Federation (in 1997). However, two of the top three exporting States, China and Thailand, have not signed the Agreement.[223] Neither, of course, has Chinese Taipei.[224] Many States that appear on RFMO vessel black lists have not signed and ratified the Agreement.[225] **Non-signatories** to the Fish Stocks Agreement appear in **bold** in the following (most recent) RFMO IUU vessel lists.

CCAMLR
Togo – 6 vessels
Equatorial Guinea – 3
People's Republic of China – 4
Democratic People's Republic of Korea (North Korea) – 1
Panama – 2
Cambodia – 1
Nigeria – 1

ICCAT
Unknown – 20
Bolivia – 2

IATTC
Unknown – 14
Indonesia – 7
Colombia – 1

IOTC
Unknown – 3

[220] This summary was suggested by the US Department of Commerce, National Marine Fisheries Service's preparatory document for the 2002 Johannesburg summit. "Fisheries and the World Summit on Sustainable Development." http://usinfo.state.gov/journals/ites/0103/ijee/wssd.htm. Accessed 27 June 2008.
[221] http://www.un.org/News/Press/docs/2006/sea1853.doc.htm. Accessed 26 April 2007.
[222] It should be noted that this is up from 67 states plus the EC on 1 February 2008. See http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm. Accessed 1 February 2008 and 14 May 2009.
[223] FAO. SOFIA. 2008. pp.47.48. Indeed, four out of the top ten exporting States are non-signatories: China, Thailand, Chile and Viet Nam.
[224] The Fish Stocks Agreement is a UN treaty and Chinese Taipei is not recognized as a State within the UN system.
[225] The ratification status of the LOSC and the Fish Stocks Agreement can be found at Appendix C of this dissertation.

NEAFC
Georgia – 3
Cyprus – 5
Russian Federation – 2
Panama – 5
Guinea Conakry – 1
St Kitts and Nevis – 1
Sierra Leone – 1
Togo – 1

NAFO (does not include 6 scrapped vessels)
Georgia – 2
Guinea Conakry – 1
Russian Federation – 3
Cambodia – 1
Panama – 3
Sierra Leone – 1
St Kitts and Nevis – 1
Togo – 1
Unknown – 4

Conclusion

Clearly, non-signatory flag States are a major factor in these fisheries. The impact of this could be reduced by the Fish Stocks Agreement's provisions for non-flag State enforcement. However, vested interests may hinder their use. Juda notes that the Fish Stocks Agreement:

> requires that states surrender some of their sovereign prerogatives on the high seas and accept limitations in ocean areas that have traditionally been treated as open commons. For distant-water fishing states, this represents a considerable break with past practice, a departure that carries with it economic and social costs.[226]

The High Seas Task Force observed that the Fish Stocks Agreement "intended to lead to the situation where (high seas) fishing can only be engaged in by vessels flying the flags of States that are members of RFMOs or that cooperate with them and act within the rules set by the RFMO."[227] This ideal has not come to pass. As this dissertation explored in chapters 1 and 2, IUU fishing has taken hold in most of the world's fishing areas. Fishing by vessels flying flags of convenience has expanded. The extension to third parties of the measures agreed under RFMOs is described as a "revolutionary development" by Stokke and Vidas, but the authors add that it appears to have had only a moderate impact, "with few prospects of improvement."[228] Instead IUU fishing reduces only when the stock has been too exhausted to draw the IUU fishers.[229] Non-

[226] Juda. 2001. Above, n.104. p.57.
[227] High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. p.44.
[228] Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combatting IUU operations?" In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD Environment and Sustainable Development. Vol. 11. p.26.
[229] Stokke and Vidas. 2004. Above, n.228. p.19. Lodge and Meere agree: "While the cumulative effect of these instruments has undoubtedly been to change the nature and the location of grossly unsustainable high seas fishing, they have not stopped it. Indeed, the correlation between the measures adopted and their impact on the activity they are intended to reduce is often weak... Despite the existence of a strong legal

compliance with international fisheries treaties and regional conservation and management measures has become a persistent problem. Much political energy and resources have been devoted to creating hard law fisheries agreements. However, the framework still relies on flag States to, firstly, control their fishing vessels and, secondly, cooperate with the international community in providing information of these vessels. In addition, the Fish Stocks Agreement and the Compliance Agreement, even if implemented perfectly, only apply to high seas, straddling and highly migratory stocks.

It is therefore submitted that despite these three major pieces of hard law, the international legal framework surrounding fisheries has two substantial holes that have perfectly suited IUU fishing operations. Through a lack of compulsion and a reliance on flag States to share information, there is still very little information regarding the world's fishing vessels and their activities. The sustained reliance on flag State control continues to hinder effective enforcement of international fisheries rules. Gaining better information on fishing vessels and their activities, and enabling more enhanced non-flag State enforcement in fisheries are thus potential keys to reducing IUU fishing. Broadening the remit of international cooperation beyond the high seas and into all fisheries in all oceans is also clearly needed. Governments have neither managed their flagged vessels nor their own EEZ fisheries well. Improvement on both counts is vital to restoring fish stocks to the health most enjoyed many decades ago. In recognition of these and other matters, the international community has adopted a number of pieces of 'soft law' over the past fifteen years. It is to these instruments that this dissertation now turns.

---

framework for the conduct of activities in the oceans, based on the LOSC, there are serious concerns about the capacity of this framework to deliver effective management." Lodge, Michael and Meere, Frank. March-April 2005. "High Seas Governance: Meeting of the High Seas Task Force." *Maritime Studies.* Paris, France. 9 March 2005. p.2.

Chapter 4 – International Instruments: Soft Law

Introduction

The hard law legal framework surrounding international fisheries was adopted prior to widespread knowledge of IUU fishing. In the early 1990s international legal and political activity began to address IUU fishing. This came in the form of statements and declarations at international environmental conferences and led to non-binding 'soft law' agreements. The goal of creating these soft law instruments was to facilitate sustainability by guiding state practice and building institutional capacity to restore national fish stocks and combat IUU fishing. Given their importance, this chapter will explore the non-binding fisheries instruments that have been adopted over the course of the last fifteen years.

1995 FAO Code of Conduct for Responsible Fisheries

In 1991 and 1992 a number of notable events occurred. Fish stocks were deeply in trouble, despite the efforts of the LOSC which was about to enter into force. Flag States were not adequately controlling the activities of their vessels. Many developing States were facing difficulties trying to sustainably develop their fisheries. It was not even agreed what sustainable development of national fisheries would look like. In addition, international environmental disputes regarding the conduct of fishing had emerged. These included the controversial use of large-scale pelagic driftnets[1] and, separately, a major political battle between Mexico and the United States relating to dolphin mortality in the eastern tropical Pacific yellowfin tuna fishery.[2] The US applied trade sanctions to Mexico (among other States), actions which resulted in two disputes being sent to a GATT dispute settlement panel, with the decisions going against the US both times.[3] Diplomatic grievances remained, along with fears that the use of unilateral, environmentally-related trade disputes would destabilize the rapidly integrating and homogenizing international trading system.[4]

Partly in response, in May 1992 the Mexican government convened an international fisheries conference in Cancún. It was attended by representatives from 66 nations and international bodies. It emphasized fair trade practices.[5] It highlighted the need to improve fishing practices and management to avoid over-exploitation and biodiversity loss. It sought to develop a comprehensive and balanced system,[6] framed

---

[1] It was concern around this issue, particularly during the 1991 session of FAO-COFI, that led to broader FAO discussions about the emerging concept of "responsible fishing" and the germination of the FAO Code of Conduct. FAO. "The FAO Code of Conduct for Responsible Fisheries." http://www.fao.org/fishery/topic/14661/en. Accessed 17 June 2008.

[2] At that time operators in this fishery used a method of catching tuna that set purse-seine nets on dolphins and made little or no attempt to free them before the net was winched on board. Tens of thousands of dolphins were killed annually in this way.

[3] This issue will be discussed in chapter eight during a discussion on the GATT/WTO and market-related measures.

[4] The Mexican authorities, Bonucci writes, feared "that some States were trying to ensure the application of conservation measures through the enactment of national legislation restricting access to their markets of certain fish products." Bonucci, Nicola. "Towards an International Code of Conduct for Responsible Fishing." *Review of European Community & International Environmental Law.* Vol. 2. No. 3. Cambridge, Mass. 1993. p.245.

[5] Bonucci. 1993. Above, n.4. p.245-248.

[6] See: http://www.fao.org/docrep/003/V5321E/V5321E11.htm. Accessed 3 March 2008.

by a new concept – that of 'responsible fishing.'[7] Bonucci notes that this new concept rose to worldwide recognition quickly, after years of concern about 'irresponsible fishing'.[8] This concern was detailed in the previous chapters of this dissertation.

The Declaration of Cancún was the principle outcome of the conference. It contained twenty principles, the most important of which for the purposes of this dissertation are as follows:[9]

> 11. States should cooperate on bilateral, regional and multilateral levels to establish, reinforce and implement effective means and mechanisms to ensure responsible fishing on the high seas, in accordance with the relevant provisions of the United Nations Convention on the Law of the Sea.
> 12. The freedom of States to fish on the high seas must be balanced with the obligation to co-operate with other States to ensure conservation and rational management of the living resources, in accordance with relevant provisions of LOSC;
> 13. States should take effective action, consistent with international law, to deter reflagging of vessels as a means of avoiding compliance with applicable conservation and management rules for fishing activities on the high seas;

The Declaration of Cancún was presented to the Rio de Janeiro United Nations Conference on Environment and Development (UNCED) in June 1992. It influenced the oceans section (Chapter 17) of Agenda 21.[10] Chapter 17 had observed that unregulated fishing, the reflagging of vessels to escape control and lack of sufficient co-operation between States in the management of high seas fisheries were grave problems facing high seas fish stocks.[11] This dissertation noted in the last chapter that two binding instruments came out of this period in response to these concerns: the 1993 Compliance Agreement and the 1995 UN Fish Stocks Agreement. At Cancún, it was agreed that FAO should prepare an International Code of Conduct for Responsible Fishing.[12] Within six months, in November 1992, the FAO Council directed the FAO Director-

---

[7] Indeed, the Cancún conference was called the International Conference on Responsible Fishing. The FAO Committee on Fisheries had agreed on the need to develop "new concepts which would lead to responsible, sustained fisheries." Preface, FAO Code of Conduct for Responsible Fisheries, 1995.

[8] Bonucci. 1993. Above, n.4. p.245.

[9] Importantly, an agreed reference was made to the US's imposition of unilateral import bans, an issue that remains important to this dissertation in chapter 8. Principle 15 noted that: "States recognize that environmental policies should deal with the root causes of environmental degradation, thus preventing environmental measures from resulting in unnecessary restrictions to trade. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should, as far as possible, be based on international consensus. Domestic measures targeted to achieve certain environmental objectives may need trade measures to render them effective. Should trade policy measures be found necessary for enforcement of environmental policies, certain principles and rules should apply. These could include, *inter alia*: the principle of non-discrimination; the principle that the trade measure chosen should be the least trade-restrictive necessary to achieve the objectives; an obligation to ensure transparency in the use of trade measures related to the environment and to provide adequate notification of national regulations; and the need to give consideration to the special conditions and developmental requirements of developing countries as they move toward internationally agreed environmental objectives."

[10] Chapter 17 was entitled: "Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources."

[11] OECD. "Short History of International Actions and Initiatives against IUU Fishing Activities." http://www.oecd.org/document/54/0,3343,en_2649_37401_23460248_1_1_1_37401,00.html, Accessed 3 March 2008.

[12] An html version of the Code of Conduct for Responsible Fisheries can be found at: http://www.fao.org/DOCREP/005/v9878e/v9878e00.htm. Accessed 2 July 2008.

General to draft it. The Code of Conduct was to be a framework agreement under which others could be elaborated.[13]

Adopted by consensus at the 1995 session of the FAO Committee on Fisheries, the Code of Conduct has a pronounced ecological focus. It established "principles and standards applicable to the conservation, management and development of all fisheries."[14] It therefore covers fishing in both national and international waters. Its purpose was to "provide a framework for national and international efforts to promote the responsible exploitation of living aquatic resources in harmony with the environment."[15] Principle 1 notes that "[t]he right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources."[16] Three of the most germane of the Code of Conduct's principle objectives are to:

> Article 2.2. establish principles and criteria for the elaboration and implementation of national policies for responsible conservation of fisheries resources and fisheries management and development;
> Article 2.3. serve as an instrument of reference to help States to establish or to improve the legal and institutional framework required for the exercise of responsible fisheries and in the formulation and implementation of appropriate measures;
> Article 2.4. provide guidance which may be used where appropriate in the formulation and implementation of international agreements and other legal instruments, both binding and voluntary.

The Code of Conduct is a comprehensive framework document which covers an enormous amount of ground. It is similar to Agenda 21 in its level of detail. This author will seek to extract just the information that is important to this dissertation, and generally summarize the rest, as appropriate. Its substantive sections, for the purposes of this dissertation, are the lengthy Articles 6, 7 and 8.[17]

The Code of Conduct's General Principles are contained in Article 6. They elaborate basic principles of modern fisheries management. Briefly, these are: aquatic ecosystems should be conserved and obligations (on both States and nationals fishing) exist to fish responsibly; fisheries management should maintain a quantity and "quality, diversity and availability of fishery resources" for present and future generations and take care to conserve associated or dependent species; States should prevent overfishing and excess fishing capacity and seek to rehabilitate stocks when appropriate; decisions should be

---

[13] Document CL 103/REP, para. 69. The first integral component of the Code of Conduct was the Compliance Agreement, which was discussed in the previous chapter of this dissertation.
[14] Preface, Code of Conduct for Responsible Fisheries, 1995.
[15] Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: the economics of illegal, unreported, and unregulated fishing.* Organisation for Economic Co-operation and Development. OECD Publishing. p.112.
[16] Article 6.1. Code of Conduct for Responsible Fisheries, 1995. Although it is states that must implement it, the Code of Conduct sees itself as: "global in scope... directed toward members and non-members of FAO, fishing entities, subregional, regional and global organizations, whether governmental or non-governmental, and all persons concerned with the conservation of fishery resources and management and development of fisheries, such as fishers, those engaged in processing and marketing of fish and fishery products and other users of the aquatic environment in relation to fisheries." Article 1.2. Code of Conduct for Responsible Fisheries, 1995.
[17] Christopher Hedley, creator of the Internet Guide to International Fisheries Law, notes that each of the substantive Articles in the Code of Conduct is intended to be potentially "free-standing and capable of further elaboration." http://www.intfish.net/treaties/summaries/3308.htm. Accessed 27 June 2008.

based on the best scientific evidence and cooperative research and data collection should be undertaken to that end; the precautionary approach[18] should be used; fishing gear and practices should be selective and environmentally safe; waste, by-catch and impacts on associated or dependent species should be minimized; waste and negative food quality or environmental impacts should be minimized during the "harvesting, handling, processing and distribution of fish and fishery products"; habitats should be protected and rehabilitated; fisheries should be integrated into coastal area management, planning and development. Mindful of the need to secure better control over flagged vessels, Article 6.11 holds that:

> States authorizing fishing and fishing support vessels to fly their flags should exercise effective control over those vessels so as to ensure the proper application of this Code. They should ensure that the activities of such vessels do not undermine the effectiveness of conservation and management measures taken in accordance with international law and adopted at the national, subregional, regional or global levels.

States are to ensure that their flagged vessels "fulfill their obligations concerning the collection and provision of data relating to their fishing activities."[19] Multilateral cooperation is once again made a central plank of the agreement, with Article 6.12 providing that:

> States should, within their respective competences and in accordance with international law, cooperate at subregional, regional and global levels through fisheries management organizations, other international agreements or other arrangements to promote conservation and management, ensure responsible fishing and ensure effective conservation and protection of living aquatic resources throughout their range of distribution, taking into account the need for compatible measures in areas within and beyond national jurisdiction.[20]

Article 7 contains extensive instructions for fisheries managers and RFBs and RFMOs. Among other things,[21] formalized collaboration and cooperation are emphasized for shared and high seas stocks:

> Article 7.1.3. For transboundary fish stocks, straddling fish stocks, highly migratory fish stocks and high seas fish stocks, where these are exploited by two or more States, the States concerned, including the relevant coastal States in the case of straddling and highly migratory stocks, should cooperate to ensure effective conservation and management of the resources. This should be achieved, where appropriate, through the establishment of a bilateral, subregional or regional fisheries organization or arrangement.[22]

---

[18] This means that "the absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment." Article 6.5.

[19] Article 6.11.

[20] The rest of Article 6 is taken up other principles related to: decision-making transparency; dispute settlement (which should be undertaken cooperatively); the need for international trade in fish and fishery products to be conducted in accordance with World Trade Organization principles; the education and training of fishers and fishfarmers and their safe, healthy and fair working and living conditions; protection of subsistence, small-scale and artisanal fisheries; consideration of aquaculture to promote diversification in income and diet.

[21] This includes the requirement that fisheries resources be managed based on the best scientific evidence available and in order to ensure the "long-term sustainability of fishery resources at levels which promote the objective of their optimum utilization and maintain their availability for present and future generations; short term considerations should not compromise these objectives." (Article 7.1.1.) The precautionary approach is elaborated in Articles 7.5.1 through 7.5.5.

[22] It should be noted that because the Code of Conduct is non-binding, the word "should" is used in place of the 'hard law word' "shall".

The Code of Conduct provides that subregional or regional fisheries management organizations should expand to include all States with a real interest in the fishery. Non-members should cooperate, either by becoming members or participating non-members, or by giving effect to the measures adopted by the organization.[23] States are encouraged to establish monitoring, surveillance, control and enforcement measures to ensure compliance with domestic, subregional and regional conservation and management measures.[24] They are urged to prevent or eliminate excess fishing capacity.[25] Ideal management objectives for States, subregional and regional organizations are spelled out:

> Article 7.2.2. Such measures should provide *inter alia* that:
> a. excess fishing capacity is avoided and exploitation of the stocks remains economically viable;
> b. the economic conditions under which fishing industries operate promote responsible fisheries;
> c. the interests of fishers, including those engaged in subsistence, small-scale and artisanal fisheries, are taken into account;
> d. biodiversity of aquatic habitats and ecosystems is conserved and endangered species are protected;
> e. depleted stocks are allowed to recover or, where appropriate, are actively restored;
> f. adverse environmental impacts on the resources from human activities are assessed and, where appropriate, corrected; and
> g. pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non- fish species, and impacts on associated or dependent species are minimized, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques.

The Code of Conduct offers guidance on the type of research States (and fisheries organizations) should conduct.[26] In addition, it details the sort of fisheries data[27] that they should gather, and a range of management measures they should adopt:

> 7.6.1 States should ensure that the level of fishing permitted is commensurate with the state of fisheries resources.
> 7.6.2 States should adopt measures to ensure that no vessel be allowed to fish unless so authorized, in a manner consistent with international law for the high seas or in conformity with national legislation within areas of national jurisdiction.
> 7.6.3 Where excess fishing capacity exists, mechanisms should be established to reduce capacity to levels commensurate with the sustainable use of fisheries resources so as to ensure that fishers operate under economic conditions that promote responsible fisheries. Such mechanisms should include monitoring the capacity of fishing fleets.
> 7.6.4 The performance of all existing fishing gear, methods and practices should be examined and measures taken to ensure that fishing gear, methods and practices which are not consistent with responsible fishing are phased out and replaced with more acceptable alternatives...

---

[23] Article 7.1.4 and Article 7.1.5, respectively.
[24] Article 7.1.7.
[25] Article 7.1.8.
[26] Article 7.4.2 provides that "Research in support of fishery conservation and management should be promoted, including research on the resources and on the effects of climatic, environmental and socio-economic factors."
[27] Article 7.4.4. "States should ensure that timely, complete and reliable statistics on catch and fishing effort are collected and maintained... Such data should be updated regularly and verified through an appropriate system..." Article 7.4.5. In order to ensure sustainable management of fisheries and to enable social and economic objectives to be achieved, sufficient knowledge of social, economic and institutional factors should be developed through data gathering, analysis and research. Article 7.4.6. States should compile fishery-related and other supporting scientific data relating to fish stocks covered by subregional or regional fisheries management organizations or arrangements in an internationally agreed format and provide them in a timely manner to the organization or arrangement.

7.6.6 ... due recognition should be given... to the traditional practices, needs and interests of indigenous people and local fishing communities which are highly dependent on fishery resources for their livelihood.
7.6.8 The efficacy of conservation and management measures and their possible interactions should be kept under continuous review. Such measures should, as appropriate, be revised or abolished in the light of new information.
7.6.9 States should take appropriate measures to minimize waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, and negative impacts on associated or dependent species, in particular endangered species... States and subregional or regional fisheries management organizations and arrangements should promote... the development and use of selective, environmentally safe and cost effective gear and techniques.
7.6.10 States and subregional and regional fisheries management organizations and arrangements... should introduce measures for depleted resources and those resources threatened with depletion that facilitate the sustained recovery of such stocks. They should make every effort to ensure that resources and habitats critical to the well-being of such resources which have been adversely affected by fishing or other human activities are restored.

To guide state practice regarding the recommended management measures, the Code of Conduct outlines implementation provisions. States should establish effective legal and administrative frameworks for fisheries resource conservation and fisheries management.[28] They should ensure that sanctions for violations are available which are sufficiently adequate "to be effective, including sanctions which allow for the refusal, withdrawal or suspension of authorizations to fish in the event of non-compliance with conservation and management measures in force."[29] It acknowledges the major problem posed by states' ineffective control of flagged fishing vessels by encouraging monitoring, control, surveillance and law enforcement measures. These includes observer programmes, inspection schemes and Vessel Monitoring Systems.[30] Those States which are members of, or participants in, subregional or regional fisheries management organizations are encouraged to implement the measures agreed in those organizations regarding the deterrence of "the activities of vessels flying the flag of non-members or non-participants which engage in activities which undermine the effectiveness of conservation and management measures established by such organizations or arrangements."[31]

Duties of flag States

Like the hard law Compliance Agreement and Fish Stocks Agreement, the Code of Conduct emphasizes obligations that were vague in the LOSC. Thus, in Article 8, the Code of Conduct outlines the duties of States.[32] It contains general provisions for all States, specific duties for flag States and, importantly, duties for port States. It does not

[28] Article 7.7.1.
[29] Article 7.7.2.
[30] Article 7.7.3.
[31] Article 7.7.5. To this end, states should encourage "banks and financial institutions not to require, as a condition of a loan or mortgage, fishing vessels or fishing support vessels to be flagged in a jurisdiction other than that of the State of beneficial ownership where such a requirement would have the effect of increasing the likelihood of non-compliance with international conservation and management measures." (Article 7.8.1.)
[32] It also elaborates detailed provisions regarding fishing activities, fishing gear selectivity, energy optimization, protection of the aquatic environment and the atmosphere, safe harbours and landing places for fishing vessels, the abandonment of structures and other materials and guidelines regarding artificial reefs and fish aggregation devices, none of which will be discussed here but which can be accessed in Article 8.4 through 8.11.

UNIVERSITY OF TAS LIBRARY

specifically mention market States.[33] This is probably because at the time of its adoption (1995) market-based measures in fisheries were not *en vogue*. As well as provisions related to the health and safety of those employed in fishing operations, search and rescue and education and training for fishers,[34] Article 8 contains the following provisions relevant to this dissertation:

> 8.1.1 States should ensure that only fishing operations allowed by them are conducted within waters under their jurisdiction and that these operations are carried out in a responsible manner.
> 8.1.2 States should maintain a record, updated at regular intervals, on all authorizations to fish issued by them.
> 8.1.3 States should maintain... statistical data, updated at regular intervals, on all fishing operations allowed by them.
> 8.1.4 States should... within the framework of subregional or regional fisheries management organizations or arrangements, cooperate to establish systems for monitoring, control, surveillance and enforcement of applicable measures with respect to fishing operations and related activities in waters outside their national jurisdiction.
> 8.1.8 States should... maintain records of fishers which should... contain information on their service and qualifications, including certificates of competency, in accordance with their national laws.
> 8.1.9 States should ensure that measures applicable in respect of masters and other officers charged with an offence relating to the operation of fishing vessels should include provisions which may permit, *inter alia*, refusal, withdrawal or suspension of authorizations to serve as masters or officers of a fishing vessel.

As well as ensuring that vessels flagged to them comply with international safety requirements, and carry sufficient insurance,[35] States should: maintain vessel and ownership details and other records of fishing vessels entitled to fly their flag and authorized to be used for fishing; and ensure that their flagged fishing vessels do not fish on the high seas or in waters under the jurisdiction of other States unless they have a Certificate of Registry and an authorization to fish.[36] They should also be "marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels."[37] These non-binding provisions are a detailed precursor to later calls for a Global Record, the necessity for which will be discussed in chapter 6.

The Code of Conduct urges all States to accede to the 1993 Compliance Agreement and adopt laws and regulations that are consistent with it.[38] Where non-compliance has occurred, flag States should take enforcement measures including making contraventions of international or regional rules offences under national legislation.[39]

---

[33] As noted in the previous chapter, neither does the 1995 UN Fish Stocks Agreement. A lengthy Article 11 does lay down some basic rules regarding the trade in fish and fish products.
[34] Article 8.1.5, Article 8.1.6, Article 8.1.7, respectively.
[35] Article 8.2.5. In addition, Article 8.2.8: "Flag States should promote access to insurance coverage by owners and charterers of fishing vessels. Owners or charterers of fishing vessels should carry sufficient insurance cover to protect the crew of such vessels and their interests, to indemnify third parties against loss or damage and to protect their own interests."
[36] Article 8.2.1, Article 8.2.2, Article 8.2.3, respectively.
[37] Article 8.2.4: "The vessel's fishing gear should also be marked in order to facilitate the identification of the owner of the gear, taking into account internationally recognizable gear marking systems."
[38] Article 8.2.6.
[39] Article 8.2.7.

Sanctions should be sufficiently adequate to secure compliance, discourage further violations and "deprive offenders of the benefits accruing from their illegal activities."[40]

Port States

The Code of Conduct contains two broad duties for port States to perform. Firstly, port States are to take whatever measures are necessary to achieve the objectives of the Code of Conduct. They should make known to other States the measures that have been established for this purpose. When they are taking such measures a port State should not discriminate in form or in fact against the vessels of any other State.[41] Secondly:

> Port states should assist flag states as is appropriate, in accordance with the national laws of the port State and international law, when a fishing vessel is voluntarily in a port or at an offshore terminal of the port State and the flag State of the vessel requests the port State for assistance in respect of non-compliance with subregional, regional or global conservation and management measures or with internationally agreed minimum standards for the prevention of pollution and for safety, health and conditions of work on board fishing vessels.[42]

This provision strongly suggests that, under the Code of Conduct, port States can act against a vessel on a request of the flag State, or when assisting the flag State, but not alone. Given the potential for lack of cooperation by flag of convenience or secretive flag States, this appears to be a gap in coverage of some gravity. Flag State jurisdiction is, in the Code of Conduct, still very much primary and, without consent otherwise, exclusive. Nevertheless, these non-binding provisions give a foundation for the later drafting of the draft Port State Measures Agreement which is discussed in detail in chapter 7.

Though non-binding, the Code of Conduct was a comprehensive document that slotted neatly into the evolving oceans regime: consistent with the LOSC and Rio's Agenda 21, negotiated alongside and informing the Compliance Agreement and in harmony with the Fish Stocks Agreement which would be adopted soon afterward. The Code of Conduct is so detailed and charts such an idealized course that it is a pity it is not binding.[43] But rather than creating rules, the Code of Conduct is intended to act as a flexible framework around which other instruments might be negotiated. The Code of Conduct is not intended to be the end word in international fisheries management. It might, instead, be characterized as a strong guide to self-regulation. As FAO notes, the Code's "provisions may be used as a basis for domestic action, whether in the form of policy initiatives or even in shaping specific legislative provisions."[44] Bonucci observes that the Code of Conduct is "morally binding" but says its effectiveness will depend on

---

[40] These sanctions may include refusal, withdrawal or suspension of the authorization to fish. Article 8.2.7.

[41] Article 8.3.1.

[42] Article 8.3.2.

[43] Pauly has noted that if the Code of Conduct *had* been binding, "its language would certainly not have been as clear as it is." Director's Foreword in Pitcher, Tony J., Kalikoski, Daniela and Ganapathiraju, Pramod (eds). 2006. *Evaluations of Compliance with the FAO (UN) Code of Conduct for Responsible Fisheries.* Fisheries Centre Research Report. Vol. 14. No. 2. Fisheries Centre. University of British Columbia. Canada. p.3. It may partly be due to this clarity that the Code of Conduct has been able to be implemented broadly.

[44] FAO. "FAO Compliance Agreement". http://www.fao.org/fishery/topic/14766/en. Accessed 17 June 2008.

whether States implement it sufficiently broadly to become the basis of customary international law regarding national fisheries management.[45]

Implementation of the Code of Conduct has not been rapid.[46] In March 1999 (with the Compliance Agreement and the Fish Stocks Agreement still without sufficient numbers to enter into force) the FAO Ministerial Meeting on Fisheries were moved to adopt the Rome Declaration on the Implementation of the Code of Conduct for Responsible Fisheries. It called for greater priority to be given to implementation of the extant fisheries agreements and for "all users of fisheries resources to apply the Code of Conduct for Responsible Fisheries".[47] Biennial self-reporting to FAO by States revealed that only 37% of FAO members had responded to FAO's questionnaire regarding their compliance with the Code of Conduct.[48] In a 2006 evaluation, the University of British Columbia Fisheries Centre reported that 25% of responding member states had no fishery management plans within their jurisdiction.[49] Effective implementation of the Code of Conduct is still considered its primary challenge.[50]

Progress on the implementation of the Code of Conduct since 1995 was reported at the 2009 session of COFI. The FAO report noted, at Paragraph 4, that while many indicators in fisheries were continuing downward, advances were being made in the areas of "strengthening of monitoring, control and surveillance (MCS), improving food safety and quality assurance systems (including traceability and eco-labelling schemes)" as well as implementing the IPOA-IUU. National Plans of Action were mostly limited to combatting IUU fishing (around half of the 62+ NPOAs developed). While it is encouraging that RFMOs have reportedly embraced the Code of Conduct with "broad and deep buy-in" (Paragraph 7), unsurprisingly, FAO reports that "In areas that are politically sensitive (e.g. conflict resolution between fisheries and offshore oil sectors and reducing fleet capacity), technically complex (e.g. ecosystem approach to fisheries)

---

[45] Bonucci. 1993. Above, n.4. p.250.

[46] According to Article 4 of the Code of Conduct, it is FAO's responsibility to monitor the implementation of the Code of Conduct (and revise it if needed). In 1997 it was agreed within COFI that reports on the progress of its implementation should be made every two years and that the information reported "should include information related to FAO's activities that support implementation as well as information on national initiatives." FAO. "The FAO Code of Conduct for Responsible Fisheries." http://www.fao.org/fishery/topic/14661/en. Accessed 17 June 2008.

[47] Paragraph 1. Rome Declaration on the Implementation of the Code of Conduct for Responsible Fisheries. 1999.

[48] It is striking that COFI reported this response rate "with satisfaction" – primarily because the previous survey had garnered only a 27% response rate. See: FAO. 2007. *Report of the twenty-seventh session of the Committee on Fisheries*. FAO Fisheries Report No. 830 FIEL/R830. Food and Agriculture Organization of the United Nations. Rome, Italy. 5–9 March 2007. p.2.

[49] Despite this, 90% of the responding members believed they were in conformity with the Code. Pitcher *et al.* 2006. Above, n.43. "Introduction." p.5, citing COFI, 2007. The authors note that Article 7 – Fishery Management – is central to the Code of Conduct, and its requirements are "necessary and sufficient for sustainable, equitable, secure and responsible fisheries that are in balance with the biodiversity and abundance of natural marine ecosystems." p.6. However, in evaluating State compliance with the Code of Conduct, they note that some countries have attempted to "distract attention from failures in fisheries management covered by Article 7 by filing long reports with much documentation on issues covered in other Articles such as research, trade, post-harvest treatment and aquaculture." p.7.

[50] FAO. "The FAO Code of Conduct for Responsible Fisheries." http://www.fao.org/fishery/topic/14661/en. Accessed 17 June 2008.

or have important potential trade implications (e.g. port and flag State controls), the Code's impact has been diffuse and progress has been slow" (Paragraph 9).[51]

Nevertheless, the Code of Conduct constitutes a critical piece of 'soft law' within the emerging oceans regime. This is both because it is so detailed and because it has the ability to act as the precursor to stronger pieces of law. Four important (non-binding) instruments have been elaborated under the Code of Conduct – the International Plans of Action concerning fishing capacity, sharks, seabirds, and IUU fishing and it is to these so-called 'IPOAs' that this dissertation now turns.

1999 FAO International Plan of Action for the Management of Fishing Capacity

We saw in chapter 2 that two of the central factors behind widespread, global overfishing and IUU fishing are over-investment in harvesting technology and the greatly excessive fishing capacity of the world's fishing fleet. Fishing capacity can be defined as "the amount of fish (or fishing effort) that can be produced over a period of time (e.g. a year or a fishing season) by a vessel or a fleet if fully utilized and for a given resource condition."[52] FAO acknowledged that, among other important factors, one of the reasons for the current state of overfishing is that traditional fisheries management focuses on regulating the catch,[53] not the harvesting capacity. FAO has defined "capacity management" as:

> the process of balancing the harvesting ability of the fleet with the available resource, taking into consideration the objectives of the State with regard to the use of the resource. Capacity management involves either directly (through imposition of restrictions) or indirectly (through the provision of appropriate incentives) controlling the size and structure of the fishing fleet. Associated with capacity management may be restrictions on the level of activity of the fleet (e.g. fishing effort) that may be considered as short term transitional measures to achieve short term objectives.

The Code of Conduct recognized the problem of excessive fishing capacity.[54] It recognized the lack of capacity management. In 1999 FAO adopted a non-binding agreement designed to help States, collectively, address it.[55] The agreement is called the International Plan of Action for the Management of Fishing Capacity (IPOA-Fishing Capacity) but might more accurately be called the International Plan of Action for the *Reduction* of Fishing Capacity.[56] That is what needs to happen in most of the world's

---

[51] FAO. COFI. 2008. *Analysis of the implementation and impact of the FAO Code of Conduct for Responsible Fisheries since 1995.* Meeting document for Twenty-Eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/Inf.10. Food and Agriculture Organization of the United Nations. Rome, Italy. 2–6 March 2009. COFI/2009/Inf.10. pp.1-3.

[52] UN Atlas of the Oceans. May 2001. "Controlling fishing capacity." http://www.oceansatlas.org. Accessed 2 July 2008.

[53] The FAO also recognized "the failure of fisheries management in general", including management methods "such as total allowable catch (TAC)" at reducing overfishing. Gréboval, Dominique F. 2000. "The FAO International Plan of Action for the Management of Fishing Capacity." Paper given to International Institute of Fisheries Economics and Trade conference. July 2000. Conference website: http://oregonstate.edu/dept/IIFET/2000/. Accessed 2 July 2008. p.1.

[54] Article 6.3.

[55] The steps leading to the IPOA-Fishing Capacity are outlined in the agreement itself: "At its last Session in 1997, the Committee on Fisheries (COFI), requested FAO to address the issue of fishing capacity. FAO organized a Technical Working Group on the Management of Fishing Capacity in La Jolla, USA, from 15 to 18 April 1998. A subsequent FAO consultation was held in Rome from 26 to 30 October 1998, preceded by a preparatory meeting from 22 to 24 July 1998." At Paragraph 3.

[56] Gréboval writes that "Appropriate capacity reduction is central to the successful implementation of the IPOA." Gréboval. 2000. Above, n.53. p.5.

fisheries. FAO recommends a reduction in the global fleet of Large-Scale Tuna Longline Vessels of 20-30%.[57] This dissertation does not have the scope to fully investigate the capacity issue, but acknowledges that its solution is crucial to the modernization of fisheries management and the ability of fish stocks to regenerate. This chapter therefore goes into some detail about it in this one section. The IPOA-Fishing Capacity has as its immediate objective:

> ...for States and regional fisheries organizations, to achieve world-wide, preferably by 2003 but not later than 2005, an efficient, equitable and transparent management of fishing capacity. *Inter alia*, States and regional fisheries organizations confronted with an overcapacity problem, where capacity is undermining achievement of long-term sustainability outcomes, should endeavour initially to limit at present level and progressively reduce the fishing capacity applied to affected fisheries. Where long-term sustainability outcomes are being achieved, States and regional fisheries organizations nevertheless need to exercise caution to avoid growth in capacity undermining long-term sustainability objectives.[58]

The above objective may be achieved through a series of actions related to four major strategies:[59]

> i. the conduct of national, regional and global assessments of capacity and improvement of the capability for monitoring fishing capacity;
> ii. the preparation and implementation of national plans to effectively manage fishing capacity and of immediate actions for coastal fisheries requiring urgent measures;
> iii. the strengthening of regional fisheries organizations and related mechanisms for improved management of fishing capacity at regional and global levels;
> iv. immediate actions for major transboundary, straddling, highly migratory and high seas fisheries requiring urgent measures.

According to Gréboval, the IPOA-Fishing Capacity implicitly defines "fishing capacity in terms of fishing inputs (fleets)". By doing so, a clear link is made "between excess fleet size and wide-spread overfishing. As such, the IPOA clearly aims at achieving a balance between fleet size (inputs) and sustainable production (output)."[60] Through adopting National Plans of Action[61] based on it, the IPOA-Fishing Capacity encourages states to achieve the same balance. In order to do this, states need to exercise greater control over their flagged fishing fleets. The Compliance Agreement seeks to achieve this, as do the flag State duties elaborated under the Fish Stocks Agreement (including the obligation to participate in regional fisheries management organisations). These were seen in the previous chapter. In the IPOA-Fishing Capacity, States are encouraged to adopt these hard law agreements, as it is only through hard law that fishing capacity reductions in high seas fleets can be *required* of States.

---

[57] Recommended by the FAO Technical Working Group on the Management of Fishing Capacity. La Jolla, United States of America, 15-18 April 1998. FAO Fisheries Report No. 586. Rome, Italy. See also: IPOA-Fishing Capacity, footnote 9. The FAO fishing capacity program includes a sub-program regarding capacity management in tuna fisheries. FAO. GCP/INT/851/JPN.

[58] Paragraph 7.

[59] Paragraph 8.

[60] Gréboval. 2000. Above, n.53. p.2.

[61] It should be noted that along with the International Plan of Action and the various national plans of action based on it, some regional fisheries bodies have also undertaken implementations of the IPOA-Fishing Capacity. The UN reports that the Lake Victoria Fisheries Organization developed the first Regional Plan of Action for the Management of Fishing Capacity regarding Lake Victoria and its basin. UN Atlas of the Oceans. May 2001. "Controlling fishing capacity." http://www.oceansatlas.org. Accessed 2 July 2008.

Still, the challenge remains. Gréboval notes that:

> there are at present no internationally agreed measures to obligate States to control fishing capacity. Within the present legal framework of the high seas, contained in the 1982 UN Convention on the Law of the Sea, the management of capacity is very much subsumed within a catch quota system, with the regional fishery organizations administering quotas being largely unable to limit access by vessels of participating States and to deny access to vessels from non-participating States.

States are given a framework within which they can assess national fishing capacity.[62] They are encouraged to establish national records of fishing vessels.[63] They are to provide data to and otherwise support the efforts of FAO in its establishment of a record of high seas fishing vessels. Paragraph 9(v) holds that overall priority should be given to managing the fishing capacity in those fisheries in which overfishing already unequivocally exists. The problems caused by non-parties were accorded a special mention:

> Paragraph 33. States should recognize the need to deal with the problem of those States which do not fulfill their responsibilities under international law as flag States with respect to their fishing vessels, and in particular those which do not exercise effectively their jurisdiction and control over their vessels which may operate in a manner that contravenes or undermines the relevant rules of international law and international conservation and management measures. States should also support multilateral cooperation to ensure that such flag States contribute to regional efforts to manage fishing capacity.

It is true that the 1970s and 1980s witnessed a boom in large-scale vessel building. This was in part attributable to the LOSC negotiations that were taking place at the time. The LOSC made many States "very optimistic about the potential resources in their extended EEZs."[64] Bigger, newer, more powerful boats had a better chance of exploiting those more distant-water resources, and a great number of vessels were built.

---

[62] Paragraph 13: States should proceed, by the end of 2000, with a preliminary assessment of the fishing capacity deployed at the national level in relation to all the fleets of principal fisheries and update this assessment periodically; 14: States should proceed, by the end of 2001, with the systematic identification of national fisheries and fleets requiring urgent measures and update this analysis periodically; 15: States should cooperate, within the same time frame, in the organization of similar preliminary assessments of fishing capacity at the regional level (within the relevant regional fisheries organizations or in collaboration with them, as appropriate) and at the global level (in collaboration with FAO) for transboundary, straddling, highly migratory and high seas fisheries, as well as in the identification of regional or global fisheries and fleets requiring urgent measures.

[63] Regarding the establishment of records of fishing vessels, Paragraph 16 provides that: States should support FAO in the development of appropriate and compatible standards for records of fishing vessels; 17. States should develop and maintain appropriate and compatible national records of fishing vessels, further specifying conditions for access to information; 18. While awaiting the entry into force of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement), States should support the establishment by FAO by the end of 2000 of an international record of fishing vessels operating in the high seas, following the model indicated in the Compliance Agreement. (That model was the FAO High Seas Vessels Authorization Record (HSVAR), which will be discussed in detail in chapter five.)

[64] Smith, Andrew R. 1999. *Analysis of the Vessels over 100 Tons in the Global Fishing Fleet.* FAO Fisheries Circular No. 949 FIIT/C949. Food and Agriculture Organization of the United Nations. Rome. 1999. p.9. According to Smith's fleet analysis, 1000 vessels were being built per year by 1988 but steadily declined to around a 200 a year by 1997.

Today, in overall terms:

> the size of the global fishing fleet appears to be stabilizing, at around 4.1 million decked and undecked vessels... For Organisation for Economic Cooperation and Development (OECD) countries, fleet sizes have not merely stabilized, they are declining... The number of new ships weighing over 100 gross tonnes being built each year is now 300, down from more than 2 500 in the 1980s. However... it is difficult to measure the extent to which new technologies and other improvements in vessels' ability to catch fish have offset these trends. Indeed, despite aggregate global trends, a fishery-by-fishery analysis would likely reveal that overcapacity is still present in a large number of fleets exploiting major commercial fish stocks.[65]

The total number of fishing vessels over 100 Gross Tons[66] has remained stable since the late 1990s – approximately 24,000. According to FAO, the size of the fleets of longstanding developed fishing nations like Denmark, Iceland, Japan, Norway, Russia and the UK are decreasing. However, these reductions are balanced by increases in the fleet sizes of the US, Indonesia and the Philippines.[67] As Europe's capacity in general is reduced, Africa, Asia and Latin America are increasing their fleet capacity.[68] Some of this may be attributable to the decommissioning of old vessels by developed countries and their export to the developing world.[69] Some nations are committed to reducing their fleets in the light of international concerns about the role excess capacity has played in creating the fish stocks crisis. This commitment may weaken if the reductions, and the domestic political and economic pain that inevitably goes with them, do not demonstrably fix the problem they are designed to solve.

In June 2004 FAO convened a Technical Consultation to, among other things, review the progress and promote the full implementation of the IPOA-Fishing Capacity. Questionnaires had been sent to all FAO member States and were returned by eighty of them. In addition, four regional reviews[70] were undertaken. The data showed that:

> ...most States that responded have embraced the principles of the IPOA-Capacity and applied these to their fisheries. While a relatively small proportion of States (less than 40%) have formally adopted (or plan to adopt) a NPOA-Capacity, almost two thirds of States have developed, or plan to develop, a NPOA-Capacity. In additional [sic], almost 80% of States have incorporated capacity considerations into their day-to-day fisheries management systems. These figures are higher for the major producers, with over 90% including capacity considerations in their day-to-day fisheries management. Preliminary assessments of capacity at the fishery level have been undertaken by

---

[65] FAO Newsroom. 1 July 2004. "Countries debate strategies for managing fleet capacities and combating illegal fishing." FAO. Rome, Italy. http://www.fao.org/newsroom/en/news/2004/47649/index.html. Accessed 2 June 2009.

[66] Gross Tonnage (GT) is the standard measurement unit for vessels over 24m in length, as agreed by the London Convention on the Tonnage Measurements of Ships, adopted in 1969. This system entered into force in 1982 but the cut-off time to begin using the new system was 1994. Prior to this agreement in 1969, Gross Registered Tonnage (GRT) was the accepted measurement. 100 GT is approximately 70 GRT. Smith. 1999. Above, n.64. p.4.

[67] FAO. SOFIA. 2006. p.26.

[68] Smith. 1999. Above, n.64. p.6.

[69] The ageing nature of the world's fishing fleet is a concern: the High Seas Task Force reports that in 1992, 6% of the global fleet of large-scale fishing vessels was more than 30 years old. In 2003 that figure was 28%. See High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. p.55 (using FAO 2004 figures).

[70] These took place in Africa, Europe, Latin America and South-East Asia.

around three quarters of the States responding to the survey. However, all (100%) of the major producers responding to the survey had undertaken preliminary assessments of capacity.[71]

The primary constraints regarding the implementation by States of the IPOA-Fishing Capacity are identified by FAO as:

- finding alternative employment for displaced fishers;
- pressures imposed by industry (harvesting and processing) not to reduce fleets or catch;
- difficulties in monitoring, control and surveillance;
- a lack of institutional capacity to develop and implement capacity management plans as well as undertake the appropriate research required (e.g. stock assessments, capacity assessments).[72]

Issues of over-capacity remain significant, particularly in high seas fisheries. This is particularly notable in tuna fisheries.[73] In these fisheries, capacity has often been reduced on the one hand but increased on the other.[74] As mentioned earlier, there is also the ongoing problem of exporting excess fishing capacity.[75] FAO has concluded that "free and open access, with the consequent problems of overcapacity and overexploited resources, remain a feature of many regions." Even if the problem of IUU is resolved, whether through the adoption of this dissertation's suggested instruments – the Draft Port State Measures Agreement and a Global Record – or not, the vastly excessive killing capacity of the global fishing fleet will continue to hinder the necessary process of bringing sustainability to world fisheries.

---

[71] FAO. 2004. "Implementation of the International Plan of Action for the Management of Fishing Capacity: Review and Main Issues." *Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management Of Fishing Capacity.* Rome, Italy, 24–29 June 2004. TC IUU-CAP/2004/4. Food and Agriculture Organization of the United Nations. Rome, Italy. The fact that so many states had undertaken preliminary assessments of their national fishing capacity is encouraging as 87% of the eighty respondents to FAO are classified as states that were either "least developed, small island developing, or developing". See Appendix 1 graph, p.12. Developed states accounted for 13% of the received questionnaire responses.

[72] Identified by FAO and reported by the UN in Atlas of the Oceans. May 2001. "Controlling fishing capacity." http://www.oceansatlas.org. Accessed 2 July 2008.

[73] The FAO reports: "... it appears that large [tuna] purse-seiners are still being built in shipyards around the world that may increase the fishing capacity of this sector. The potential also remains for increases in fishing capacity by non-tuna vessels that fish on the high seas in areas not under the jurisdiction of RFMOs." FAO. 2004. Above, n.71. p.8. In addition, there has been observed an "ongoing build-up of capacity in tuna fisheries in the western and central Pacific Ocean." FAO Newsroom. 1 July 2004. "Excess capacity and illegal fishing: Challenges to sustainable fisheries." http://www.fao.org/newsroom/en/focus/2004/47127/index.html. Accessed 4 July 2008.

[74] An example is the reduction efforts of the Japanese tuna longlining fleet in the face of increases by other States. The Organization for the Promotion of Responsible Tuna Fisheries has noted that "...as well as executing the FAO IPOA-Management of Fishing Capacity, Japan has asked other leading deep-sea tuna longline fishing nations such as the South Korea, Chinese Taipei to reduce their fleet accordingly. The aim in so doing is to ensure that Japan's fleet reduction is not rendered ineffective. But, other countries were reluctant to reduce their fleets. In case of Chinese Taipei, they rather increased the vessels." The Organization for the Promotion of Responsible Tuna Fisheries. "OPRT's Work to Restrict and Reduce Tuna Longline Fishing Capacity." IATTC Workshop. October 10—12 (no specified year). San Diego, USA.

[75] The FAO notes that: "Export of capacity outside one's own EEZ is still a common element of capacity reduction programmes in some regions. The EU is prohibiting export of decommissioned capacity from December 2004, but many States still allow excess capacity to be exported without much restriction." FAO. 2004. Above, n.71. p.9. It should be noted that some states, such as the US, have rules against the importation of vessels. If they have not been built in the US, they are not allowed to be registered there. Smith. 1999. Above, n.64. p.14.

2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing

While neither of them will be explored in this dissertation, in the same year that FAO-COFI adopted the IPOA-Fishing Capacity (1999), it also adopted International Plans of Action relating to reducing the mortality of seabirds during fishing operations and the decimation of shark populations.[76] Attention then turned to the creation of an instrument that could guide national strategies to combat IUU fishing.

By 1999, this vexed issue had begun to exercise a dark part of the imaginations of fisheries managers all over the world. National monitoring, control and surveillance authorities were being directly challenged in both developed and developing countries. As greater management impositions were being applied to legal fishers through national reduction programs and RFMO conservation and management measures, they were being fleeced by IUU fishers.[77] FAO-COFI members reported that IUU fishing was hampering their efforts to fully implement the Code of Conduct for Responsible Fisheries.[78] It was agreed that:

> IUU fishing undermines efforts to conserve and manage fish stocks in all capture fisheries. When confronted with IUU fishing, national and regional fisheries management organizations can fail to achieve management goals. This situation leads to the loss of both short and long-term social and economic opportunities and to negative effects on food security and environmental protection. IUU fishing can lead to the collapse of a fishery or seriously impair efforts to rebuild stocks that have already been depleted.[79]

The Rome Declaration adopted in March 1999 at the FAO Ministerial Meeting on Fisheries had stated that FAO would begin developing:

> a global plan of action to deal effectively with all forms of illegal, unregulated and unreported fishing including fishing vessels flying 'flags of convenience' through coordinated efforts by States, FAO, relevant regional fisheries management bodies and other relevant international agencies such as the International Maritime Organization (IMO), as provided in Article IV of the Code of Conduct.[80]

The 1999 Secretary-General's Report to the UN General Assembly on Oceans and the Law of the Sea discussed IUU fishing and in November 1999 the General Assembly discussed ways to combat it.[81] (The UN General Assembly has considered IUU fishing,

---

[76] The FAO International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries, the FAO International Plan of Action for the Management of Fishing Capacity (discussed above) and the FAO International Plan of Action for the Conservation and Management of Sharks were adopted in 1999. The legal texts for all three soft law instruments can be found in the one document, at: ftp://ftp.fao.org/docrep/fao/006/x3170e/X3170E00.pdf. Accessed 1 January 2009.

[77] See, for example: The Australian Broadcasting Corporation, interviewing fishers in the Southern Ocean Patagonian toothfish fishery. "7.30 Report". 17 November 2003 See transcript: http://www.abc.net.au/7.30/content/2003/s991128.htm. Accessed 22 May 2009.

[78] FAO Conference. 2003. *Progress Report on the Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing.* Thirty-second session. Rome, Italy. 29 November–10 December 2003. FAO Fisheries Report No. 555. FIDI/R555. Food and Agriculture Organization of the United Nations. Rome, Italy.

[79] Paragraph 1, IPOA-IUU.

[80] Paragraph 2, IPOA-IUU.

[81] UN General Assembly Resolution 54/32. http://www.oecd.org/document/24/0,3343,fr_2649_37401_23460248_1_1_1_37401,00.html. Accessed 3 July 2008.

and made resolutions regarding it, every year since.[82]) From 15-19 May 2000 the Government of Australia and FAO convened an Expert Consultation on IUU Fishing in Sydney, Australia for the purpose of considering "all pertinent technical and legal issues relating to IUU fishing and to elaborate a preliminary draft of an [International Plan of Action] to combat IUU fishing."[83] This was to become, as Palma notes, "the first international instrument formulated to specifically address IUU fishing."[84] After distribution and dissemination, the preliminary draft made its way to the FAO Technical Consultation on IUU Fishing in Rome in October 2000. There, it was the accepted "starting point for discussions."[85]

Doulman has said: "In a world where effective flag State control was exercised over fishing vessels the incidence of IUU fishing would be greatly reduced."[86] The new International Plan of Action, the last of the four such instruments developed through FAO, would, like the others, be voluntary, presented as a 'toolbox' of practical measures and have measurable targets.[87] The IPOA acknowledges that "existing international instruments addressing IUU fishing have not been effective due to a lack of political will, priority, capacity and resources to ratify or accede to and implement them."[88] New ways to exert control over fishers had to be considered. Doulman notes that it was important to "look beyond conventional solutions to combat IUU fishing and adopt and implement a wider or more innovative suite of measures that are secondary defences."[89] These second –and third – lines of defence were fundamental to the decision to elaborate the IPOA-IUU.[90] They constitute the focus of the entire second half of this dissertation. The "three pillars" upon which the IPOA would rest were therefore:

- flag State responsibilities (this is always the first defence)
- port State measures
- internationally agreed market-related measures[91] } the secondary defences

After two Technical Consultations, the finalized FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)

---

[82] FAO Conference. 2003. Above, n.78.

[83] Doulman, David J. October 2000. *Events leading to the elaboration of an International Plan of Action to Combat Illegal, Unreported and Unregulated Fishing*. International Conference on Fisheries Monitoring, Control and Surveillance. Brussels, Belgium. 24-27 October 2000. p.6.

[84] Palma, Mary Ann. 2009. "Combatting IUU fishing: International legal developments." *Proceedings of the FFA Legal Conference on Legal and Policy Trends in the Implementation of International Fisheries Instruments in the Western and Central Pacific Region, 7-9 April 2008, Nadi, Fiji Islands*. Wollongong: University of Wollongong. Forthcoming. p.2.

[85] Doulman. 2000. Above, n.84. p.6.

[86] Doulman, David J. August 2003. *Global overview of illegal, unreported and unregulated fishing and its impacts on national and regional efforts to sustainably manage fisheries: The rationale for the conclusion of the 2001 FAO International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing*. Appendix D. FAO. 2004. *Report of the Expert Consultation on fishing vessels operating under open registries and their impact on illegal, unreported and unregulated fishing*. Miami, Florida, United States of America, 23–25 September 2003. FAO Fisheries Report No. 722. FIP/R722. Food and Agriculture Organization of the United Nations. Rome, Italy. p.9

[87] FAO describes the IPOA-IUU as a "'toolbox' offering a set of measures which States can 'mix and match' or 'tailor' to meet their particular IUU fishing needs and challenges." FAO Conference. 2003. Above, n.78.

[88] Paragraph 1. IPOA-IUU.

[89] Doulman. 2003. Above, n.86. p.9

[90] FAO Conference. 2003. Above, n.78.

[91] Doulman. 2000. Above, n.84. p.7.

was endorsed at the 2001 session of COFI.[92] The text of the IPOA-IUU can be found at Appendix A of this dissertation. The purpose of the IPOA-IUU is the prevention, deterence and elimination of IUU fishing. This would be achieved by "providing all States with comprehensive, effective and transparent measures by which to act, including through appropriate regional fisheries management organizations established in accordance with international law."[93] Unlike the hard law Compliance Agreement, which focuses only on activities occurring on the high seas, the IPOA-IUU's measures apply to "all capture fisheries."[94]

Expectations of flag States

The IPOA-IUU gives States a checklist of "comprehensive, effective and transparent measures" to introduce on a national basis. Using them, States are able to act against IUU either directly or through an RFMO.[95] The IPOA-IUU calls on States to ensure that nationals and companies within their jurisdiction do not engage in IUU fishing. They are to be discouraged from flagging fishing vessels to flag of convenience States.[96] States are encouraged to implement a suite of monitoring, control and surveillance measures. These include: access and authorization schemes for vessels; the introduction of Vessel Monitoring Systems and observer programmes; the introduction of boarding and inspection regimes in national and international waters; maintaining vessel records; and establishing and maintaining systems for the acquisition, storage and dissemination of monitoring, control and surveillance data.[97] The IPOA-IUU encourages States to keep detailed records, including, *inter alia,* the name and ownership history of vessels and any history of non-compliance. This is designed to make it difficult for vessels with a history of repeated changes of flag to continue to do so.[98] The IPOA-IUU delineates the responsibilities of flag States, one of which is to take all practical steps to avoid the practice of "flag-hopping."[99] Flag States are encouraged to ensure that "fishing, transport and support vessels do not support or engage in IUU fishing."[100] Flag States should assess whether or not they have the capacity to control flagged vessels before allowing vessels to register in their country. Self-evidently, they are to avoid flagging vessels with a history of non-compliance.[101] They are encouraged to take measures to ensure that *chartered* vessels do not engage in IUU fishing. They are to act in ways that avoid vessel owners reflagging their vessels to other States.[102] States should separate the two functions of a) registering a vessel and b) issuing it with an authorization to fish.

---

[92] Doulman. 2003. Above, n.86. p.3.
[93] Paragraph 8. IPOA-IUU.
[94] Paragraph 9.3. IPOA-IUU.
[95] Andrews-Chouicha and Gray (eds). 2005. Above, n.15. p.113.
[96] Gianni, Matthew and Simpson, Walt. 2005. *The Changing Nature of high seas fishing: how flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. p.20.
[97] Paragraphs 24 through 24.10. IPOA-IUU.
[98] Andrews-Chouicha and Gray (eds). 2005. Above, n.15. p.114.
[99] Paragraph 39. IPOA-IUU.
[100] Paragraph 48. IPOA-IUU.
[101] As is also the case with the Compliance Agreement, exceptions are provided to this general rule: where the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel (Paragraph 36.1) or having taken into account all relevant facts, the flag State determines that flagging the vessel would not result in IUU fishing (Paragraph 36.2).
[102] Paragraphs 34-38. IPOA-IUU.

They should do this "in a manner which ensures each gives appropriate consideration to the other."[103] Flag States should consider the decision to register a fishing vessel conditional upon its being prepared to provide to the vessel an authorization to fish in waters under its jurisdiction. For a vessel wanting to fish on the high seas, flag States should consider the decision to register a fishing vessel conditional upon an authorization to fish being issued by a coastal State.[104] In other words, the IPOA-IUU sets out the many ways flag States can improve their decision-making around flagging and licencing fishing vessels, and it creates an environment in which more effective control can be exercised over them.

The IPOA-IUU recommends strong cooperation and coordination between states, much of which is to be in the form of information and data exchange. States are charged to:

> 28.1 exchange data or information, preferably in standardized format, from records of vessels authorized by them to fish, in a manner consistent with any applicable confidentiality requirements;
> 28.2 cooperate in effective acquisition, management and verification of all relevant data and information from fishing;
> 28.3 allow and enable their respective MCS practitioners or enforcement personnel to cooperate in the investigation of IUU fishing, and to this end States should collect and maintain data and information relating to such fishing;
> 28.7 cooperate in monitoring, control and surveillance, including through international agreements.
> 29. In the light of Article VI of the 1993 FAO Compliance Agreement [Exchange of Information], flag States should make available to FAO and, as appropriate, to other States and relevant regional or international organizations, information about vessels deleted from their records or whose authorization to fish has been cancelled and to the extent possible, the reasons therefor.
> 31. Flag States should consider entering into agreements or arrangements with other States and otherwise cooperate for the enforcement of applicable laws and conservation and management measures or provisions adopted at a national, regional or global level.[105]

Records of fishing vessels

As mentioned above, States under the IPOA-IUU are encouraged to keep detailed records of fishing vessels authorized to fish on the high seas:[106]

> 42. Each flag State should maintain a record of fishing vessels entitled to fly its flag. Each flag State's record of fishing vessels should include, for vessels authorized to fish on the high seas, all the information set out in paragraphs 1 and 2 of Article VI of the 1993 FAO Compliance Agreement, and may also include, *inter alia*:
> 42.1 the previous names, if any and if known;

---

[103] Paragraph 40. IPOA-IUU.
[104] Paragraph 41. IPOA-IUU.
[105] While it is true that non-parties are the bane of RFMOs – because, legally, they are hard to stop if they are non-signatories to the UN Fish Stocks Agreement and the RFMO agreement – it should be clearly noted that it is not only *non*-members that engage in IUU fishing within RFMO convention areas. Indeed in 1997, for example, an estimated 60% of the illegal fishing in the CCAMLR area was being done by vessels flagged to CCAMLR members. Dodds, Klaus. 2000. "Geopolitics, Patagonian toothfish and Living Resource Regulation in the Southern Ocean." *Third World Quarterly*. Vol. 21. No. 2. p.237. That year the New Zealand Minister of Conservation, Dr. Nick Smith, had lamented: "It was a sad moment for us to discover that much of the plunder of Toothfish was being carried out by companies and individuals from countries which are members of CCAMLR. It's like members of a club leaving the clubrooms with the silverware they have nicked clinking in their pockets." Quoted in Dodds. 2000. This n. p.235.
[106] They are encouraged to do this by the Compliance Agreement, too.

42.2 name, address and nationality of the natural or legal person in whose name the vessel is registered;
42.3 name, street address, mailing address and nationality of the natural or legal persons responsible for managing the operations of the vessel;
42.4 name, street address, mailing address and nationality of natural or legal persons with beneficial ownership of the vessel;
42.5 name and ownership history of the vessel, and, where this is known, the history of non-compliance by that vessel, in accordance with national laws, with conservation and management measures or provisions adopted at a national, regional or global level; and
42.6 vessel dimensions, and where appropriate, a photograph, taken at the time of registration or at the conclusion of any more recent structural alterations, showing a side profile view of the vessel.

43. Flag States may also require the inclusion of the information in paragraph 42 in their record of fishing vessels that are not authorized to fish on the high seas.

Port State responsibilities

The breakthrough element which makes the IPOA-IUU so important as a statement of the continuing evolution of the oceans regime is that it allows "for countries other than the flag state to take various types of action against IUU fishing by FONC vessels."[107] It goes further than the Fish Stocks Agreement's at-sea boarding provisions or exhortations to port States to apply measures to foreign fishing vessels. Recalling that attempts to curb vessels from using flags of convenience and attempts to get flag States to adhere to a rather awesome set of duties had failed for years, the IPOA-IUU encourages non-flag States to shoulder more of the burden of combatting IUU fishing. States are encouraged to deploy "fair, transparent and non-discriminatory" measures when a suspected IUU vessel ports or attempts to port within their jurisdiction. It also allows for the use of market-related measures to attempt to stop IUU fish being sold. In general, States are encouraged to:

> embrace measures building on the primary responsibility of the flag State and using all available jurisdiction in accordance with international law, including port State measures, coastal State measures, market-related measures and measures to ensure that nationals do not support or engage in IUU fishing.[108]

Under Paragraph 55 of the IPOA-IUU, States should require fishing vessels and vessels involved in fishing related activities to provide advance notice of their entry into their port. They should require that a copy of their authorization to fish, details of their fishing trip and quantities of fish on board be forwarded to the national fishing authority, in order for the authority to investigate whether the vessel may have engaged in, or supported, IUU fishing. This should happen prior to a State allowing a vessel to access its port. If a port State has clear evidence that a vessel has engaged in IUU fishing activity, the port State should not allow it to land or transship fish in its ports, and should report the matter to the flag State of the vessel.[109] Port States have the right of inspections, and during such they should collect certain information:

58.1 the flag State of the vessel and identification details;
58.2 name, nationality, and qualifications of the master and the fishing master;
58.3 fishing gear;
58.4 catch on board, including origin, species, form, and quantity;

---

[107] Andrews-Chouicha and Gray (eds). 2005. Above, n.15. p.113.
[108] Paragraph 9.3. IPOA-IUU.
[109] Paragraph 56. IPOA-IUU.

58.5 where appropriate, other information required by relevant regional fisheries management organizations or other international agreements; and
58.6 total landed and transshipped catch.

During an inspection, if there are reasonable grounds to suspect that the vessel has engaged in or supported IUU fishing in areas outside the jurisdiction of the port State, the port State should report the matter immediately to the flag State and, where appropriate, the relevant coastal States and regional fisheries management organization. If the flag State consents to it, the port State may take other action against the vessel.[110] These provisions were the basis for the draft Port State Measures Agreement, which will be discussed in detail in chapter 7.

In order to harmonize control and avoid 'safe havens' for IUU vessels opening up (based on the level of control the port is offering) states are charged with cooperating bilaterally, multilaterally and/or within regional fisheries management organizations to develop compatible measures for port State control of fishing vessels.[111] They are to develop, within those organizations, further and more effective port State measures. Such measures are to build on the presumption, laid down in the IPOA-IUU that vessels flying the flags of non-parties to an RFMO[112] which are found fishing within the RFMO's management area may be engaged in IUU fishing.[113] Thus, in a way the IPOA-IUU reverses the usual burden of proof. It also provides that ports are able to prohibit landings and transshipment of catch if the vessel cannot establish that the catch was taken in a manner consistent with national or RFMO conservation and management measures.[114] These measures mesh with the practice in most RFMOs of producing black and white vessel lists which work on similar presumptions. These will be discussed further in chapter five.

Internationally agreed market-related measures

The IPOA-IUU is the first international instrument that spells out that States should consider implementing "internationally agreed market-related measures" and how they should go about doing so. By the time the IPOA-IUU was adopted, the majority of States had come to understand that the ability for IUU fishing operations to sell their fish into the lucrative international market drove IUU fishing. Therefore, the foundation duty – if it can be described as such, in a non-binding agreement – is for States to "prevent fish caught by vessels identified by the relevant regional fisheries management organization to have been engaged in IUU fishing being traded or imported into their territories."[115]

Market-related measures were to be applied in accordance with the principles, rights and obligations established by the World Trade Organisation, which will be explored in chapter 8. This means they must be applied in a fair, transparent and non-discriminatory manner. In general they must be *multilaterally*-agreed measures, which distinguishes them from the unilateral measures which distressed the international community in early WTO cases, such as the one briefly described in this chapter regarding dolphin mortality during tuna fishing operations in the eastern tropical

[110] Paragraph 59. IPOA-IUU.
[111] Paragraph 62. IPOA-IUU.
[112] Or those that have not agreed to cooperate with that regional fisheries management organization.
[113] Paragraph 63. IPOA-IUU.
[114] Paragraph 63. IPOA-IUU.
[115] Paragraph 66. IPOA-IUU.

Pacific.[116] Under the provisions of the IPOA, States are to "cooperate, including through relevant global and regional fisheries management organizations, to adopt appropriate multilaterally agreed market-related measures, consistent with the WTO, that may be necessary to prevent, deter and eliminate IUU fishing for specific fish stocks or species."[117] Given the twin factors of WTO concerns about unilateralism and the Fish Stocks Agreement's placement of RFMOs at the centre of shared stock management, the trade measures envisaged by the IPOA will probably be developed through RFMOs and then applied by States parties on a national basis. Still, a key rider to their use is included in the same paragraph of the IPOA-IUU that sanctions their use. This says: "Market-related measures should only be used in exceptional circumstances, where other measures have proven unsuccessful to prevent, deter and eliminate IUU fishing, and only after prior consultation with interested States."[118] This can be seen as a key limitation. It should be noted – and has been by other authors – that RFMOs are only as effective as their members permit them to be.[119] The memberships of all RFMOs are national government representatives. It should be recalled the following twin facts: a) overfishing has been practiced on a global scale for the last sixty years by most fishing States, and b) IUU fishing occurs, to a greater or lesser extent, in all fisheries – freshwater, EEZ and high seas. In combination, this means that a lack of political will has existed to "take concerted and calculated steps to control fishing vessels that engage in activities that undermine the work of RFMOs and thereby render their fisheries management efforts sub-optimal."[120] The great caution around saving market-related measures for "exceptional circumstances" may fatally hamper their widespread use. Both political considerations internal to the membership of RFMOs and the spectre of possible WTO action have played a part in this over-caution.

Once they are agreed on the form the internationally agreed market-related measures will take, States are encouraged by the IPOA-IUU to support their implementation.[121] The IPOA envisages that stock or species-specific market-related measures may be necessary in order to eliminate the economic incentive for vessels to engage in IUU fishing of those fish.[122] These are, in part, modeled on the Atlantic bluefin tuna import ban, administered through ICCAT, and the CCAMLR catch documentation scheme regarding Patagonian and Antarctic toothfish species.[123] To the extent possible, the requirements under the envisaged catch documentation and trade documentation schemes should be standardized, "and electronic schemes developed where possible, to ensure their effectiveness, reduce opportunities for fraud, and avoid unnecessary burdens on trade."[124]

Certain other measures need to be implemented in order to support the effectiveness of the market-related measures envisaged by the IPOA-IUU. One is improving the transparency of national markets to allow better traceability of fish or fish

[116] The IPOA-IUU specifically notes that "Unilateral market-related measures should be avoided."
[117] Paragraph 68. IPOA-IUU.
[118] Paragraph 66. IPOA-IUU.
[119] FAO Conference. 2003. Above, n.78. At paragraph 8.
[120] FAO Conference. 2003. Above, n.78. At paragraph 8.
[121] Paragraph 69. IPOA-IUU.
[122] Paragraph 70. IPOA-IUU.
[123] The IPOA-IUU calls for "the adoption of multilateral catch documentation and certification requirements, as well as other appropriate multilaterally-agreed measures such as import and export controls or prohibitions." Paragraph 69. IPOA-IUU.
[124] Paragraph 76. IPOA-IUU.

products.[125] (This is also a crucial element for the success of eco-labels, a private, market-based tool which will be discussed in chapter 8.) Another is making "importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers, other services suppliers and the public" aware of the effects of IUU fishing and the effects of doing business with vessels identified as engaged in IUU fishing. States are encouraged to consider other measures, such as making it illegal under domestic law to trade in fish or fish products derived from IUU fishing.[126] Lastly, because leaving gaps in the fabric of the international market for IUU-caught fish would undermine the whole exercise, the IPOA-IUU calls for the standardization and harmonization of market-related measures. To this end, all States are encouraged to use the Harmonized Commodity Description and Coding System for fish and fisheries products.[127] These provisions reflect the view that coordination and cooperation in the application of market-based measures will be crucial to their success.

Implementation

Like the Code of Conduct, the IPOA-IUU is a soft law instrument that is neither formally adopted nor acceded to by governments.[128] As with the other three FAO International Plans of Action, implementation is achieved by the individual State drawing up a National Plan of Action based on some or all of the IPOA-IUU. As originally agreed, these national plans were to be written by June 2004, but progress has been slow (though apparently less so than the other IPOAs). According to FAO, forty-seven FAO members reported in 2003:

> that they had taken steps towards developing NPOAs for IUU fishing, 23 members indicated that they would finalize their NPOAs in the near future while a further 18 members reported that their NPOAs would be completed before the June 2004 deadline. Nevertheless COFI found it necessary to express '...concern about the continuing high and growing incidence of IUU fishing and the lack of effective implementation of the IPOA-IUU.'[129]

In late 2003 FAO distributed a questionnaire to members. Sixty-four States responded to the questionnaire (less than 35% of the FAO membership).[130] In June 2004 FAO conducted a review of the progress of the implementation of the IPOA-IUU and IPOA-Fishing Capacity.[131] More than two-thirds of the responding members had conducted some kind of review of IUU fishing activities. A policy or strategy to address IUU fishing had been developed by 64% of the responding members; legislation addressing IUU fishing had been passed by 62% of responding member States.[132] IUU awareness

---

[125] Paragraph 71. IPOA-IUU.
[126] Paragraph 73. IPOA-IUU. The US Lacey Act is an important model here, and will be discussed in chapters 7 and 8.
[127] Paragraph 75. IPOA-IUU.
[128] Paragraph 4. IPOA-IUU.
[129] Cochrane, Kevern, L., and Doulman, David J. 2005. "The rising tide of fisheries instruments and the struggle to keep afloat." *Philosophical Transactions of the Royal Society B.* Vol. 360. p.81.
[130] Nine additional responses had arrived too late for inclusion in the main report. The FAO acknowledged this was a "relatively low response rate." The small sampling was made up as follows: fourteen (22%) Small Island Developing states; seven (11%) landlocked states; fifty-seven (89%) coastal States; five (7.8%) developed states. FAO. 2004. Above, n.71. p.3.
[131] FAO. 2004. Above, n.71.
[132] Lack of capacity in some states is an impediment to both the development of National Plans of Action and their implementation. Bilateral and multilateral assistance to these countries has included "MCS and VMS training, improving vessel boarding and inspection procedures, enhancing observer programmes, implementing catch documentation schemes and strengthening port inspection procedures". FAO

campaigns had been carried out in over 80% of the responding members' countries and 78% believed that their nationals were "generally aware of the impacts of IUU fishing."[133]

Regarding concrete actions enforcing national activities to combat IUU fishing, progress was slower. FAO concluded that the prevention of fishing vessels registering in those third States which were identified as undermining conservation and management measures was "a weak area of implementation." FAO reported that one-third of the respondents were "actively discouraging" their nationals from registering fishing vessels with flags of convenience.[134] Three-quarters of respondents had taken measures to improve monitoring, control and surveillance; another 14% were planning to do so. Improvements in data collection and data management of fishing activity was reported by one in four countries. Not surprisingly, FAO observed that upgrades of monitoring, control and surveillance were generally focused on "optimizing control over nationally authorized fishing operations, while comparatively less attention is given to the detection and control of nonauthorized fishing vessel incursions and related deep sea IUU fishing practices." The fact that countries are not using improved MCS to attempt the apprehension of foreign and/or IUU fishing operations suggests that a working port State control regime, as explored in this dissertation's forthcoming chapter 7, as well as market-based measures that track movements of fish, should indeed be priorities.

Indeed, when it came to implementation of the IPOA-IUU's guidelines for port State measures, the news from respondents was distinctly positive. FAO reported that "[b]asic port access control measures applying to foreign fishing vessels are uniformly adopted throughout the regions, with very high confirmed degrees of implementation."[135] Implementation was generally in the form of requiring advance notice before entering port, and requirements to carry a valid fishing authorization and a logbook (or similar) on board the vessel. In addition, "two in three respondents declared that foreign fishing vessels are only granted access to port when inspections can be carried out." Four in five respondents stated that foreign vessels were prohibited to land or transshipment their catch in port if they were found to have engaged or supported IUU fishing. Three in four respondents stated that they would inform the flag State authorities as well as the RFMO (if appropriate) and/or the coastal State under whose

---

Conference. 2003. Above, n.78. Cooperation regarding monitoring, control and surveillance has reportedly increased, too, notably through the International Monitoring, Control and Surveillance Network for Fisheries Related Activities. The FAO observes that: "These bilateral or multilateral strategic initiatives are likely to be maintained, expanded and deepened through time as a means of enhancing national capacities in developing countries. It is anticipated that through time these initiatives will assist in closing weaker 'links' in the IUU fishing chain that IUU fishers seek to exploit." FAO Conference. 2003. Above, n.78.

[133] One problem for all states, which is beyond the scope of this dissertation to explore, is that of legal complexity. The full definition of IUU fishing, as laid down in the IPOA shows clearly that each of the 'I', 'U' and 'U' are separate offences and separate problems. Experts have consistently pointed out that each of the components will require separate responses. But, partly because Part IV of the IPOA-IUU re-combines the 'I', 'U' and 'U' and treats it again as one entity, national responses to it have often become confused. This confusion, as Palma has pointed out, translates through into the National Plans of Action: "A number of States have incorporated specific measures against IUU fishing in their NPOAs, but simply adopted the IUU fishing definition under paragraph 3 of the IPOA-IUU without indicating how the definition relates to the specific nature of fishing activities occurring within their jurisdiction or to vessels flying their flags and conducting fishing operations on the high seas and RFMO areas." Palma. 2009. Above, n.84. p.5.

[134] FAO. 2004. Above, n.71. p.3

[135] FAO. 2004. Above, n.71. p.6.

jurisdiction the IUU fishing had occurred if such activities were discovered. Nearly half the respondents reported that actual action, with the consent of the flag State, had been taken against foreign IUU fishing vessels in their ports. This included the confiscation of catch and gear, in a small number of cases even the vessel. (It is unclear from the FAO report whether the fisheries violations which resulted in such actions took place in the port State's own territory. It is likely that this is the case, given the bold approach taken by the port State authorities.) Three in four respondents reported that their national port control activities had been strengthened or had been adopted in cooperation with RFMOs to prevent landings and transshipments of IUU-caught fish. A further 10% of respondents were planning to join and actively participate in such schemes. Two in three respondents had prohibited landings by non-members of RFMOs, on the presumption that they had engaged in IUU fishing. (The identification of the vessels had been based on forwarded RFMO intelligence.) This state practice has been blended into the current text of the draft Port State Measures Agreement, which will be fully explored in chapter 7. It should be noted that information exchange by port States remained weak:

> One domain where inspection procedures are weaker is the checking and supply of inspection outcomes to partners under regional management mechanisms, or within the framework of international agreements. This is a recurring finding, with the exception of the Southwest Pacific region where regional cooperation mechanisms are firmly established. Members are urged to take necessary steps to comply with, and to promote regional and international cooperative mechanisms aimed at combating IUU fishing, including the supply and exchange of relevant information. Two in five responding Members reported that they did not forward inspection results to the relevant RFMOs, nor the flag State.

Despite this, the results of the 2003 survey are encouraging to this author and suggest that implementation of the IPOA-IUU has been undertaken with some commitment by parties. While FAO did not have a clear picture about "how many countries are in a position to effectively detect IUU violations of foreign vessels in port, and to impose sanctions which are of enough severity to discourage future ill-practices," it could nonetheless conclude that "the fact that IUU violations are currently being detected in ports around the world, and are being sanctioned, is a positive development."[136]

It will be recalled that the third pillar of control envisaged by the IPOA-IUU was the implementation and imposition of internationally-agreed market-related measures. Regarding these, the news from the FAO survey was mixed. Less than half of the respondents reported that they had cooperated under the auspices of a regional organization to implement internationally agreed market-related measures to combat IUU fishing.[137] This is not entirely surprising as not all RFMOs had schemes to implement. More ominously, many States were insufficiently aware that market-related measures could be applied in the national context. This suggests that the implementation of such tools needed further promotion within FAO, COFI, and within developing countries themselves. Respondents reported progress in discouraging national entities from engaging in business transactions with IUU fishing interests. Enacting legislation criminalizing the conduct of business with entities that were engaged in, or supported, IUU fishing had not been implemented to any large degree – just one in four respondents had taken such action. FAO concluded that implementation of the market-

[136] FAO. 2004. Above, n.71. p.6.

[137] 14% considered the issue not applicable to them, although this may be explained because the majority of respondents were developing (exporting) countries, not developed (importing) countries.

related measures provided for by the IPOA-IUU was "still in its early stages."[138] At its 32nd session on 9 December 2003 the FAO Conference adopted Resolution 6/2003 which, *inter alia*, urged non-signatories to accept, accede to, or ratify the Compliance Agreement and Fish Stocks Agreement and implement the Code of Conduct and the IPOAs. In 2003 the UN General Assembly passed two Resolutions calling on States to take all necessary steps to implement the IPOA-IUU, including through relevant RFMOs; and urged States to develop and implement national and regional plans of action, to put the IPOA-IUU into effect by 2004.

Further developments

While States were grappling with how to implement the laws, policies and compliance mechanisms set out in the IPOA-IUU, IUU fishing operations were continuing apace. Developments in other international fora continued to urge attention to be paid to the problematic issue of world fisheries in general, and IUU fishing specifically. In 2002, the World Summit on Sustainable Development was held in Johannesburg. It marked the tenth anniversary of the Rio Earth Summit. Participants agreed to reduce global biodiversity loss and restore most of the world's major fisheries to commercial health by 2015.[139] Three major commitments were made: to establish area-based management via the creation by 2012 of a representative network of Marine Protected Areas and non-fishing zones to protect breeding areas; to implement temporary fishing bans in some areas; and to act against illegal fishing.[140] The 2002 Johannesburg Plan of Implementation is non-binding. However, like many soft law documents, it has some political weight as a declaration of intent.[141]

Along with inviting States to ratify the LOSC, Compliance Agreement and Fish Stocks Agreement, and implement the 1995 Code of Conduct for Responsible Fisheries and Chapter 17 of Agenda 21, the Johannesburg Plan of Implementation at Paragraph 30 called for action "at all levels" to:

> (d) Urgently develop and implement national and, where appropriate, regional plans of action, to put into effect the FAO international plans of action, in particular the international plan of action for the management of fishing capacity by 2005 and the international plan of action to prevent, deter and eliminate illegal, unreported and unregulated fishing by 2004. Establish effective monitoring, reporting and enforcement, and control of fishing vessels, including by flag States, to further the international plan of action to prevent, deter and eliminate illegal, unreported and unregulated fishing;

---

[138] FAO. 2004. Above, n.71. p.7.

[139] Participants also called for the ecosystem approach to be applied across the board by 2010. It is beyond the scope of this dissertation to discuss 'maximum sustainable yield' as an appropriate goal for harvesting, however, it is noted here that the Johannesburg Plan of Implementation called for fish stocks to be returned to "levels that can produce the maximum sustainable yield" no later than 2015. The Johannesburg Plan of Implementation can be found at http://www.un.org/jsummit/html/documents/summit_docs/2309_planfinal.htm. Accessed 3 July 2008.

[140] "Cautious welcome to fisheries deal." 28 August 2002. *BBC News World Edition.* http://news.bbc.co.uk/2/hi/africa/2221116.stm Accessed 28 August 2005.

[141] Though filled with non-mandatory language, Article 30 of the Johannesburg Plan of Implementation arguably contains an actual *requirement*: "To achieve sustainable fisheries, the [agreed] actions are required at all levels." Lugten has argued that this constitutes an obligation as Ministers upraised their hands, voted for it, and lodged no objections or reservations. In Lugten's view, the vote on the Johannesburg Plan of Implementation thus created a global consensus, including consensus on the Article 30 requirement that States achieve sustainable fisheries. Lugten, G.L. 2006. "Soft Law with Hidden Teeth: The Case for a FAO International Plan of Action on Sea Turtles." *Journal of International Wildlife Law & Policy*. Vol. 9. No. 2. p.168.

(e) Encourage relevant regional fisheries management organizations and arrangements to give due consideration to the rights, duties and interests of coastal States and the special requirements of developing States when addressing the issue of the allocation of share of fishery resources for straddling stocks and highly migratory fish stocks, mindful of the provisions of the United Nations Convention on the Law of the Sea and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, on the high seas and within exclusive economic zones;
(f) Eliminate subsidies that contribute to illegal, unreported and unregulated fishing and to over-capacity, while completing the efforts undertaken at WTO to clarify and improve its disciplines on fisheries subsidies, taking into account the importance of this sector to developing countries.

The international community continued to discuss the fisheries and IUU fishing.[142] In June 2003, G8 leaders adopted the Marine Environment and Tanker Safety Action Plan which, according to the OECD, "recognised the need for stronger and more concerted action against illegal, unreported and unregulated fishing activities." [143] The G8 leaders highlighted the lack of effective flag State control over fishing vessels and the use of flags of convenience in fisheries.[144] Meanwhile, Rayfuse noted that the 2004 target date for implementation of National Plans of Action to combat IUU fishing had come and gone with IUU activities showing little sign of abating.[145] Progress on encouraging flag States to assume their duties under international law – the hard law LOSC, Compliance Agreement and Fish Stocks Agreement – was sufficiently underwhelming that by 2004 FAO reported that "IUU fishing is increasing in both intensity and scope and that it is continuing to undermine national and regional efforts to sustainably manage fisheries..."[146] At the 2005 Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving from Words to Action in St. John's, Newfoundland and Labrador, Canada,[147] governments committed to sixteen concrete actions aimed at the improvement of the governance of the world's oceans, including the following relevant to this dissertation:

4. C. Establish or strengthen the monitoring, control and surveillance (MCS) regimes of RFMO/As including as needed joint MCS systems, the dissemination of collected data as may be agreed and

[142] In October 2001 the Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem met to assist the introduction of stronger ecosystem considerations in fisheries management decisions. It resulted in the 2001 Reykjavik Declaration on Responsible Fisheries, a statement which led directly to the 2003 FAO Code of Conduct – a set of technical guidelines designed to give effect to the Declaration on Responsible Fisheries. In November 2002, the Santiago de Compostela International Conference was held to follow up implementation of the IPOA-IUU. The Conference formulated initiatives and views as to how best stamp out IUU fishing at regional, national and international level in the creation of a Plan of Action. Discussions have continued through numerous UN General Assembly resolutions, the 2004 Seventh Meeting of the Conference of the Parties to the Biodiversity Convention, discussions at the 2003 Fourth Meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea and the 2004 Fifth Meeting of the United Nation's Open-ended Informal Consultative Process on Oceans and the Law of the Sea.

[143] OECD. "Short History of International Actions and Initiatives against IUU Fishing Activities." http://www.oecd.org/document/24/0,3343,fr_2649_37401_23460248_1_1_1_37401,00.html. Accessed 3 July 2008.

[144] OECD. Above, n.141.

[145] Rayfuse noted that the likelihood of meeting the Johannesburg target of restoring depleted fish stocks by 2015 is unlikely. See: *Conference Report.* Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving From Words to Action, held at St John's Newfoundland and Labrador, Canada, 1-5 May 2005. http://www.dfo-mpo.gc.ca/fgc-cgp/conf_report_e.htm. Accessed 18 April 2008.

[146] FAO. 2004. Above, n.71.

[147] The conference was supported at the highest level. It was attended by participants from forty-nine states and Regional Economic Integration Organizations, fishing entities, fisheries management organizations, industry, civil society and academic communities and Ministers from nineteen countries and the EU. Above, n.143.

regular compliance review mechanisms, ensuring that the costs of MCS systems are shared in a fair and transparent manner;

4. D. Establish regional guidelines for States to use in establishing sanctions for non-compliance by their flag vessels and nationals that are adequate in severity to effectively secure compliance, deter further violations and deprive offenders of the benefits accruing from their illegal activities.

10. We recognize that States, REIOs or entities that are neither members of RFMO/As nor have agreed to apply their conservation and management measures shall not have access to the fisheries resources to which those measures apply and any catches of such fishery resources should be denied market access in accordance with international law.

13. We will work to address possible gaps which may include those related to:

C. defining the genuine link between flag states and the fishing vessels flying their flag,

D. the obligations of port States and the development and implementation of stronger port state measures in accordance with international law,

and that further steps should be taken in this direction.

In 2006 the Ministerially-led High Seas Task Force[148] released its final report, rendering nine proposals:

1. Strengthen the International MCS Network;
2. Establish a global information system on high seas fishing vessels;
3. Promote broader participation in the United Nations Fish Stocks Agreement (UNFSA) and the Food and Agriculture Organization of the United Nations (FAO) Compliance Agreement;
4. Promote better high seas governance by a) developing a model for improved governance by RFMOs; b) independent review of RFMO performance; c) encouraging RFMOs to work more effectively through better coordination; and d) supporting initiatives to bring all unregulated high seas fisheries under effective governance;
5. Adopt and promote guidelines on flag state performance;
6. Support greater use of port and trade measures by: a) promoting the concept of responsible port states; promoting the FAO Model Port State Scheme as the international minimum standard for regional port state controls and supporting FAO's proposal to develop an electronic database of port state measures; b) reviewing domestic port state measures to ensure they meet international minimum standards; and c) strengthening domestic legislation controlling import of IUU product;
7. Fill critical gaps in scientific knowledge and assessment;
8. Address the needs of developing countries;
9. Promote better use of technological solutions.[149]

Around the same time, the FAO Ministerial Meeting on Fisheries adopted the Rome Declaration on Illegal, Unreported and Unregulated Fishing (2005).[150] Among other things, the Rome Declaration recognized the relationship between fleet overcapacity and IUU fishing. It emphasized, again, the joint responsibilities of flag States, port States and coastal States in controlling IUU fishing. Participant committed to creating national plans and legislation to tackle IUU fishing, harmonization and improve catch documentation schemes, adopt internationally agreed market-related measures and enhance MCS measures. It called for new actions to deal with the displacement of over-capacity from one jurisdiction to the next. Most importantly for this dissertation, it called for:

---

[148] The Ministerially-led Task Force on IUU Fishing on the High Seas comprised of fisheries Ministers from Australia, Canada, Chile, Namibia, New Zealand and the United Kingdom. It included the Directors-General of the Worldwide Fund for Nature, the World Conservation Union, and the Earth Institute at Columbia University. This group of experts was convened in 2003 to investigate high seas IUU fishing and recommend an effective international response.

[149] High Seas Task Force. 2006. Above, n.69. p.7.

[150] The full text of the Rome Declaration can be found at:
ftp://ftp.fao.org/fi/DOCUMENT/ministerial/2005/iuu/declaration.pdf

- all large-scale fishing vessels to be fitted with Vessel Monitoring Systems;
- new actions to deal with the economic incentives that drive IUU fishing;
- for all states and RFMOs to effectively regulate transshipments of catch;
- to strengthen port state measures for fishing vessels;
- the development of a "comprehensive global record of fishing vessels" by FAO.[151]

The balance of this dissertation is devoted to exploring these issues.

Conclusion

The international community has attempted to combat IUU fishing and secure long-term sustainable fisheries through the package of binding and non-binding international agreements and instruments described in this chapter and the previous one. This has been called "ambitious" by Cochrane and Doulman. Nonetheless they note the:

> widespread failure of fisheries management to achieve its biological, ecological, economic and social objectives... many, if not all, countries are encountering substantive problems in responding to the ambitious and far-reaching intentions of these international instruments, and especially the post-UNCED instruments. The general result appears to be that in marine capture fisheries, global policy and the good intentions reflected in the instruments are outstripping implementation by a wide margin.[152]

The extant measures are all deeply considered, well financed and attached to substantial political will from powerful quarters. Some of the legal principles have attained or probably will attain the status of customary international law. So it is important, before this dissertation continues onward, to summarize why the problem of IUU fishing still exists, and on such a large scale. A number of factors have been identified in this and previous chapters which militate against its solution:

- The vast area of the oceans;
- The mobility of all fishing vessels, which mitigates against their seizure on the open water, or the detection of their activities sufficient for the production of robust evidence in a domestic court of law;
- Continuing overcapacity in fisheries;
- There has been no decrease in demand for fish; rather, there has been an increase. Market demand has sustained the economics of IUU fishing. Fish has a high value as a commodity – whether caught outside of management regimes or not;
- There remains many fewer parties to the Fish Stocks Agreement than the LOSC. As Ambassador Satya Nandan of the International Seabed Authority says, there must be a seamless connection between the 1982 Convention's rights and responsibilities and their *implementation* by the Fish Stocks Agreement;[153]
- The existence of dozens of open registries, available through websites such as www.flagsofconvenience.com, that offer attractive incentives for fishing operations which seek few restrictions or oversight on their activities;
- They are highly-financed and oftentimes criminal operations;

---

[151] In addition, the participating Ministers agreed that more action was required to eliminate IUU fishing by vessels flying flags of convenience, for a 'genuine link' to be established between states and vessels flying their flag, to strengthen RFMOs and implement a standard vessel marking system and for more research to be done on remote sensing and the satellite surveillance of fishing vessels. These were all issues the international community had been grappling with for a decade by then. The High Seas Task Force focused attention on these issues again with their nine final proposals. See: High Seas Task Force. 2006. Above, n.69.

[152] Cochrane and Doulman. 2005. Above, n.129. p.80.

[153] St John's Conference Report. 2005. Above, n.145. p.12.

- Basic tenets of public international law suit IUU fishing operations: with the exception of crimes against humanity states must agree in order to be bound by international conventions and agreements. They are not bound without this assent. Obligations imposed by an RFMO do not apply to parties outside the agreement. This is the case despite LOSC obligations concerning flag state responsibility, customary international law duties to cooperate on matters concerning the high seas, and the possibility for at-sea boarding of third party vessels with the consent of the flag state through the Fish Stocks Agreement;
- Two long-held maritime law traditions suit IUU operators: freedom of fishing on the high seas and flag-state supremacy – still the fundamental organizing principle regarding jurisdiction on the world's oceans. Too many states do not control the activities of their flagged fishing vessels;
- Despite the growing importance of RFMOs, states control the activities of nationals and vessels on the high seas and between states there are wildly varying responses to global fisheries problems;
- Insufficient information exists regarding the world's fishing fleet, its fishing activities and owners.

Many thousands of hours have been spent achieving rules for the governance framework of the ocean regime. Yet there remains what the OECD has called the major loophole of the system: how to deal with those countries that are not legally bound by the rules that govern, and theoretically constrict the activities of, much of the international community of responsible states and their fishing fleets.[154]

An allied problem are States that *have* adopted the international and regional conventions but do not ensure their flagged vessels adhere to the provisions. It is submitted that the failure of international fisheries management is a failure of the primary governance mechanism – the flag State, and its responsibility to a) ensure vessels that are flagged to it do not fish in a manner that undermines national, international and regional conservation and management measures and b) creates and uses sanctions for fisheries violations.

This author has attempted in the last two chapters to make the case that the existing instruments, painstakingly negotiated all, are inadequate both in law and practice. They have not lead to overwhelming compliance by fishing vessels or the prevention, deterence and elimination of IUU fishing. In 1982 it was in coastal States' best interests to secure economic rights over the vast majority of fisheries. Distant water fishing nations secured continued freedom of fishing on the high seas. However, neither group fully assumed the responsibilities that came with their rights. The incentive to overfish the oceans – whether through vastly outsized fishing capacity or through IUU fishing – was and remains high. In the space of twenty-five years, as the full effects of fisheries industrialization – over-capacity, over-capitalization, subsidization and the vastly under-regulated nature of high seas fishing – have been felt. Fish stocks have dwindled dangerously. It may be that it is not yet in States' interest to have truly effective fisheries instruments or long-term sustainability – certainly there are immediate economic arguments against curbing fisheries exploitation. But it is widely agreed that, long term, the 'business as usual' approach will have disastrous results for fish stocks and the millions of people that rely on them.

Therefore, in the face of the impact of these decades of overfishing and the disaster of IUU fishing have come questions about the utility of flag State supremacy, and what the international community can do in its absence. Rayfuse rightly observes a

[154] Andrews-Chouicha and Gray (eds). 2005. Above, n.15. p.113

possible lack of appetite for the negotiation of more global instruments[155] and FAO has called for a "decade of implementation"[156] of the fisheries instruments already agreed. This dissertation agrees wholeheartedly with this position, but submits that in order to fully implement and *secure compliance* with the fisheries instruments that have been agreed, two additional operational-level tools are required. These must focus on the reasons widespread IUU fishing still exists, despite the attentions of the international community:

a) it is hard to catch IUU fishers at it;
b) it is still easy for them to sell their fish; and
c) there is insufficient information about fishing vessels, catches and beneficial owners that successfully target them for non-flag State MCS and port State measures is too difficult to be a deterrence to IUU operators.

It is submitted that a Global Record of Fishing Vessels and an instrument which contains mandatory port State responsibilities will augment and fully realize the extant suite of tools. It is these matters to which this dissertation now turns.

[155] Rayfuse, Rosemary. "To our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *Backgrounder for the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement - Moving From Words to Action.* St John's, Newfoundland and Labrador. Canada. 1-5 May 2005. See also: Cochrane and Doulman. 2005. Above, n.129. p.80.
[156] FAO. 2005. *Report of the twenty-sixth session of the Committee on Fisheries.* 7–11 March 2005. FAO Fisheries Report No. 780 FIPL/R780. Food and Agriculture Organization of the United Nations. Rome, Italy. Abstract, pp.2,89.

Chapter 5 – Increasing the Effectiveness of Monitoring, Control and Surveillance tools

Introduction

As noted in the previous chapter, in 2004 FAO reported on progress made by members in the implementation of the measures to address IUU fishing that were contained in the IPOA-IUU.[1] This survey suggested a picture of continuing inadequate control over flagged fishing vessels, in particular vessels that were active on the high seas. While more than half of the responding members avoided registering vessels with a history of IUU fishing, discouragingly, one in three reported no such practice. Over 80% of the flag State respondents reported that national registration for commercial fishing vessels was now mandatory under national law (although various exemptions from this mandatory registration applied, generally for smaller craft). Nine in ten respondents reported that all vessels fishing in their zone were required to have an express authorization to fish.[2] Two in three responding members either prohibited the practice of transshipment at sea, or required prior authorization for the vessels to do so. These transshipments were generally allowed if prior authorization existed and sometimes occurred "under the mandatory presence of fisheries observers."[3] Of those respondent States which authorized fishing vessels to fish in waters outside of their national jurisdiction, measures were in place to ensure compliance with high seas conservation and management measures for just 59% of them.[4] Thus, while national control in national waters appeared reasonably strong, FAO concluded that fewer than 50% of flag States exerted effective control over high seas fishing vessels flying their flags.[5] This is all the more troubling when it is recalled that 17.5% of the world's fishing fleet (by

---

[1] Sixty-four member states responded to FAO's questionnaire, which represented less than 35% of FAO membership. See: FAO. 2004. "Action Taken by FAO Members and FAO to Implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)". *FAO Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity*. Rome, Italy. 24–29 June 2004. TC IUU-CAP/2004/Inf.3. Food and Agriculture Organization of the United Nations. Rome, Italy.

[2] FAO noted that annotated information on the survey responses suggested that the figure was "an over-estimate, in view of the fact that many responding Members named exceptions to the general rule." FAO. 2004. Above, n.1. p.9.

[3] FAO. 2004. "Executive Summary: Action Taken by FAO Members and FAO to Implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)". *Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity*. TC IUU-CAP/2004/2. Rome, Italy. 24–29 June 2004. p.4.

[4] As FAO summarized: "the authorization to fish and reporting requirements have generally been adopted across the board by most responding Members. Requirements to carry observers, VMS, and/or being subjected to high seas boarding parties have been implemented to much lesser degrees, and vary substantially between countries, regions, and circumstances." States were also not using all the tools available to them – in particular, tools that were agreed internationally but were perhaps politically difficult to use: only one-third of respondents that had "insufficient controls in place reported that high seas boarding of their vessels by third State parties was permitted. This would indicate a marked lack of consideration paid by high seas fishing nations with weaker MCS capabilities to make full use of cooperative high seas control mechanisms, as provided for under international law." *Ibid.*

[5] FAO Newsroom. 1 July 2004. "Excess capacity and illegal fishing: challenges to sustainable fisheries." http://www.fao.org/newsroom/en/focus/2004/47127/index.html. Accessed 4 July 2008.

tonnage) is flagged to an open registry or flagged "unknown."[6] These vessels have virtually no control exercised over them.

It is clear from this evidence and that presented in chapter 3 that two primary factors continue to hobble international efforts to control IUU fishing. One is the continuing inadequacy of flag State control over fishing vessels. The second encompasses all the problems that are created by parties who are not compliant with agreements entered into, or who have not entered into the agreements at all.. Therefore, tools that involve States other than the flag State in compliance and enforcement activities hold much promise. Provisions within the Fish Stocks Agreement that allow third countries to board and inspect vessels on the high seas with the consent of the flag State could help loosen this stranglehold. However, it remains to be seen how this power is actually used by States. If it is barely used, its deterrent effect is probably low. The UN General Assembly and the IPOA-IUU's encouragement of the greater use of port controls and market-based measures has also been positive. However, these tools will only work effectively if the ongoing paucity of data on the activities of fishing vessels is reversed.

Thus, a more effective suite of monitoring, control and surveillance (MCS) measures is needed in world fisheries. Enhancements in this area will augment and help enforce national and international fisheries conservation and management measures. They will also facilitate the use of non-flag State enforcement measures, such as those within the province of port and market States. While all MCS tools have a part to play in eradicating IUU fishing, this chapter concentrates on *information*. It will discuss current state practice in the area of monitoring, control and surveillance. It will look at Vessel Monitoring Systems, vessel lists that are maintained by RFMOs and, ultimately, the FAO High Seas Vessels Authorization Record. The HSVAR is an international vessel registry maintained by FAO under the auspices of the Compliance Agreement. It was conceived to contain the registration and authorization status of all fishing vessels active on the high seas. This chapter will evaluate its effectiveness as a tool to enhance MCS and combat IUU fishing.

Monitoring, Control and Surveillance in Fisheries

Just as the Third UN Conference on the Law of the Sea was winding up its negotiations in 1981, having placed extended fisheries jurisdiction and great potential wealth in the hands of coastal States, an Expert Consultation on Monitoring, Control and Surveillance for Fisheries Management was convened by FAO in Rome.[7] With input from experts from twelve nations,[8] the Consultation laid down what would later be adopted by the FAO Committee on Fisheries as its basic policy regarding monitoring, control and surveillance (MCS).[9] According to FAO, a comprehensive suite of MCS activities now includes:

---

[6] High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. p.36.

[7] For the report of this meeting, see FAO. 1981. *Report on an Expert Consultation on Monitoring, Control and Surveillance Systems for Fisheries Management.* 27-30 April 1981. Food and Agriculture Organization of the United Nations. Rome, Italy.

[8] These twelve nations were: Australia, Argentina, Canada, Chile, Fiji, Iceland, Indonesia, New Zealand, Norway, Sierra Leone, the United Kingdom and the United States of America.

[9] This 1981 policy included a broad definition: Monitoring – the continuous requirement for the measurement of fishing effort characteristics and resource yields; Control – the regulatory conditions under which the exploitation of the resource may be conducted; and Surveillance – the degree and types

- Monitoring – the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards, area of operations, etc. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.
- Control – involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, subregionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented.
- Surveillance – involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access, and management measures are observed. This activity is critical to ensure that resources are not over exploited, poaching is minimized and management arrangements are implemented.[10]

The international agreements made and the regional agreements strengthened over the past fifteen years have represented a "new emphasis on effective MCS methods with increased cooperation among nations," according to FAO.[11] These developments provoked a buildup of MCS capacity.[12] This has been facilitated and strengthened by the International Monitoring, Control and Surveillance Network for Fisheries Related Activities (the MCS Network). According to its website, the MCS Network was established to "improve the efficiency and effectiveness of fisheries-related MCS activities through enhanced cooperation, coordination, information collection and exchange among national governmental organizations and institutions responsible for fisheries related monitoring, control and surveillance."[13] In August 2008, two hundred MCS specialists from fifty countries convened in Trondheim, Norway for the Second Global Fisheries Enforcement Training Workshop.[14] It was hosted by the Norwegian Directorate of Fisheries under the auspices of the MCS Network and co-sponsored by FAO. It discussed pragmatic solutions for combatting activities related to IUU fishing and agreed that "cooperative MCS efforts at all levels: local, national, subregional, regional and international, were vital." It was further noted that the sophistication and mobility of illegal, unreported and unregulated fishing operations "made this cooperation essential."[15]

It has been said that the "absence of MCS operations renders a fisheries management scheme incomplete and ineffective."[16] MCS has been described as a "cornerstone" of

---

of observations required to maintain compliance with the regulatory controls imposed on fishing activities. Everett, G.V. 2002. "Fishery Monitoring, Control and Surveillance (MCS) and the Control of Illegal Fishing." *Regional Workshop on Marine Fisheries Management and Enforcement. Port Louis, Mauritius.* Fishery Policy and Planning Division. FAO. Rome. April 8 – 12, 2002. p.1.; FAO. 1981. *Summary Report of the Expert Consultation on Monitoring, Control and Surveillance Systems for Fisheries Management.* Rome, Italy. 27–30 April 1981. FAO COFI/81/4. Food and Agriculture Organization of the United Nations. Rome, Italy.

[10] FAO. "Monitoring, control and surveillance." http://www.fao.org/fishery/topic/3021/en. Accessed 17 July 2008.

[11] *Ibid.*

[12] *Ibid.*

[13] http://www.imcsnet.org/. Accessed 3 July 2008.

[14] The third Global Fisheries Enforcement Training Workshop will be hosted by Mozambique in 2010.

[15] FAO. COFI. 2008. *Combating Illegal, Unreported and Unregulated Fishing, including through a Legally Binding Instrument on Port State Measures and the Establishment of a Global Record of Fishing Vessels.* Twenty-eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/6. Food and Agriculture Organization of the United Nations. Rome, Italy.

[16] FAO. "Monitoring, control and surveillance." http://www.fao.org/fishery/topic/3021/en. Accessed 17 July 2008.

the IPOA-IUU. The 2005 session of the FAO Committee on Fisheries emphasized that effective MCS was a primary defence against IUU fishing.[17] A suite of monitoring, control and surveillance tools would include so-called 'traditional' practices such as on-board observer programs, air and sea patrols as well as at-sea boarding, apprehension and inspection schemes. Each has a clear role to play in increasing the overall effectiveness of monitoring, control and surveillance in fisheries. Technology has also given fisheries managers satellite monitoring and real-time transfers of vessel position information. These instruments are increasingly important to efforts to secure compliance in both national and international fisheries. Cooperative activities in the international and regional fields have also given fisheries managers access to vessel information from other countries and regional fisheries management organizations. Compliance with fisheries rules remains the best indicator of the effectiveness of MCS measures.[18] Where compliance is not achieved, MCS tools should at least provide authorities with sufficient evidence of wrong-doing so that the violations can be properly dealt with by a flag State or in a national court.

Vessel Monitoring Systems

While MCS is most visibly represented by apprehensions of fishing vessels, prevention and deterrence are also essential purposes of MCS operations. This is partly because they are more efficient and cost-effective than arrests and apprehensions. Through the adoption of the international hard and soft laws described in the previous two chapters,[19] flag States, port States and coastal States have been progressively urged to implement or enhance their monitoring, control and surveillance to curb IUU fishing. Technological advances over the last two decades have given States and RFMOs Vessel Monitoring Systems and the satellite-based tracking of fishing vessels.[20] RFMOs are increasingly mandating that these tools be installed on all vessels authorized to fish in their convention areas. NAFO and NEAFC have introduced a dual-reporting system, where member vessels report to the flag State which then passes the information on to

---

[17] Nomura, Ichiro. 2007. "Opening statement." Appendix D, FAO Fisheries Report No. 815. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome. 24-26 October 2006. p.17.

[18] FAO. "Monitoring, control and surveillance." http://www.fao.org/fishery/topic/3021/en. Accessed 17 July 2008.

[19] These were the LOSC, UN Fish Stocks Agreement, Compliance Agreement, IPOA-Fishing Capacity and IPOA-IUU.

[20] Gallagher describes how a satellite-based system works: "... data is transferred from the vessel to a satellite and then to an earth station. The earth station then forwards the data to the monitoring agency via a secure public data network or the telephone network using an international standard data communications protocol such as X.25. Within a fisheries monitoring agency there is typically a computerised monitoring station capable of collecting the data received from the earth station, storing that data for subsequent review, analysing the data to detect and highlight anomalies to monitoring officers, and displaying that data in a meaningful way, typically against a background map. A specialised Geographical Information System is also a highly desirable element of the monitoring station, particularly for historical and statistical analysis of both position and catch data. This mode of operation remains essentially unchanged from the earliest days of VMS. The improvements that have been made include more integrated shipboard equipment in that the earliest installations linked satellite communications terminals with external GPS receivers, whereas these two elements are now systematically integrated." Gallagher, Robert. 2007. "Current Status of Vessel Monitoring Systems, Satellites and other Technologies for Fisheries Monitoring, Control and Surveillance." Appendix F in FAO Fisheries Report No. 815. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Food and Agriculture Organization of the United Nations. Rome, Italy. 24-26 October 2006. p.41.

the Secretariats. CCAMLR has a centralized reporting system under which the information is sent directly to both the flag State authority and the CCAMLR Secretariat.[21] Under both systems, and in a signal of a wider trend, vessel location information is no longer solely the province of flag States which have previously been able to withhold information with impunity. With the adoption of the Compliance Agreement and the creation of the High Seas Vessels Authorization Record attached to it, vessel information in general is no longer the sole province of flag States.

2008 marks the 20th anniversary of the implementation of the first Vessel Monitoring System. In the 1980s, in Portugal, when fisheries authorities noticed a decline in national fish stocks they began to focus their control measures on locating fishing vessels in their EEZ. This was to verify that only vessels that were authorized to fish in their zone were in fact doing so.[22] A large portion of the compliance and enforcement effort was taken up with physical attempts at vessel control, and enforcement resources were low. Gallagher notes that they decided to increase their monitoring, control and surveillance efficiency "by remotely tracking the movements of their national fishing vessels. A research program was initiated to develop a method of carrying out this tracking, and VMS was born."[23] Within eight years the EU had mandated Vessel Monitoring Systems for all large European fishing vessels.[24]

As mentioned above, most RFMOs now require vessels fishing in their convention areas to carry such a system.[25] Vessel Monitoring Systems continuously transmit position, time, speed and course information directly to the fisheries authority in the vessel's flag State.[26] This information is sent directly to the fisheries authority in the vessel's flag State.[27] These systems have rapidly decreased in price. At the same time, the price of the satellite technology that supports Vessel Monitoring Systems has also decreased.[28] This means that a range of systems can now service the vessel location

---

[21] CCAMLR established its centralized Vessel Monitoring System program in 2004. Under it, Consultative Parties are required to report the position of their flagged vessels on a 6-hourly basis when operating inside the Convention area. These position reports are to be submitted in real time in 'new and exploratory fisheries' and on departure from the Convention area for other fisheries." See: FAO. 2005. *Report of the Twenty-First Session of the Coordinating Working Party on Fishery Statistics*. Copenhagen, Denmark. 1–4 March 2005. FAO Fisheries Report 777. FIDI/R777. Food and Agriculture Organization of the United Nations. Rome, Italy. p.2.

[22] Gallagher. 2007. Above, n.20. p.39.

[23] *Ibid.*

[24] *Ibid.*

[25] For example, in 1998 the CCAMLR Commission adopted a Conservation Measure directing CCAMLR Contracting Parties to require its Patagonian toothfish fishing vessels to install automated satellite-tracking devices. Agnew and Barnes note that this was so that, "inspection authorities know where they are all the time." Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing*. Committee for Fisheries. OECD Publishing. pp.169-200.

[26] Gallagher. 2007. Above, n.20. p.40. See also: Lack, M and Sant, G. 2001. "Patagonian toothfish: Are conservation and trade measures working?" *TRAFFIC Bulletin*. Vol. 19. No. 1. p.9.

[27] Or, as mentioned above, simultaneously to an RFMO Secretariat in the case of CCAMLR-area vessels. The need for regional coordination is important, but given that it is states that are responsible under the Fish Stocks Agreement and the Compliance Agreement for vessels flying their flag, most countries have expressed the desire for VMS to continue to be based at the national level. Gallagher. 2007. Above, n.20. p.45.

[28] Gallagher noted at a 2006 FAO Expert Consultation that, "In 1988 an Inmarsat-C terminal cost upwards of $US 10,000, whereas one can now purchase a VMS terminal for 10 percent of that price, or less. Likewise, the cost of delivery of a position report has fallen from approximately $US0.15 to less than $US0.05." Gallagher. 2007. Above, n.20. p.41.

needs of fisheries managers.[29] This also means that many more large-scale vessels can be required to carry them.

The High Seas Task Force notes that "[i]t is difficult now to find any major fishing nation that is not already advanced in its use of VMS." According to Cacaud, where VMS has been introduced the detection of illegal fishing activities has been greatly assisted, with a decrease in "certain types of violations" such as entry into prohibited fishing areas.[30] It has also enhanced the targetted use of enforcement assets. Patrols can be deployed more cost effectively "as targets are identified in advance."[31] The money saved is significant. Gallagher gives the example of pre- and post-VMS savings made in the Hawaiian longline fishery:[32]

Pre-VMS costs		**Post-VMS costs**	
3000 patrol vessel hours @ US$1,000/hr	$3,000,000	110 patrol vessel hours	$110,000
350 air hours (C-130) @ US$7,500/hr	$2,600,000	8 air hours	$60,000
		VMS costs	$200,000
TOTAL	**US$5.6m**	**TOTAL**	**US$0.37m**

Vessel Monitoring Systems have thus become key components of both national and regional monitoring, control and surveillance efforts. It is believed that increased MCS programs should burden IUU fishers with unwanted, higher costs of operation. This is not because they will install VMS systems – they generally will not. It is because added surveillance of any kind in their favoured fisheries increases the likelihood that they might be caught. It therefore raises the cost to them of *avoiding* being caught.[33]

Limitations

Vessel Monitoring Systems are not without limitations. Firstly, there is no global standard as to what level of security is universally acceptable.[34] Secondly, IUU fishing

[29] These include the satellite communications systems: Inmarsat, Iridium, Argos, Euteltracs, Globalstar and Galileo. High Seas Task Force. 2006. Above, n.6. p.27. See also: Gallagher. 2007. Above, n.20. p.40. GPS and handheld devices allow MCS practitioners greater mobility. This technology "is now pervasive" according to Gallagher. It should be noted that not all systems use satellites – China, for example, has trialled Single Side Band radio. However, Gallagher reports that for the purposes of fisheries, MCS satellite-based systems are considered the most suitable on the grounds of coverage and reliability. p.41.

[30] Cacaud, Philippe. 2007. "Vessel Monitoring Systems, Use of Electronic Reporting Systems and Remote Sensing (VDS): Legal Aspects, Trends and Options." Appendix E. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome. 24–26 October 2006. FAO Fisheries Report No. 815. 2007. Food and Agriculture Organization of the United Nations. Rome, Italy. p.19.

[31] Turner, Jeremy. "IUU discussions at the Committee on Fisheries (COFI) 5 – 9 March 2007." *3rd Chatham House IUU Fishing Update and Stakeholder Consultation.* Royal Institute of International Affairs. Chatham House. London 8–9 May 2007. http://www.illegal-fishing.info/uploads/Turner_session3.pdf. Accessed 8 July 2008.

[32] The present author has reproduced Gallagher's figures but rendered the dollar amounts in a more readily comparable format. The original gave pre-VMS figures in US millions and the post-VMS figures in US thousands. In the table above, they have both been rendered in US millions. Gallagher. 2007. Above, n.20. p.41,42. Please note that the source for the data in the first instance is: Kelleher, 2002.

[33] Agnew and Barnes explain: "In Charles *et al*'s model of illegal activity, they found that at low levels of enforcement fishers respond to increases in enforcement by increasing avoidance, but at higher levels of enforcement it becomes uneconomical to continue to do so. Thus the cost of avoidance eventually becomes greater than the benefit from fishing (the greater the time and effort spent avoiding detecting, the less time can be spent actually fishing)." Agnew and Barnes. 2004. Above, n.25. p.189.

[34] Cacaud observes: "Since it is clearly unreasonable to require that the equipment on board vessels should be 100 percent tamper proof, action would have to be taken at the international level to develop

vessels do not generally use them – at least not when they are fishing illegally. While this is self-evident, it should be noted that this limitation does, however, create an opportunity – vessels that are not reporting their whereabouts could be considered to be engaged in IUU fishing unless they can prove otherwise. This allows MCS measures to be targeted even in the absence of vessel information.[35] Another limitation is that Vessel Monitoring Systems can be tampered with. Switching off the power is the simplest method of doing so. While, for example, Chinese Taipei has reported to the Inter-American Tropical Tuna Commission that its large-scale tuna fishing vessels are required to have a fully automatic and tamper-proof VMS, a commonly cited mishap by the vessels themselves has been "antenna malfunction."[36] This has prevented the logging of VMS information. More sophisticated ways of tampering with Vessel Monitoring Systems have been reported, requiring "advanced knowledge of programming and circuitry."[37] This tampering has resulted in "simulated position information which reported that the vessel was in one location whilst it was actually elsewhere, sometimes thousands of miles away."[38] One technological development that could verify VMS data are satellite-based imaging systems known as Vessel Detection Systems. This new and complementary tool may help to eradicate false position reporting. It can also detect vessels that are not reporting at all. FAO reported in 2007:

> [T]he Consultation heard from the resource person from the Joint Research Centre of the European Commission regarding the research and pilot work associated with satellite imaging of vessels (remote sensing). It was pointed out that it used imagery (principally radar) to verify VMS reports, a system known as Vessel Detection Systems (VDS). The work had demonstrated its potential to detect non-compliant vessels and other vessels that might be reporting a false position and that could be investigated subsequently by surveillance platforms.[39]

---

acceptable universal security standards for VMS equipment. It was proposed that once agreed upon these standards could be submitted to one of the international standards organizations such as ISO for publication. Once this is accomplished, the competent authority need only adopt the agreed standards as part of its VMS specifications. As for tracking devices already installed aboard fishing vessels, the solution would be to require the operators of these vessels to upgrade their VMS equipment within a specified period so as to bring them in line with internationally recognized standards." Cacaud. 2007. Above, n.30. p.28.

[35] It is acknowledged that this requires other vessels to see the IUU vessels in the area, or the purchase of expensive satellite data or use of costly traditional sea- or air-borne patrols. Watson and Van Houtan at the University of British Columbia Fisheries Centre are investigating the use of satellites, perhaps including Google Earth, to follow mud-trails (using a sediment disturbance model) and seabird feeding activity to track fishing activities. Personal communication with Daniel Pauly, UBC. 15 August 2007. Personal communication with Reg Watson, UBC. 16 May 2009; These could produce images of actual fishing taking place, something that could help states prove illegal, unreported and unregulated fishing activities had taken place.

[36] Roheim, Cathy A., and Sutinen, Jon G. March 8, 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices*. Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force. p.17. The authors note that under Chinese Taipei's rules for its vessels, the VMS must be back up and running within two months or go to port for repair. (It should be said that a lot of fishing can be done in a two-month period with a broken VMS.)

[37] FAO. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance*. Rome, Italy. 24–26 October 2006. Fisheries Report No. 815. Food and Agriculture Organization of the United Nations. Rome, Italy. p.2.

[38] FAO. 2007. Above, n.37. p.2. According to Cacaud, Vessel Monitoring Systems cannot be made "100 percent tamper proof." He adds that it is unlikely that any manufacturer would advertise their product as being so. Cacaud. 2007. Above, n.30. p.28.

[39] FAO. 2007. Above, n.37. p.3.

These kinds of surveillance systems should become a good source of complementary information to Vessel Monitoring Systems. Problems remain with the comparatively high cost of satellite data, the delivery time of data and the difficulty of detecting of smaller vessels. However, it is believed that "satellite data are likely to make substantial contribution to effectiveness of MCS within the next decade."[40] Other vessel tracking tools of promise include electronic logbooks and infra-red tracking. On the other end of the technology spectrum, Denzil Miller suggests that *all* vessels use simple, inexpensive video cameras that are continually on and facing the deck. This would markedly improve surveillance in fisheries, and would cost very little.[41]

It was noted in the previous chapter that Fisheries Ministers had agreed in the Rome Declaration on Illegal, Unreported and Unregulated Fishing to ensure that all large-scale fishing vessels operating on the high seas would be fitted with a Vessel Monitoring System by December 2008. However, implementation has been slower than expected. The installation of Vessel Monitoring Systems is not required on every boat in every fishery, because the majority of vessels are active on the high seas. In addition, some vessels deliberately fall outside the agreed definition of 'large-scale.' RFMOs are grappling with the increase in the number of boats that are being built slightly smaller than the agreed length of vessels for which VMS is generally mandated. A vessel of 24 metres or larger in length is generally classified as a "large-scale" fishing vessel. This is an internationally-agreed definition which consequently subjects the vessel to international and regional conservation measures.[42] Gianni has observed the trend in Chinese Taipei of building boats of 23.9 metres in length. Gianni reports that in 2003, "Korean and Chinese shipyards delivered 10 longliners of 23.8 and 23.9 metres length overall to a fishing enterprise based in Papeete, Tahiti." Twenty-two more longliners of the same sub-24 metre length were on order to the same company.[43] These vessels are causing significant problems for RFMOs. In the ICCAT Convention area, Vessel Monitoring Systems are mandatory on member-flagged tuna fishing vessels 24 metres in length or longer. Vessels under 24 metres in length have reportedly done great damage. There were around 100 of them.[44] The US Commissioner to ICCAT noted at the time that "23.9 meter vessels have operated extensively in the Caribbean, decimating shark stocks and causing serious billfish by-catch problems... The Government of Taiwan either lacks the means or will to control this situation."[45] In the

---

[40] Everett. 2002. Above, n.9. p.3.

[41] Miller, Denzil. Presentation to IASOS, University of Tasmania. 23 April 2008.

[42] In 2003, the CCSBT passed a Resolution to establish a record of vessels authorized to fish for Southern Bluefin Tuna. This resolution applied only to vessels over 24 metres. Resolution adopted at the Tenth Annual Meeting on 7-10 October 2003. Paragraph 2 of the Resolution states: "The Extended Commission shall establish and maintain an CCSBT Record of fishing vessels larger than 24 meters in length overall (hereinafter referred to as "large scale fishing vessels" or "LSFVs") authorized to fish for SBT. For the purpose of this recommendation, LSFVs not entered into the Record are deemed not to be authorized to fish for, retain on board, tranship or land SBT."
http://www.ccsbt.org/docs/pdf/about_the_commission/resolution_on_authorised_24m_vessel_list.pdf. Accessed 31 July 2008. The 24 metre restriction was scrapped a year later. See: FAO. 2005. Above, n.21. p.3.

[43] Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: how flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. p.22.

[44] Roheim and Sutinen. 2006. Above, n.36. p.17.

[45] Delaney, Glenn Roger. In testimony before the US House of Representatives Committee on Resources – Subcommittee on Fisheries Conservation, Wildlife and Oceans. 108th Congress. 30 October 2003, cited by Gianni and Simpson. 2005. Above, n.43. p.22.

South-West Pacific Ocean these slightly undersized vessels have targeted tuna. Flag States are able to exempt vessels of less than 24 metres in length from the application of conservation measures. This is clearly a loophole of some magnitude. However, Haward rightly notes that it must be read in the light of the Compliance Agreement. Even if a signatory State exempts vessels of less than 24 metres in length from the application of conservation measures, it must still "take effective measures in respect of any such fishing vessels that undermines the effectiveness of international conservation and management measures."[46] The removal of the 24 metre minimum length for inclusion on the Convention on the Conservation of Southern Bluefin Tuna vessel list is hopefully a trend on the rise.[47]

Another problem facing RFMOs as they seek to mandate the use of Vessel Monitoring Systems on fishing vessels is whether or not support vessels are "fishing vessels" that require tracking? It is well known that support vessels are used by IUU fishing operations to assist the evasion of fisheries management measures.[48] The 2006 FAO Expert Consultation on Vessel Monitoring Systems agreed that a definition of the type of fishing vessels and their related activities that could (and should) be subjected to national VMS requirements and in multilateral agreements was required. This would include such factors as vessel size, vessel type (for example, support vessels) the characteristics of the fishery, and its geographical area.[49]

It will be seen in chapter 7 that within the draft Port State Measures Agreement, the definition of "fishing vessel" is broad: Under Article 1(j) a "vessel" is "any vessel, ship of another type and boat used for, equipped to be used for, or intended to be used for, fishing or fishing related activities." If this draft text is accepted and the treaty adopted, some version of this broad definition may be adopted by RFMOs and national fisheries authorities as the new standard – replacing the clearly out-dated "24 metre" definition.

In order for the full potential of widespread VMS use within MCS programs to be realized, data *exchange*, as well as its collection, must be undertaken. However, it is reported that such exchanges are currently minimal, except in the South Pacific and within EU waters.[50] Gallagher notes that there is "no overriding technical difficulty that should impede the data sharing process." In addition, there exists "broad agreement as to the utility and desirability of sharing data." Instead, Gallagher observes that the challenge is in finding "the institutional framework against which the data can be

---

[46] Article III(b). See: Haward, Marcus. 2004. "IUU fishing: Contemporary practice." Chapter 5. *Oceans management in the 21st century.* Oude Elferink, Alex G., and Rothwell, Donald (eds). Martinus Nijhoff Publishers. Leiden. Boston. p.89. The international legal framework, which includes the LOSC, the UN Fish Stocks Agreement and the Compliance Agreement and soft law instruments, mandates that states work together to conserve fish stocks and makes states responsible for the actions of fishing vessels. Thus it could be argued that multilateral support exists for the widespread international implementation of Vessel Monitoring Systems, arguably no matter what size the boat.

[47] There may be as many as 2.7 million small, undecked fishing vessels in the world. Some of these target high value fisheries such as shark and place significant pressure on both target and non-target stocks. Some fish illegally. Indonesian boats that target sharks and other marine life in Australia's Northern waters are a well-known example.

[48] Cacaud. 2007. Above, n.30. p.23.

[49] FAO. 2007. Above, n.37. p.6.

[50] In such cases where a vessel is within the jurisdiction of another EU State, Gallagher reports that the data from the Vessel Monitoring System is passed directly to that State. "Such cooperation has been extended to flag States whose vessels fish in EU waters and to coastal states in whose waters EU vessels operate." Gallagher. 2007. Above, n.20. p.42.

accessed and distributed."[51] This might come in the form of either of the two instruments examined later in this dissertation – the draft Port State Measures Agreement or the Global Record.

The *evidentiary status* of VMS data is unclear.[52] This constitutes another limitation. FAO has also noted that different countries treat VMS data differently when it is produced as evidence:

> Some countries treated VMS data as establishing a *prima facie* case or rebuttable presumption of vessel position leading to a shift in the burden of proof, while other countries treated the use of VMS data as evidence in administrative, as opposed to criminal proceedings, noting that there was widespread use of VMS data as evidence in legal systems that permitted administrative proceedings and that many cases were settled due to the reliance on VMS data.[53]

This lack of harmonization between States highlights the need for a common agreed view on how VMS data should be treated. Until then there is uncertainty, which invariably assists illegal fishers. While Cacaud has observed that both Iceland and the US have had experience in convicting offenders by using VMS information "as the only or primary evidence," he notes that VMS data has been used in court "on less than a dozen occasions to date."[54] Cacaud notes that VMS-derived evidentiary data has "never been rejected as evidence by a court."[55]

Thus, Vessel Monitoring Systems hold great promise, but they are not without limitations, both as a technology and as a regulatory mechanism. Cacaud notes that such systems are no panacea for the challenges that face fisheries authorities in the area of monitoring, control and surveillance.[56] The FAO Expert Consultation on Vessel Monitoring Systems concluded that while "the future expansion of VMS is assured... it has been inappropriately overvalued by some authorities as the ultimate MCS tool."[57] The High Seas Task Force has said, "VMS by itself is a guarantee of very little."[58] The increased use of these systems has not eradicated IUU fishing. As one tool in the greater arsenal, they increase the efficiency of monitoring, control and surveillance operations and have made traditional means of surveillance more cost effective.[59] It should also be appreciated that the widespread take-up of Vessel Monitoring Systems has occurred on a national and regional level without any *international* rules mandating that it be done. This is a testament to its clear cost-effectiveness and proven efficacy at supporting enhanced national and regional monitoring, control and surveillance programs. A

---

[51] Gallagher. 2007. Above, n.20. p.43.

[52] While both the Volga and the Saiga cases at the International Tribunal for the Law of the Sea considered issues regarding Vessel Monitoring Systems (such as the requirement to install one), the responsibility to ensure that vessels complied with the rules, is up to states. Further, states treat VMS data that is to be used as evidence in different ways. See: FAO. 2007. Above, n.37. p.6.

[53] *Ibid.*

[54] Cacaud. 2007. Above, n.30. p.30.

[55] *Ibid.*

[56] Cacaud. 2007. Above, n.30. p.36.

[57] Turner. 2007. Above, n.31. p.3.

[58] High Seas Task Force. 2006. Above, n.6. p.82.

[59] FAO. 2007. Above, n.37. p.2. The FAO Expert Consultation on the use of Vessel Monitoring Systems and satellites for fisheries monitoring, control and surveillance recommended further action regarding: "independent VMS data verification through more effective use of VDS, AIS and other monitoring technologies; data security and means to detect and prevent VMS tampering; software for detecting data anomalies and improved data analysis and harmonization of data management, transmission procedures and e-logbooks." p.8.

clearer picture of fisheries activities should be attainable by better integrating VMS data with other data such as "vessel registrations, licenses, management data [and] electronic logbook data."[60] They are relatively affordable pieces of technology. The potential synergies between Vessel Monitoring System use and the introduction of national port State control measures and cooperative regional port State control schemes are also clear.

Black and white vessel lists

On the other end of the spectrum to these technological methods of control, various campaigns have been implemented by NGOs and other private organizations that employ the method of "naming and shaming" to combat IUU fishing. This is done by gathering together private information, information derived from MCS tools (for example, overflights, boardings, or port inspections) and RFMOs to expose the vessel engaged in IUU operations and the company behind it through the media and on the internet.[61] The now-scaled back Coalition of Legal Toothfish Operators (COLTO) campaign and Greenpeace IUU Vessel Blacklist are two such examples.

Legal operators represented by COLTO faced the loss of their significant investment in the fishery.[62] During the height of the battle over Patagonian toothfish between legal and illegal fishers in the first years of this decade, COLTO developed a $100,000 reward program for information about IUU fishing. It also ran a publicity campaign against the illegal fishing of toothfish. It funded quasi-covert information gathering activities and investigations and passed this information to national enforcement personnel, CCAMLR and the media. It lobbied governments for domestic laws to be enacted that made it a violation of national law to fish in the waters of third countries without an authorization. It lobbied governments to take action against flagged vessels and nationals which had engaged in IUU fishing activities. COLTO helped publicize the activities of Pacific Andes, a Hong Kong company that had traded extensively in IUU Patagonian toothfish.[63] It was therefore an organization based on intervention and mobilization. COLTO's primary method of naming and shaming was through the media.

The black list maintained by Greenpeace International is a web-based database of information on known or suspected IUU fishing vessels and the companies behind them. Its aim is "to publicly expose" these entities.[64] According to its website, the lists provides national fisheries administrators with a way to "quickly check on the

---

[60] Turner. 2007. Above, n.31. p.3.

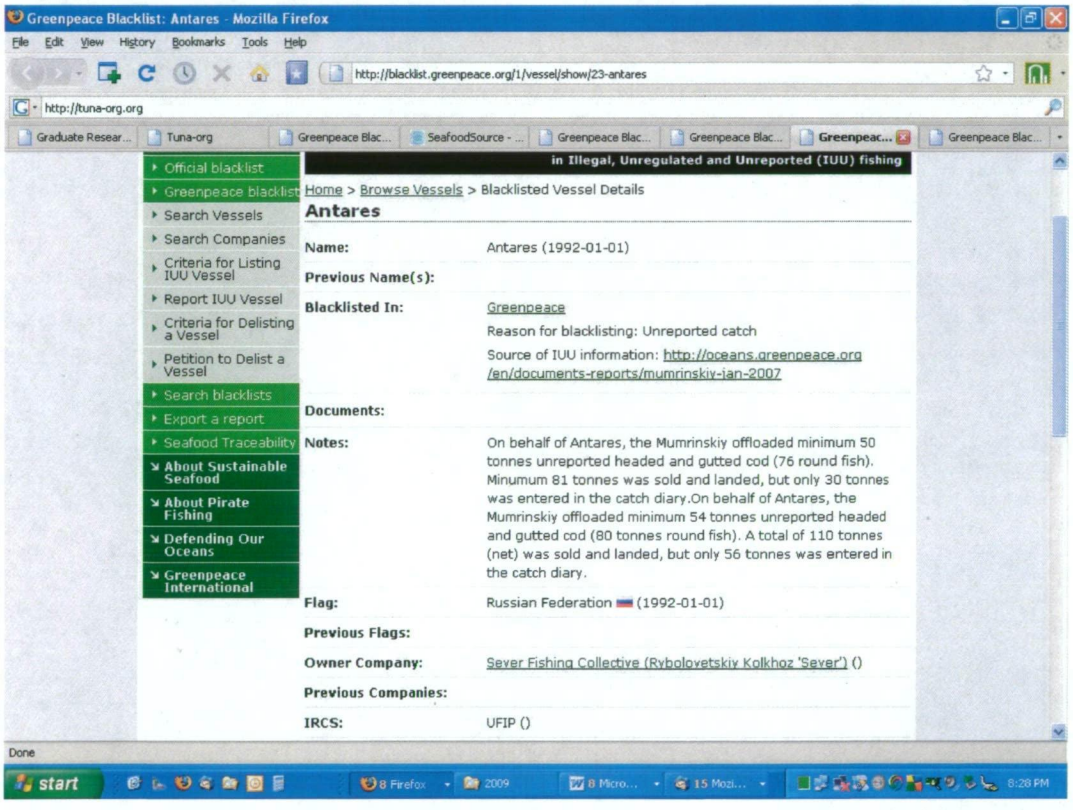
[61] Martin Exel, a spokesperson for COLTO, contends that the organization's activities helped reduced IUU fishing in the Patagonian toothfish fisheries. The fear of being publicly associated with IUU fishing persuaded some rogue fishing companies to remove themselves from the fishing grounds. Martin Exel. Q&A session with IASOS/ACE-CRC student group. 20 September 2005.

[62] It has been estimated that approximately 50,000 tonnes of toothfish has been taken by illegal, unreported and unregulated fishers since 1999. See: http://www.ccamlr.org/pu/E/sc/fish-monit/iuu-est-table.pdf. Accessed 13 May 2009. At a dollar value of approximately $10,000 per tonne, that equates to around $500,000 in lost fish.

[63] This was done by participating in an episode of the Australian Broadcasting Corporation public affairs program "Four Corners." "The Toothfish Pirates." Aired on 30/9/2002. The Australian Broadcasting Corporation also ran a story regarding Southern Ocean illegal fishing on the "7.30 Report" on 17 November 2003. Martin Exel of Austral Fisheries, a COLTO spokesman, said that defeating the illegal toothfishers was "a cause that we can only win by working together – legal operators, governments determined to act and international law." See transcript: http://www.abc.net.au/7.30/content/2003/s991128.htm. Accessed 22 May 2009.

[64] It can found at http://blacklist.greenpeace.org/. Accessed 12 May 2009.

compliance status of a foreign vessel trying to unload its catch in port, seeking services in port, seeking a fishing license or to register or flag in a country."[65] It sees a place for retailers and suppliers to use the database in their seafood sourcing, to ensure the fish is not derived from "pirate fishing vessels or from companies involved in such activities." The website contains two black lists of IUU fishing vessels and companies. It has an "Official Blacklist" – built from existing registries – and a "Greenpeace Blacklist."[66] It contains information on the companies behind the IUU fishing vessels. Greenpeace actively seeks reports of "irresponsible fishing vessels and companies that fish without a license or are in breach of management and conservation measures" and urged supporting evidence to be forwarded to the administrator of the site. At the time of writing (May 2009), the Official Blacklist contains 101 vessel names.[67] The Greenpeace Blacklist contains 73 vessel names. At the time of writing, the entire black list contains 174 vessels. It contains the records of 52 companies whose vessels have engaged in IUU fishing. Reprinted over the page is a randomly chosen entry in Greenpeace Blacklist.



There are clear legal and confidentiality problems with this public naming (and 'shaming') approach.[68] They do not utilize the same evidentiary process that takes place

[65] *Ibid.*

[66] *Ibid.* The former is derived from RFMO and other 'official' sources. The latter contains "information on vessels and companies that have been recorded engaging in IUU activities, but have not yet been blacklisted by an official body." There are fields available for "owner name" and "owner country" but these are not filled for every vessel.

[67] *Ibid.* It should be noted that Greenpeace International provides a process for reporting an IUU fishing vessel as well as "a petition form to have a vessel removed" from it.

[68] There is also the possibility of intimidation or violence against those providing the information to these campaigns.

in the RFMOs. As a result, States may not participate, although they may help fund some of the NGO activities.[69] The speed at which vessels de-register, re-register, change their names, call signs and paint-jobs may mean that the potential effectiveness of campaigns such as these is never fully realized. However, the recent vintage[70] and surprising comprehensiveness of the Greenpeace IUU Vessel Blacklist suggests that donors believe there is a place in the fight against IUU fishing for private/civil society campaigns such as these.

That being said, national vessel records and RFMO vessel lists are the more sophisticated MCS tool in this solution space. They have the imprimatur of State involvement – from the taking of vessel registration information at the licencing authority of in the flag State, to the meeting rooms of RFMOs where it is decided whether a particular vessel should be 'black listed'. Like Vessel Monitoring Systems, lists and records of vessels constitute a mechanism for controlling fishing vessels. This is because they are a source of *information*. It is hoped that this information will allow for better MCS coordination and the implementation of compliance and enforcement measures against particular vessels. It has been seen, above, that most flag States maintain some kind of records on their flagged fishing vessels, although certainly their content varies from State to State. Regional fisheries management organizations also create and maintain vessel lists. Most now produce and maintain either a white or black vessel list, or both.[71] They are published on the organizations' websites and in their annual reports.

'White lists' are sometimes called 'positive' lists. They identify vessels which are able to fish in the RFMO area. Vessels *not* on the white list are unable to fish in the area[72] and may be presumed to be conducting IUU fishing operations if they are found there.[73] Under ICCAT Recommendation 98-11, any non-member vessel sighted in the ICCAT convention area is presumed to be undermining conservation measures and will not be permitted to land or transship a catch until an inspection has been carried out of documentation, log books, gear and catch.[74] Roheim and Sutinen note that in 2003

---

[69] Analyzing the budgets of Greenpeace International (Europe) Kellow notes that somewhere between 76-83% of its funding (depending on the year) in the late 1990s came from citizens of just four nations – Germany, the Netherlands, Switzerland, and the UK. Kellow notes that Greenpeace therefore "represents a means by which an agenda reflecting northern European values is prosecuted in international politics, even to the extent of being advanced in developing countries and other nations in a way which would not be open to the northern European nations themselves. Germany, for example, is unable to engage directly in campaigns to shame national governments into supporting positions which favour German negotiating positions, but Greenpeace can do so." Kellow, Aynsley. 2000. "Norms, interests and environment NGOs: The limits of cosmopolitanism." *Environmental Politics*. Vol. 9. No. 3. Autumn. p.8. Further, the European Commission explictly funds some of these groups. Personal communication with Aynsley Kellow, University of Tasmania. 4 June 2009.

[70] The Greenpeace International IUU Vessel Blacklist was launched in February 2008.

[71] It should be noted that in merchant shipping, the IMO/ILO port state scheme contains black, white *and grey* lists.

[72] Within the CCSBT, large-scale fishing vessels that are not on the Commission's Record "are deemed not to be authorized to fish for, retain on board, tranship or land Southern bluefin tuna." http://www.ccsbt.org/docs/pdf/about_the_commission/resolution_on_authorised_24m_vessel_list.pdf. Accessed 31 July 2008.

[73] In CCAMLR a non-party's vessel seen fishing in the CCAMLR zone is presumed to be undermining CCAMLR Conservation Measures. NAFO operates under the same presumption.

[74] Roheim and Sutinen. 2006. Above, n.36. p.14.

Japan (the primary buyer of tuna caught in the ICCAT convention area) began purchasing tuna only from those vessels appearing on the positive list.[75]

'Black lists' or 'IUU lists' identify vessels that, after an internal adjudication process, have been determined to have fished in a manner undermining the RFMO's conservation and management measures. Black listing is done through regional fisheries management organisations using intelligence gathered by the organization. According to the IPOA-IUU, the identification of the vessels for black listing must be made through agreed procedures in a fair, transparent and non-discriminatory manner.[76] RFMOs compile their lists once a year, after consultations with and between member States. They are generally finalized at the Commissions' annual meetings, where they may be subject to both politics and the tempering effect of consensus-based decision-making. Nonetheless, both lists provide a way for individual member countries to identify vessels and States which are not complying, or have not complied, with their responsibilities under regional agreements. These can be targetted with enhanced MCS measures. They constitute an evidentiary basis for the refusal of fishing licence applications or flag registrations.[77] Clearly, they can be useful sources of information for a State to use when considering whether or not to flag a vessel. Flag States have also noted that "should a pattern or evidence of 'flag hopping' or IUU fishing emerge, registration was then likely to be refused."[78] They also provide a basis for targetted port controls or the imposition of market-related measures, such as import restrictions. They may also constitute a way to categorize vessels as being a 'high risk' of continued offending. It is likely that vessel lists such as these, and perhaps even the one kept by Greenpeace International, may have a deterrent effect, although there is the constant danger of vessels re-flagging to non-member countries. The fact that some of the vessels on RFMO black lists were previously flagged to countries such as the UK, US, France and South Africa appears to bear this out (this information can be found where the RFMO black list contains a "Previous flag" column, as it does in CCAMLR).

CCAMLR agreed to establish a black list in 2001.[79] ICCAT established its black list in 2002. In 2006, the Western and Central Pacific Fishery Commission adopted procedures for IUU fishing vessel listing[80] and in 2007 they were used to develop an IUU Vessel List.[81] NEAFC and NAFO joined their black lists in 2007 under a reciprocity agreement, creating a black list that effectively spans the Atlantic Ocean. The five tuna RFMOs put each other's links on their websites and jointly publish their white lists.[82] At

---

[75] Roheim and Sutinen. 2006. Above, n.36. p.18.
[76] IPOA-IUU. Paragraph 66.
[77] Baird, Rachel J. 2005. "CCAMLR initiatives to counter flag state non-enforcement in Southern Ocean fisheries." *Victoria University of Wellington Law Review.* Vol. 33. p.736.
[78] FAO. 2004. *Report of the Expert Consultation on fishing vessels operating under open registries and their impact on illegal, unreported and unregulated fishing.* Miami, Florida, United States of America. 23–25 September 2003. FAO Fisheries Report No. 722. FIP/R722. Food and Agriculture Organization of the United Nations. Rome, Italy. Paragraph 25.
[79] CM 10-06 (Contracting Party IUU Vessel List) and CM 10-07 (non-Contracting Party IUU Vessel List), both agreed in 2001.
[80] CMM-2006-09.
[81] See: http://www.wcpfc.int/mcs/index.htm. Accessed 17 July 2008.
[82] A centralized repository administers the information, at http://tuna-org.org. The "Positive Vessel List" section of the website contains links to the CCSBT list of authorized vessels, the IATTC Regional vessel register, the IATTC List of authorized large longline vessels, the ICCAT Record of vessels, the IOTC Record of authorized vessels, and the WCPFC Record of Fishing Vessels. The "IUU Vessel Lists" section contains links to the IATTC, ICCAT and IOTC IUU vessel lists.

a January 2007 meeting in Kobe, Japan, the five tuna RFMOs agreed to create a harmonized list of authorized tuna fishing vessels (including support vessels).[83] It is unclear from these developments whether the trend within RFMOs is towards white lists, black lists, or both. It was agreed by participants at the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving From Words to Action, held in Canada in 2005, that States should promote the establishment of "positive lists" within RFMOs. This was so they may be used by port and market States to determine whether fish products have been caught in accordance with conservation and management measures.

Exploring the CCAMLR IUU vessel list and those compiled by the tuna commissions ICCAT, IATTC and IOTC, it is evident that their methods of compilation and comprehensiveness differ. This must affect their practical utility. Based on September 2007 research by this author, of the seventeen vessels on ICCAT's black list, fifteen were flagged "unknown." Of the twenty four vessels on IATTC's black list, twelve were "unknown." But CCAMLR's twenty seven vessel list contained no "unknown" flag State vessels. Of the five vessels on IOTC's black list, none were "unknown." Whatever is making this degree of difference, it seems likely that greater information sharing between RFMOs and list standardization would increase the usefulness of these lists. As useful as these lists are, Lodge *et al* have identified an "immediate" and "practical" step that may enhance their effectiveness. That is to standardize, consolidate and exchange the vessel lists and combine them with information taken from Vessel Monitoring Systems.[84] In combination, these developments strongly suggest that keeping records on all vessels allowed to fish in a particular area is now a fixed idea in fisheries management, whether nationally, regionally or internationally. As will be seen in the following chapter, the international community is slowly working towards establishing a comprehensive information system containing all fishing vessels. This will be neither a white list or a black list but a neutral information source for fisheries managers, port State authorities, industry representatives and the general public. The activities within RFMOs, and the framework for States provided by provisions within the Compliance Agreement, Fish Stocks Agreement, IPOA-Fishing Capacity and the IPOA-IUU described in this dissertation, have all led to this point.

The 1993 Compliance Agreement's High Seas Vessels Authorization Record

It was seen in chapter 3 that the LOSC called for regular data exchange between States regarding the conservation of high seas living resources, including scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks.[85] However, it did not oblige any sort of exchange regarding fishing *vessel* information. The 1995 Fish Stocks Agreement contained general obligations to collect and share data and implement effective monitoring, control and

---

[83] They also agreed to assign these vessels permanent, unique identifiers. This Global List of Authorized Tuna Vessels is now available, and is searchable by vessel name, vessel initial, flag or gear. http://www.iattc.org/GVR/vesselslist.aspx. Accessed 12 May 2009.

[84] Lodge, Michael W., Anderson, David, Løbach, Terje, Munro, Gordon, Sainsbury, Keith, Willock, Anna. 2007. *Recommended Best Practices for Regional Fisheries Management Organisations: Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organisations.* The Royal Institute of International Affairs. Chatham House. p.ix. The High Seas Task Force also recommended that one of the ways better cooperation might render quick results would be the creation of *shared* vessel registers. High Seas Task Force. 2006. n.6. p.74.

[85] Article 119(2).

surveillance.[86] Annex I called on States to collect vessel-related data in the form of: vessel identifier, flag and port of registry; vessel type; vessel specifications (e.g. material of construction, date built, registered length, gross registered tonnage, power of main engines, hold capacity and catch storage methods) and; fishing gear description (e.g. types, gear specifications and quantity). Under Article 4(2) the flag State was to also collect information regarding the vessel's navigation and position fixing aids, communication equipment and international radio call sign, and crew size.

The Fish Stocks Agreement did not provide for mandatory information sharing with international organizations (such as FAO), only between States. Under the Compliance Agreement, signatories were required to establish national registers of flagged high seas fishing vessels and exchange that information with other parties and international organizations. This can be seen as part of the evolutionary process in fisheries management and a reflection of the need for more detailed information and a central repository. This section will now turn to the international record of fishing vessels envisaged by the 1993 Compliance Agreement. This was the High Seas Vessels Authorization Record. While national record-keeping and exchange was addressed by the IPOA-IUU, the HSVAR is attached to a *binding* multilateral agreement.

One of the objectives of the Compliance Agreement is to "increase the transparency of all high seas fishing operations through the collection and dissemination of data."[87] Even though it was adopted before the spread of IUU fishing was well known, the 1993 Compliance Agreement does two very important things to help combat it. Firstly, it sets a standard that flag States must fulfill when registering flagged fishing vessels and authorizing them to fish on the high seas.[88] Secondly, as noted above, it provides for the exchange between parties to the Agreement, RFMOs and international organizations of various data and information on fishing vessels that have been authorized to fish on the high seas. It details what information should be maintained by the flag State.[89] Article III(7) provides that States get from their flagged vessels:

> such information on its operations as may be necessary to enable the Party to fulfill its obligations under this Agreement [in particular to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures], including in particular information pertaining to the area of its fishing operations and to its catches and landings.

Article IV of the Compliance Agreement requires each party to maintain a record of all fishing vessels that are entitled to fly its flag and are authorized for use on the high seas.

---

[86] Article 5. Further, Article 18(3)(c) obliged states to establish a national record of authorized high seas fishing vessels and to share this information "on request" with "directly interested States" (subject to national confidentiality laws in the flag state). Annex I, Article 7 provided that: (1). Data collected by flag States must be shared with other flag States and relevant coastal States through appropriate subregional or regional fisheries management organisations or arrangements. (2). At the global level, collection and dissemination of data should be effected through FAO.

[87] West, Mary Beth. 1998. "The Future of the International Law of Capture Fisheries." *J. Northw. Atl. Fish. Sci.* Vol. 23. p.22.

[88] Under the Agreement, no party can allow its flagged fishing vessels to fish on the high seas without authorization. In addition, Article III of the Compliance Agreement calls on each Party to: "take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures."

[89] This includes "details of vessels scrapped or decommissioned or that have had their licenses withdrawn." FAO. 2007. *Report on the Development of a Comprehensive Record of Fishing Vessels.* FAO Committee on Fisheries. Twenty-seventh session. Rome, Italy, 5–9 March 2007. COFI/2007/Inf.12. Food and Agriculture Organization of the United Nations. Rome, Italy. p.1.

State fishing authorities are to obtain sufficient information about the vessel and its operations to discharge its data collection responsibilities under the Compliance Agreement. This means, in particular, "information pertaining to the area of its fishing operations and to its catches and landings."[90] Article V provides for the exchange of evidentiary information between States when IUU fishing has taken place. Article VI is vital to this chapter's discussions. It delineates the information regarding flagged vessels fishing on the high seas that should be exchanged between the States parties, FAO and other international organizations, and relevant RFMOs. States are to exchange:[91]

(a) name of fishing vessel, registration number, previous names (if known) and port of registry;
(b) previous flag (if any);
(c) International Radio Call Sign (if any);
(d) name and address of owner or owners;
(e) where and when built;
(f) type of vessel;
(g) length.

"To the extent practicable" States are to make other data available:[92]

(a) name and address of operator (manager) or operators (managers) (if any);
(b) type of fishing method or methods;
(c) moulded depth;
(d) beam;
(e) gross register tonnage;
(f) power of main engine or engines.

The data exchange between States parties and FAO envisioned under the Compliance Agreement is to be "prompt", with the data made either "readily available" (the first list, above) or "available" (the second list). This will presumably depend on its relative mutability (for example, regarding changes of ownership) and importance to attaining effective control of the vessel. Parties are to "promptly notify to FAO any modifications to the information." FAO will circulate all the data to all parties periodically, and to any individual party, global, regional and subregional fisheries organization, on request. When there are reasonable grounds to believe a vessel flagged to another party has contravened the obligations of the Agreement, other parties are to notify the flag State and, if appropriate, FAO. The party must offer the flag State "full supporting evidence" and may provide FAO "with a summary" of the evidence.[93] FAO may circulate the information if it chooses. In 1994 a database was developed by FAO to operationalize this part of the Compliance Agreement, putting in place a framework for first international record of fishing vessels operating in the high seas.[94] This was the High Seas Vessel Authorisation Record.[95] The HSVAR was envisaged to be a repository of

[90] Article III(7).
[91] Article IV(1).
[92] Article IV(2). It should be noted that the addition of the words, "to the extent practicable" makes the exchange of data under this subsection essentially discretionary.
[93] Article VI.8(b).
[94] Paragraph 18. IPOA-Fishing Capacity.
[95] The HSVAR is maintained by the FAO Department of Fisheries Unit for Data and Information (FIDI). In July 2002 FAO released – "under controlled access" – the web-based High Seas Vessel Authorization Record application. FAO. 2003. *Review of Recommendations from CWP-19.* Coordinating Working Party on Fishery Statistics. CWP-20/4. Twentieth Session. Victoria, Seychelles, 21–24 January 2003. Food and Agriculture Organization of the United Nations. Rome, Italy. Paragraph 18.

all high seas fishing registrations and authorizations issued by States for vessels over 24 metres. One of its primary purposes was to allow the identification of individual vessels[96] and their flag histories and activities. It was built to contain "distinctive and descriptive elements of high seas fishing vessels as well as information on registration and authorization status, infringements" and other information.[97] Into this database would go the information that States were obliged to collect under the Compliance Agreement.

The mandatory data to be forwarded to the HSVAR by States are as follows:

- Flag of vessel
- Previous flag of vessel
- Name of vessel
- Previous name of vessel
- High seas authorization, date and year of validity
- National registration number
- International Radio Call Sign
- Port of registry
- Shipyard where built, including town and country
- Name and address of principal owner
- Type of vessel
- Length (m)
- Whether access to this data is restricted to contracting parties (yes/no)
- Reason for deletion from record[98]

The optional data to be forwarded to the HSVAR by States are as follows:

- Name and address of operator/manager
- Type of fishing method or methods and gear type
- Moulded depth
- Beam
- Gross registered tonnage
- Power of main engine or engines (BHP)[99]

Data that FAO has deemed useful but is neither mandatory nor optional to be transmitted by States to the HSVAR are as follows:

- HSVAR identification number
- IMO of Lloyd's Register Number
- National or regional identifying number
- Picture or image
- INMARSAT number
- Material of build
- Hold capacity
- Storage method
- Wheelhouse equipment
- Crew size[100]

---

[96] FAO. 2003. Above, n.95. p.5.
[97] See: "Overview of HSVAR." http://www.fao.org/fishery/collection/compliance-agreement. Accessed 13 May 2009.
[98] See: ftp://ftp.fao.org/FI/DOCUMENT/complian/Information_requirements.pdf.
[99] See: ftp://ftp.fao.org/FI/DOCUMENT/complian/Information_requirements.pdf. Email communication with Sachiko Tsuji, FAO. 13 May 2009.
[100] *Ibid.*

It is noted that much of the better quality identifying data is in this last category.

The High Seas Vessels Authorization Record in practice

It has been fifteen years since the High Seas Vessels Authorization Record was established and the above information was obliged to be submitted to the HSVAR by contracting parties. In that time, it has not gained anything like the stature or efficacy that fisheries managers, international organizations, NGOs and interested experts might have liked. As set up under the Compliance Agreement, it was simply too limited. The following section will explore these limitations.

Scope and applicability

The HSVAR was limited by the nature of international law. Only parties to the Compliance Agreement are obliged to provide data to the database. It was seen in chapter 3 that adoption of the Compliance Agreement has not been widespread. In its fifteen year existence, just thirty-seven States plus the European Community have signed and ratified the Compliance Agreement.[101] It has captured some flag States whose vessels have, in the past, been implicated in high seas IUU fishing (as evidenced by their presence on one RFMO or another's black list and through anecdotal evidence).[102] However, many large fishing nations remain outside the Compliance Agreement. China is not a party to the Compliance Agreement nor a contributing member to the HSVAR. Neither is Russia – a long-standing distant water fishing nation and a flag which has been associated with IUU fishing vessels. The most problematic State will be Chinese Taipei, which is a party to no international or regional agreements due to its status as a non-State.[103] There have been discussions within FAO relating to non-parties making voluntary inputs into the HSVAR.[104] The incentive to do this would presumably be to be able to also get data out of the HSVAR – according to Swan, access to the HSVAR database is granted to countries that provide data.[105]

However, the utility of this is questionable given the second major reason why the HSVAR is too limited: there was no mandate for FAO to request *all relevant data*. The fields that were set up in the Compliance Agreement are the fields that remain in the HSVAR. In fifteen years, time has moved on and data needs may be different than in 1993. This is especially so in the light of the broad spread of IUU fishing. Information on beneficial owners, for example, is not required under the Compliance Agreement. Another limitation to the HSVAR's success as an instrument is that, under international law in general, penalties for non-compliance do not exist. If a State did not submit its data to the record, there were no consequences.

Partly as a result of the foregoing limitations, the utility of the HSVAR has been severely constrained. This is primarily because it has been poorly supported. There are

[101] As at 14 May 2009. See: http://www.fao.org/Legal/treaties/012s-e.htm. There are 26 States plus the European Community States to the HSVAR (totaling 46), as at 14 May 2009. http://www.fao.org/fishery/collection/compliance-agreement/2/en. Accessed 14 May 2009.
[102] Such as Belize, Cook Islands, Cyprus, Georgia, Mauritius, St. Kitts & Nevis, Seychelles and Uruguay.
[103] Chinese Taipei is known only as a "fishing entity" in international fisheries discussions. It is not a "State."
[104] FAO. 2004. Above, n.78. p.5.
[105] Swan, Judith. 2006. "Port State Measures to Combat IUU Fishing: International and Regional Developments." *Sustainable Development Law & Policy*. Vol. VII. Iss.1. Fall 2006. p.40.

currently only 7,175 vessel records in the HSVAR.[106] By contrast, in 2003 the IOTC had 6,200 vessels in its Vessel Record.[107] In addition, FAO estimates that there are 4 million fishing boats worldwide, 1.3 million of which are decked vessels.[108] Some 24,000 vessels fish on the high seas under RFMOs.[109] Further, it is notable that the majority of the HSVAR's 7,175 records came from the start-up phase of the project, and represent vessel information from just 5 members.[110] Twelve of the thirty-seven States parties to the Compliance Agreement (plus the European Community) appear to have given no data at all, as evidenced by a "–" in the columns marked "No. of vessels" and "Last update."[111] Most of these States were contacted by FAO in 2004 and asked to send data, with no success. (Curiously, this list includes Australia and Chile – arguably 'responsible' fishing States.)

In addition, the data that was received has often been poor or inadequate. The Compliance Agreement envisioned that the data exchange between States parties and FAO would be continual and ongoing. It would be constantly updated with information as vessels came on and off the national register, changed owners or any other part of the record, or were involved in infractions warranting other parties' attention. This clearly has not happened. Yet Smith estimates that, for large-scale vessels 10% of the records on national registers change each year.[112] Nomura reinforces this view of the mutable global fishing fleet:

> Nowadays, a fishing fleet can change its name, flag, and fishing pattern in a surprisingly short time period. Fleets can also move swiftly around the globe. Monitoring, control and surveillance of

---

[106] See: http://www.fao.org/fishery/collection/compliance-agreement/2/en. it should be noted that there were 5,943 vessel records in the HSVAR in June 2008.

[107] FAO. 2003. *Report of the Twentieth Session of the Coordinating Working Party on Fishery Statistics.* Victoria, Seychelles. 21–24 January 2003. FAO Fisheries Report No. 709. FIDI/R709. Food and Agriculture Organization of the United Nations. Rome, Italy.

[108] FAO. SOFIA. 2006. p.6.

[109] Baird, Rachel. 2008. "The development of a comprehensive Global Record for fishing vessels, refrigerated transport vessels and supply vessels: an analysis of the practice of regional fishery bodies." Appendix G. FAO. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. p.33.

[110] The FAO reports that in October 1995, a Circular State Letter (G/FI-24/PR) was sent to all States which had accepted the Compliance Agreement. By 1997 this numbered 10 according to: FAO. 1997. *Report of the Seventeenth Session of the Coordinating Working Party on Fishery Statistics.* Hobart, Tasmania. 3–7 March 1997. FAO Fisheries Report No. 555. FIDI/R555. Food and Agriculture Organization of the United Nations. Rome, Italy. This letter informed states that: "FAO had developed a prototype database and requesting those States to provide data on vessel authorisations to facilitate testing. Five countries agreed to send their data for testing purposes (United States of America, Canada, Norway, Japan and the EC member countries). The total number of vessels in the prototype database after this testing phase was 5,672. In August 2003, a second Circular State Letter (G/X/FI-30) was sent to all the States which had accepted the Agreement informing them of the entry into force, on 24 April 2003, of the Agreement and reminding them of their obligations under Article VI of the Agreement. Article VI of the Agreement requires Parties to exchange information on vessels authorised by them to fish on the high seas, and obliges FAO to facilitate this information exchange (emphasis added)." FAO Fishery Records Collections, High Seas Vessels Authorization Record. http://www.fao.org/fishery/collection/compliance-agreement/2/en. Accessed 17 June 2008.

[111] In June 2008, 18 states had given no data at all. *Ibid.* Accessed 17 June 2008 and 14 May 2009. The states which appear to have given no data to the HSVAR as evidenced by a "–" in the columns marked "No. of vessels" and "Last update" are Albania, Angola, Australia, Barbados, Brazil, Cape Verde, Chile, Cook Islands, Georgia, Mexico, Mozambique and Myanmar. As at 14 May 2009.

[112] Smith, Andrew R. 1999. *Analysis of the Vessels over 100 Tons in the Global Fishing Fleet.* FAO Fisheries Circular No. 949 FIIT/C949. Food and Agriculture Organization of the United Nations. Rome. 1999. p.2.

such fleets requires a network of consistent regulation equipped with timely reporting, prompt compilation and sharing of accurate data among relevant parties at global scale...[113]

The HSVAR is also technically limited. Originally designed with restricted technical content, by 2001 the database was technically "outdated" and had to be further developed in a new technical environment.[114] The spread of IUU fishing and the development of the international law relating to fisheries, including the IPOA-Fishing Capacity and IPOA-IUU, meant there was an "opportunity to expand the [HSVAR's] technical content to meet other information needs."[115] Indeed, the FAO Coordinating Working Party on Fishery Statistics reported in 2001 that "the addition of further fields in the HSVAR database could be useful."[116]

In summary, only a small number of countries are obliged to provide information to the HSVAR. Only certain types of data are mandated and additional fields for information would be technically difficult, expensive to adjoin and possibly not supported by members. In addition, data has generally not been forthcoming. For these reasons, the HSVAR is not a "definitive"[117] record of high seas fishing vessels and authorizations. With its scope so constrained, its overall utility must therefore be subject to question.

Coverage

The High Seas Vessels Authorization Record is limited by important elements related to its *coverage*. Firstly, by design the Compliance Agreement applies only to vessels fishing on the high seas. However, it will be recalled from chapter 3 that somewhere between 90 and 95% of commercial fish stocks occur *inside* EEZs. These stocks are heavily predated by IUU fishers. In the absence of management in the 1970s and through the 1980s the 'unregulated' nature of most high seas fisheries was a huge concern. But the subsequent strengthening of RFMOs and the entry into force of new organizations means that this late, continuing focus on the high seas has been myopic. It simply leaves too much of the ocean space and fisheries to the administrative and regulatory jurisdiction of coastal States. From discussions of the global fish stocks crisis in chapter 1 of this dissertation it is self-evident that many of these coastal States have been unable or unwilling to effectively manage those fisheries. The Compliance Agreement captures none of the vessels fishing in these waters unless they are also authorized to fish in high seas fisheries.

Secondly, as mentioned above, a great number of countries fall outside the obligation to supply information to the HSVAR because they are not parties to the

[113] This was said as part of the Assistant Director-General of the Fisheries and Aquaculture Department of FAO Nomura's opening statement to the Coordinating Working Party on Fishery Statistics 22nd Session in 2007.

[114] FAO. 2001. *Report of the Nineteenth Session of the Coordinating Working Party on Fishery Statistics.* Nouméa, New Caledonia. 10–13 July 2001. FAO Fisheries Report No. 656. Food and Agriculture Organization of the United Nations. Rome, Italy. p.20.

[115] FAO. 2001. Above, n.114. p.20.

[116] The following additions were discussed: a) unique vessel identifiers which would be assigned to each vessel; b) a field indicating whether the vessel is actively fishing. Mindful of the evident implementation difficulties the HSVAR was experiencing and the costs to states of additions, the Coordinating Working Party agreed that only fields which would be used for identifying vessels should be included: "the inclusion of other fields might overly burden the providers of the data." *Ibid.*

[117] The High Seas Task Force noted that none of the current registers or records, including the HSVAR, are "definitive." High Seas Task Force. *How to get better information about high seas fishing vessels.* Meeting of the High Seas Task Force. Paris, France. 9 March 2005. p.1.

Compliance Agreement. Flag of convenience States and some other States continue to remain outside international agreements. With their knowledge or not, they provide succour to vessel owners that seek to avoid compliance with international and regional conservation and management measures.

Thirdly, the HSVAR's coverage is limited by the Compliance Agreement's application size exemption. While the Compliance Agreement applies to "all fishing vessels that are used or intended for fishing on the high seas,"[118] parties to the agreement may exempt vessels that are less than 24 metres in length. It has been seen earlier in this chapter that limiting the scope of conservation and management measures to vessels over 24 metres in length has created major problems for RFMOs. A rider is attached whereby the exemption can be annulled if it would "undermine the object and purpose of this Agreement." However, in practice it may still mean that the Compliance Agreement and the HSVAR only contains vessels over 24 metres.

Reliance on flag States

The HSVAR is hobbled by its reliance on the flag State to collect vessel information (and, further, exchange it). This dissertation has seen a number of times that many flag States exert inadequate control over their flagged fishing vessels. In fact, all vessel lists so far created, with the exception of the Greenpeace International database described above, rely on the flag State to collect, exchange and authenticate vessel information. The High Seas Task Force has observed that white RFMO lists "rely on the authenticity of the information provided by the flag state, while the negative lists usually rely on information provided by contracting parties about activities of all vessels."[119] Not relying on the flag State for information provision (and verification of its accuracy) may be one of the key reasons why RFMOs have some successes in dealing with IUU fishing in their Convention areas. But there is no provision in the Compliance Agreement for non-flag State information provision to the HSVAR. There are no fields within the database through which such incorporations might be achieved. The Coordinating Working Party on Fishery Statistics has noted that FAO would:

> be interested in receiving listings of vessels from regional fishery bodies which could be included in a parallel database... both to verify the Record data, and to attempt to estimate global fishing capacity. CWP recommended that Vessel Name, National registration number, Flag, Fishing gear, Size, including LOA and capacity of hold, Party providing authorization to fish and Provider organization, where available, be exchanged among tuna agencies and programs.[120]

This is an acknowledgment that the HSVAR is severely compromised by its lack of demonstrable validity. Another issue which has undermined the HSVAR is its standard for identifying vessels. The merchant shipping fleet has been assigned what are known as 'unique vessel identifiers' on a mandatory basis for years. Yet, the Compliance Agreement did not progress the issue of assigning similar identifiers for fishing vessels. Fishing vessels that appear on the commercial insurer Lloyd's Register are assigned an

---

[118] Article II(1). A further limitation in the scope of the HSVAR is the unclear definition of "fishing vessel." The Compliance Agreement defines a "fishing vessel" as: "...any vessel used or intended for use for the purposes of the commercial exploitation of living marine resources, including mother ships and any other vessels directly engaged in such fishing operations (Article I(a) of the Compliance Agreement). But there are questions about what "directly engaged in... fishing" means, and whether it includes supply ships, refrigerated vessels and all transshipment vessels.

[119] High Seas Task Force. 2006. Above, n.6. p.56.

[120] Paragraph 18.

identifier in the form of a permanent IMO number. This captures all large-scale fishing vessels – generally this means fishing vessels over 100 GT. The unique seven-digit IMO number remains unchanged for the life of the vessel. Through it, changes in ownership and flag can be tracked.[121] The Compliance Agreement neither introduces a unique vessel identifier system or mandates that a specific identification system be used.[122] There have since been persistent calls for unique vessel identifiers to be introduced for use on all fishing vessels,[123] not just the very large ones which fall under the Lloyd's Register. Such an identifier would allow all fishing vessels to be "tracked regardless of changes in registration or name over time."[124] The IMO has been steadily creating greater linkages between it and the world's fishing vessels, which had otherwise long been separate from the regime.[125] Aside from the Working Group mentioned above, two relatively new IMO Conventions specifically deal with fishing vessels.[126] Stronger ties to the IMO is seen as important in eradicating IUU fishing. It is thought that by making it untenable for vessel owners to remain outside not only the international fisheries regimes, but outside worker safety and conditions regimes, some operations should come back into the legal framework. Bray considers the IMO regime part of the solution.[127] He notes that "all available means should be employed to keep

[121] Smith. 1999. Above, n.112. p.5.

[122] Instead Article III(6) of the Compliance Agreement calls for vessels to: "be marked in such a way that they can be readily identified in accordance with generally accepted standards, such as the FAO Standard Specifications for the Marking and Identification of Fishing Vessels." Conforming to this standard is not a mandatory requirement.

[123] The High Seas Task Force called for a new database, one with: "the capacity to issue unique, traceable identifiers to individual vessels and provide verifiable information from a range of independent sources on each and every high seas fishing vessel, and the nature and extent of its fishing authorizations." High Seas Task Force. 2005. Above, n.117. p.3.

[124] FAO. 2001. *Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* Rome, Italy. 9–11 October 2000. FAO Fisheries Report No. 637. FIIT/R637. Food and Agriculture Organization of the United Nations. Rome, Italy. p.4. It should be noted that the International Convention for the Safety of Life ate Sea, 1974 (SOLAS) "applies to all passenger ships and all cargo ships of 500 GT and over when engaged on international voyages, unless expressly provided otherwise in relevant chapters of the Convention. In general SOLAS does not apply to fishing vessels, however the only exception is SOLAS Chapter 5 – Safety of navigation – which applies to all ships on all voyages." Hope, Heike. "Port State Control of Fishing Vessels." In Annex E. FAO. 2001. *Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* FAO Fisheries Report No. 637. FIIT/R637. Rome. 9-11 October, 2000. Food and Agriculture Organization of the United Nations. Rome, Italy. p.18.

[125] IMO numbers can be obtained voluntarily (See: High Seas Task Force, Above, n.6. Chapter 4 endnote 5) but it can be assumed that vessels wanting to continue fishing outside authorization will not choose to obtain one. Discussing the issue of vessel identification numbers for fishing vessels the Working Group noted that: "it was already a mandatory requirement for vessels subject to the requirements of the Safety of Life at Sea Convention (SOLAS) to be allocated an IMO number [i.e. vessels over 500 GT]. The Working Group agreed that consideration should be given to how the IMO number scheme might be applied to fishing vessels not currently subject to this requirement." FAO. 2001. Above, n.124. p.4. It should be noted that the International Convention for the Safety of Life ate Sea, 1974 (SOLAS) "applies to all passenger ships and all cargo ships of 500 GT and over when engaged on international voyages, unless expressly provided otherwise in relevant chapters of the Convention. In general SOLAS does not apply to fishing vessels, however the only exception is SOLAS Chapter 5 – Safety of navigation – which applies to all ships on all voyages." Hope. 2000. Above, n.124. p.18.

[126] These are: The Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1997. This creates a safety regime for fishing vessels (of 24 metres or more in length); and The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995. This applies to personnel serving on board fishing vessels (of 24 metres or more in length). See: Hope. 2000. Above, n.124. p.4.

[127] Bray, Kevin. 2000. "Illegal, Unreported and Unregulated (IUU) Fishing." International Conference on Fisheries Monitoring, Control and Surveillance. Brussels, Belgium. 24-27 October 2000.

those who engage in or support IUU fishing out of business, including by ensuring that fishing vessels and support vessels that are unsafe, that pollute the marine environment, or that provide sub-standard conditions on board for their crew should not be permitted to go to sea."[128] In October 2000 the IMO and FAO convened a Joint FAO/IMO *ad hoc* Working Group.[129] The Working Group:

> 3. viii) agreed that consideration should be given to how the IMO number scheme might be applied to fishing vessels not currently subject to this requirement in order to enable vessels to be traced regardless of changes in registration or name over time.
> 3. ix) noted that the majority of fishing vessels were not covered by IMO conventions either because fishing vessels were specifically excluded, or because they were outside the size limitations, or because the flag States were not party to the relevant instruments.

Owners

Related to these issues of vessel identification is the lack of light the HSVAR (or the Compliance Agreement) shines on the owners that send fishing vessels out to fish illegally. Modern vessel ownership feeds the problem of the 'corporate veil'. Smith notes that "the ownership of vessels is in the form of shares divided into sixteenths or even sixty-fourths. The beneficial ownership gives an indication of the nationality of the

---

http://ec.europa.eu/fisheries/press_corner/autres/control/bray.pdf. Bray proposes research be undertaken on vessel "registrations, IMO and ILO reports, insurance records, accident reports, etc" to determine the "extent to which fishing vessels known or suspected by regional fisheries organizations to have engaged in or supported IUU fishing have also been found to be in breach of safety, pollution prevention or crew condition requirements and obligations." The ILO shares these concerns. See: International Transport Workers' Federation. 2006. "Out of sight – out of mind." Issue 25. Transport International Magazine. October. http://www.itfglobal.org/transport-international/ti25-fishers.cfm. Accessed 25 May 2009, noting that "The fishing industry is home to some of the worst examples of workplace abuse." See also: Wagner, Brandt. 2004. "ILO submission to the workshop on IUU fishing activities." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing*. Committee for Fisheries. OECD Publishing. pp.281–283.

[128] Further linkages between the IMO regime and fishing vessels will be further explored in chapter seven, during an examination of port state controls in fisheries.

[129] In April 1999 the UN Commission on Sustainable Development discussed flag and port state responsibilities as well as "the need for FAO and the International Maritime Organization (IMO) to cooperate on solving problems relating to IUU Fishing." UN General Assembly Resolution 54/32 called for IMO/FAO cooperation regarding the definition of the "genuine link" between a fishing vessel and a flag state and at the eighth session of the IMO's Flag State Implementation Sub-Committee in 2000. The Marine Environment Protection Committee (MEPC) and the Maritime Safety Committee (MSC) of the IMO were consulted, recommending a joint FAO/IMO *ad hoc* working group be convened. This was the *Joint FAO/IMO Ad hoc Working Group on Illegal, Unreported and Unregulated (IUU) Fishing and Related Matters*. It met in Rome, 9–11 October 2000. Representing FAO were the Governments of Australia, Chile, Japan, Malta, the Philippines, South Africa, United States of America and the European Community. Representing the IMO were the Governments of Argentina, Canada, China, Denmark, Liberia, the Republic of Korea (South Korea) and Turkey. FAO. 2001. Above, n.124. It should be noted that the IMO is increasingly concerned about illegal, unreported and unregulated fishing and possible international solutions. This is not least because IUU fishing operations are often in breach of IMO safety standards which can include gear abandonment and modifications to a vessel's structure in order to conceal fish. Fitzpatrick notes that: "Other users of the seas are put at risk to the extent that small fishing vessels and other small craft are run down, often with the loss of life and property. Incidents such as these generally take place in darkness and the culprits steam with navigation lights switched off in contravention of the International Regulations for Preventing Collisions at Sea." Fitzpatrick, John. 2000. *Measures to enhance the capability of a flag state to exercise effective control over a fishing vessel.* Presented at the Expert Consultation on Illegal, Unreported and Unregulated Fishing. Government of Australia in cooperation with FAO. Sydney, Australia. 15-19 May 2000.

principal owner or company."[130] It has been observed that "the activities of corporations are as opaque [now] as they were in the 19th century." [131] In fisheries, this lack of corporate transparency is exacerbated by flags of convenience, or open registries. It is acknowledged, in the abstract, that seeking a registry with flexible conditions of entry is neither illegal nor necessarily harmful. However, the High Seas Task Force notes that the 'corporate veil' allows IUU fishing operators to "avoid exposure and liability, even when a vessel is apprehended in the conduct of IUU fishing activities."[132] Indeed, one of the selling points for open registries is that, to a greater or lesser extent, they will protect the anonymity of a beneficial owner. This situation is, in part, caused by the continuing lack of agreed definition about what constitutes a "genuine link" between the national registry and the beneficial owner. This was flagged at the time of the 1982 LOSC as a problem but neither the Fish Stocks Agreement nor the Compliance Agreement does anything about it.[133] While the origins and nature of the 'corporate veil' and potential solutions are subjects too specialized to discuss within this dissertation, it has helped create a manifest lack of transparency in national registration systems.[134] By extension it has greatly hindered the effectiveness of the HSVAR as a tool to assist States identify the relative risk of vessels.

Accessibility

The lack of transparency of national records is matched by the lack of accessibility of the HSVAR. It is not a publicly accessible record. Neither academics, students, NGOs, legitimate fishing industry participants nor authorities from non-signatory States have access to the database. The database has a surprisingly spare web page, giving almost no information about the HSVAR itself, let alone the records it may contain:

---

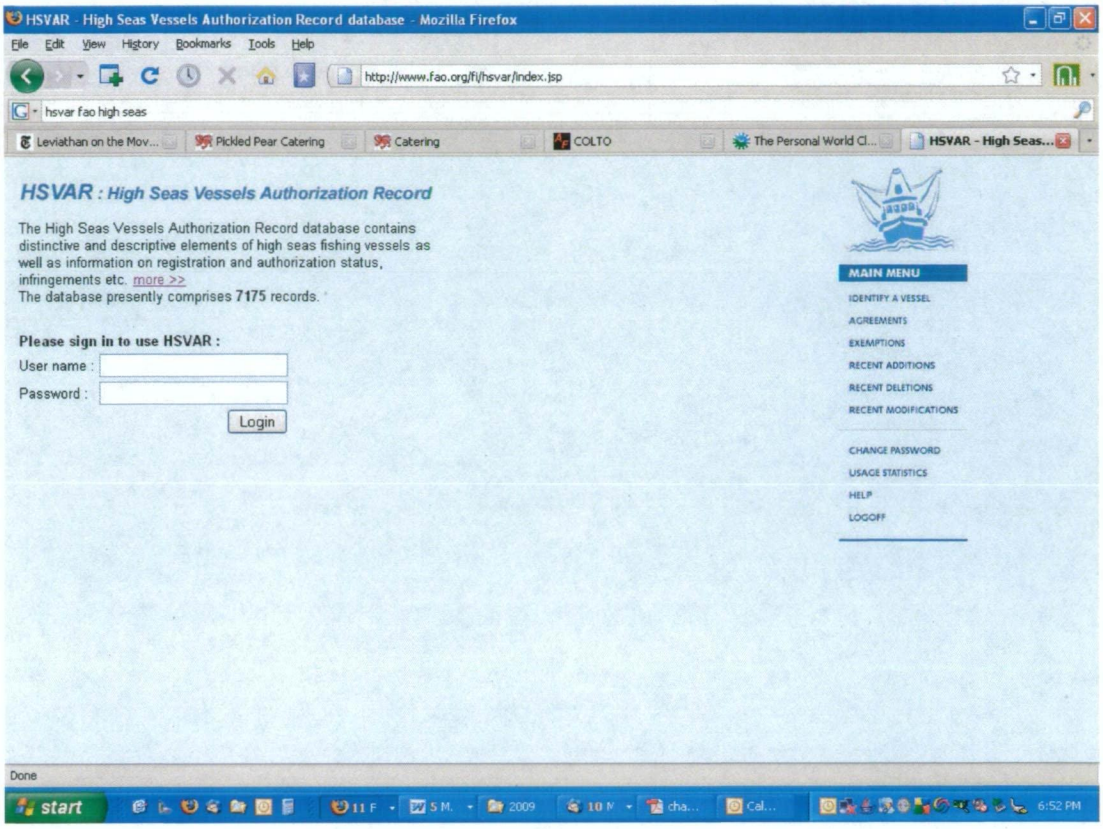
[130] Smith. 1999. Above, n.112. p.5. See also Bender and Lugten, who outline how beneficial owners of IUU fishing operations profit from their activities and suggest a model of taxing income derived from IUU fishing activities. Bender, P., and Lugten, G. 2007. "Taxing Illegal Fishing (A Proposal for Using Taxation Law to Reduce Profiteering From IUU Fishing Offences)." *The International Journal of Marine and Coastal Law.* Vol. 22. No. 4. Koninklijke Brill NV.

[131] In a discussion of the corporate power of McDonald's Corporation. Meek, James. "We Do Ron Ron Ron, We Do Ron Ron." *London Review of Books.* Vol. 23. No. 10. 24 May 2001.

[132] High Seas Task Force. 2005. Above, n.117. p.1. See generally: Griggs, L. and Lugten, G. 2007. "Veil over the nets: Unravelling corporate liability for IUU fishing offences." *Marine Policy.* Volume 31. Issue 2. March. pp.159-168.

[133] There is no technical reason for it: Bray notes that: "Modern information systems can readily cope with the complexities of frequent vessel ownership and nationality changes. Accordingly, there is no legitimate excuse for the existence of corporate veils behind which IUU fishers and owners can hide." Bray. 2000. Above, n.127.

[134] To change this would require sustained political will and, on a national basis, "careful integration or harmonization of MCS and Corporate Law regulations with arrangements for the control of nationals." Bray. 2000. Above, n.127.



See: http://www.fao.org/fi/hsvar/index.jsp

It is appreciated that the generally forthcoming and transparent RFMOs make their black lists publicly available via the internet but not their white lists, in general. However, this author did not even find any FAO documents that discussed the HSVAR in anything but the most glancing detail. This was made more frustrating by the fact that entering the search terms "HSVAR" and "High Seas Vessels Authorization Record" into the FAO Document Repository search engine yielded 0 results.[135] A certain amount of this is almost certainly due to fishing being a hyper-competitive industry. But time has moved on. Certain things are expected to be more transparent. The 2001 IPOA-IUU encouraged participation by stakeholders other than just States and RFMOs – it foresaw the participation of industry, fishing communities, international organizations, NGOs and the general public.[136] The inaccessible HSVAR is out of keeping with this more modern vision.

If allowing less information into the public sphere, rather than more, was an attempt to gain acceptances to the Compliance Agreement and its HSVAR, it did not work anyway. States, both individually and through RFMOs, are increasingly looking at new tools to better manage fisheries and IUU fishing. The culture of secrecy within RFMOs has undergone a slow but certain shift towards transparency. In part this is an

[135] The High Seas Task Force points to such industry/public good/private initiatives as ISOFISH, COLTO, the Organisation for the Promotion of Responsible Tuna Fisheries and the activities of international NGOs which: "demonstrate the inadequacies of some of the more formal vessel registers. They are also a powerful indication of why it is important to find a way to obtain and publicise information on the corporate structures and activities of illegal fishers as well as the vessels that they use." High Seas Task Force. 2006. Above, n.6. p.58.

[136] Paragraphs 9.1 and 25, IPOA-IUU.

acknowledgment that member States of RFMOs have, at times, acted poorly and warranted increased scrutiny from fellow members, NGOs and the broader public. Rayfuse notes that some RFMOs rely on NGO reports and information received from other members to assess the accuracy of submitted compliance reports and the merits of any "follow up action taken by the state involved."[137] RFMOs and the Greenpeace International Blacklist have shown that there is a clear place for non-flag State information and greater transparency in all aspects of fisheries management – including at the international level. This should include information on the global fishing fleet and individual fishing vessels on the High Seas Vessels Authorization Record.

Developing States

The HSVAR is weakened by the Compliance Agreement's inadequate support for developing States. Article VII of the Agreement, entitled "Cooperation with Developing Countries," merely provides that the parties "shall cooperate, at a global, regional, subregional or bilateral level, and, as appropriate, with the support of FAO and other international or regional organizations, to provide assistance, including technical assistance, to Parties that are developing countries in order to assist them in fulfilling their obligations under this Agreement." There is no funding to assist developing States implement the Compliance Agreement or collect and exchange information with the HSVAR. In contrast, the Fish Stocks Agreement – adopted just two years later – does have a trust fund for providing assistance to developing States. Hopes for the full implementation of the Compliance Agreement face a fundamental challenge: there is a healthy and growing market for flags of convenience and other types of flags which offer few restrictions on a vessel's behaviour and weak or no sanctions in the event of non-compliance.[138] That market is located, in general, in developing States and small island nations.[139] There exists significant economic and legal incentives for fishing operations to seek out such flags. Baird observes, "there is little economic incentive for States to either decline applications for registration or to take effective enforcement action" against non-compliant vessels.[140] A State's acceptance of the Compliance Agreement and the introduction of control measures or sanctions in the event of non-

---

[137] Rayfuse, Rosemary. 2005. "To Our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *The International Journal of Marine and Coastal Law*. Vol. 20. Nos. 3–4. p.522.

[138] Under the Compliance Agreement, sanctions for serious offences are to include "refusal, suspension or withdrawal of the authorization to fish on the high seas." Article III.(8). The 1995 UN Fish Stocks Agreement Trust Fund was discussed at the 2003 FAO Expert Consultation on Fishing Vessels Operating Under Open Registries: "Some Experts suggested that a possible activity under this Trust Fund could be support for the establishment of a national vessel monitoring system for the purposes of improving MCS capacities." FAO. 2004. Above, n.78. p.4. In the shipping sector, Bloor *et al* have noted that "the 'less responsible states have little intention of fulfilling their fundamental responsibilities' because this would lessen their market attractiveness to 'less scrupulous owners,'" quoting International Commission on Shipping, 2000. Bloor, Michael, Datta, Ramesh, Gilinskiy, Yakov, Horlick-Jones, Tom. 2006. "Unicorn among the Cedars: On the Possibility of Effective 'Smart Regulation' of the Globalized Shipping Industry." *Social & Legal Studies*. London. December. Vol. 15. Iss. 4. p.537.

[139] It should be noted that these same states have been "among those that suffer the most from the adverse effects of IUU fishing. They often lacked the resources and infrastructure to monitor and exercise effective jurisdiction. Support and technical assistance were required to improve their capacities." FAO. 2004. Above, n.78. p.4.

[140] As noted earlier in this dissertation (chapter two, n.103), states may make calculations when giving their support to combatting illegal, unreported and unregulated fishing. Baird observes that the Seychelles closed its ports to IUU fishing vessels, probably because it wanted to gain international cooperation and assistance to set up a lucrative swordfish fishery in its EEZ. Baird. 2005. Above, n.77. p.747.

compliance could cause some fishing vessels to re-flag to another, often weaker State. Hence, there is a *cost* to some States of creating stronger domestic laws and signaling greater compliance with international agreements and developing States will be particularly affected by this.[141] There is also a cost to the international community. Some of this could have been alleviated by the inclusion within the Compliance Agreement of a fund to assist developing States implement the measures called for by it, including the frequent collection and timely exchange of information on its flagged vessels.

Modernization

Lastly, but importantly, there is no review function within the Compliance Agreement. There is therefore no way for it to modernize itself or the HSVAR, without the laborious process of change through FAO-COFI. The lack of a review function suggests that there was a "lack of a long-term maintenance plan" for the HSVAR, as was suggested in 2008.[142] It also means that the provisions as they stood in 1993 are the provisions that stand in 2009 – a sixteen year time period over which time the problem of IUU fishing exploded onto the international environmental, legal and political agenda. Large scale, highly organized and well-financed IUU fishing activities post-date much of the international legal activity of the 1980s and 1990s – including the Compliance Agreement and the HSVAR it set up. The information that was meant to flow has not been forthcoming. This instrument, while thought to be a significant leap forward at the time, has been hobbled into near invisibility by a lack of vision and poor implementation. By 2003 the HSVAR was already seen as too limited. The 2005 report of the twenty-first session of the Coordinating Working Party on Fishery Statistics did not mention the HSVAR once outside of the list of acronyms.[143] There is so little information about the record that there exists virtually no academic papers that discuss it at any length. As mentioned, very little is to be found on the FAO Document Repository. Information on its functionality and efficacy can therefore instead be gleaned from what *is not* said about it. The limitations of the HSVAR have left it a virtual orphan. While information has not stopped flowing,[144] the international community has essentially turned away. It is now looking for something else to fill the information gaps the HSVAR was intended to fill, and the ones that have opened up since.

Conclusion

It has become clear to the international community that record keeping and data exchange are two devices with great power to convert the current 'dearth of data' to an information-rich world of possibility for the fisheries manager, MCS practitioners, port

[141] There will be informal ways to reduce this effect. Under Article VII of the Agreement, the parties are directed to cooperate at all levels, with FAO and other international organizations, "to provide assistance, including technical assistance, to Parties that are developing countries in order to assist them in fulfilling their obligations under this Agreement." (Article VII.) North-South financial assistance and indirect programs will probably be used to get some states to exit the flag of convenience market and secure the effectiveness of this Agreement.

[142] FAO. 2008. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. Food and Agriculture Organization of the United Nations. Rome, Italy. p.6.

[143] FAO. 2005. Above, n.21.

[144] In the period between June 2008 and June 2009, 1,232 vessel records were added to the HSVAR.

State official, flag State, fish wholesaler and consumer. Reliable data is vital to implementing national and regional obligations for ecosystem-based management (as provided for in the Fish Stocks Agreement). It is vital for effective monitoring, control and surveillance in fisheries. It has become vital for the fishing, processing and retail industries. The current lack of complete information causes fleet-level and vessel-level problems. FAO believes that the information currently available "has only limited value for monitoring and detecting global trends in fishing capacity."[145] Anything but an estimate of the extent of global IUU fishing is difficult to reach. Enforcement action is difficult as owners are often hidden by flag State promises of confidentiality and the great lengths IUU fishing vessel owners will go to in order to come under the 'corporate veil'.[146]

FAO has kept aggregated fishing fleet statistics since 1970.[147] The FAO "State of World Fisheries and Aquaculture" (SOFIA) is published every two years. In the SOFIA, FAO uses data from different sources and pulls together an idea of the world fishing fleet size, activities and fishing statistics. But there are still no statistics on total tonnage and power of world fishing fleet, despite there having been calls for years to reduce capacity in all sectors. Information on individual fishing vessels is derived mostly from a patchwork of national registers, RFMOs, the HSVAR and other administrative records.[148] The UK-based insurer Lloyd's is the best source of information on fishing vessels 100 tons and over. But even within this rather limited web there are major gaps. Some countries, such as China, Chinese Taipei and South Korea, have markedly incomplete records, even when supplemented by FAO fishing fleet data.[149] As seen above, while there are nearly 25,000 fishing vessels on the Lloyd's Register,[150] there may be as many as 4 million fishing vessels worldwide. National registers are improving but incomplete. International records, like the HSVAR, are impenetrable to everyone but the small number of parties to the Compliance Agreement. The High Seas Task Force observed that "there is no single and complete database or register of high seas fishing vessels in the world."[151] The Greenpeace Blacklist is admirable, but no substitute for a real commitment by States to greater transparency in world fisheries and more effective control over the activities of fishing vessels.

The negotiation of the 2001 IPOA-IUU was in many ways an acknowledgement that "[e]xisting international instruments addressing IUU fishing have not been effective due to a lack of political will, priority, capacity and resources to ratify or accede to and implement them."[152] The IPOA-IUU set out methods for States to help control IUU

---

[145] FAO. SOFIA. 2006. p.26.

[146] Griggs and Lugten note: "A typical IUU fishing operation will consist of the secret beneficial owners purchasing an outdated, barely seaworthy vessel, refitting the vessel with state-of-the-art technology, and then registering the vessel in a FOC State [which will] ask no questions and impose no laws. The beneficial owners will then usually incorporate a 'front' company in the vessel's new flag State, often with bearer shares." Griggs and Lugten. 2007. Above, n.132. pp.161-162.

[147] These are published as the *Bulletin of Fishery Statistics* approximately every five years by the FAO Fishery Information, Data and Statistics Unit.

[148] FAO. SOFIA. 2006. p.25.

[149] Smith. 1999. Above, n.112. pp.2–3. In the most striking example, FAO Fishing Fleet Statistics reported 15,000 vessels from China, while Lloyd's had only 253. In comparison, for the Oceania region the statistical differences were less striking: 342 vessels in FAO's database, 322 on Lloyd's Register – i.e. 94%.

[150] High Seas Task Force. 2005. Above, n.117. p.5.

[151] Emphasis in original. High Seas Task Force. 2005. Above, n.117. p.1.

[152] Paragraph 1. IPOA-IUU.

fishing activities. Paragraph 81 of the IPOA-IUU encourages States (acting through regional fisheries management organizations) to:

> compile and make available on a timely basis, and at least on an annual basis, to other regional fisheries management organizations and to FAO, information relevant to the prevention, deterrence and elimination of IUU fishing, including:
>
> 81.1 estimates of the extent, magnitude and character of IUU activities in the area of competence of the regional fisheries management organization;
>
> 81.2 details of measures taken to deter, prevent and eliminate IUU fishing;
>
> 81.3 records of vessels authorized to fish, as appropriate; and
>
> 81.4 records of vessels engaged in IUU fishing.

In addition, flag States were encouraged to keep a record of the fishing vessels entitled to fly their flags. This included those authorized to fish on the high seas.[153] The records were to include details of the vessel, the names and addresses of its beneficial owners, the operations manager and to whom it is registered, the vessel's ownership, name and compliance history, its dimensions and a photograph.[154] It set out in detail what information should be required by the flag State when authorizing a vessel to fish in areas outside national jurisdiction, including what monitoring, control and surveillance tools the vessel was to have.[155]

Despite this, in 2005 the High Seas Task Force observed that the lack of "access to transparent and unbiased information about the ownership and control of fishing vessels makes control of IUU fishing much more difficult for national enforcement authorities and RFMOs."[156] At the 2006 Fish Stocks Agreement Review Conference, it was noted that "timely and accurate data reporting, including reporting of catches, remains a serious challenge."[157]

Globalization has brought great changes to the world's market for fish and its fishing fleets. As fishing operations – both legal and illegal – have globalized, so has the need for a system that can provide information on a global scale. Effective, transparent national, regional and international information systems can now be seen as vital to effective fisheries management into the future and the fight against IUU fishing today.

---

[153] In the FAO 2004 report discussed above, only 58% of respondents whose vessels fished on the high seas submitted high seas fishing data to FAO. In addition: "More than one in three respondents confirmed that no such data were being supplied. This goes to underline the extent of unreported high seas fishing, and the current lack of implementation of adequate reporting mechanisms by a large number of high seas fishing nations." FAO. 2004. Above, n.3. p.5.

[154] Paragraph 42. IPOA-IUU. The photograph is to be taken at the time of registration or after any structural alterations.

[155] Paragraph 47. IPOA-IUU.

[156] High Seas Task Force. 2005. Above, n.117.

[157] Annex "Outcome of the Review Conference: New York, 26 May 2006." Paragraph 14. UN General Assembly. *Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks New York, 22-26 May 2006.* Prepared by the President of the Conference. A/CONF.210/2006/15. 5 July 2006. It was further noted that "Without comprehensive and accurate data gathering/reporting, both scientific and management processes are undermined."

Chapter 6 – A Global Record of Fishing Vessels: An Evaluation of its Potential to Combat Illegal, Unreported and Unregulated Fishing

Introduction

The previous chapter saw how records and registers of fishing vessels are valuable tools for monitoring, control and surveillance purposes. They are often the basis for further action, such as the production of IUU vessel lists or the application of port State measures. They have been considered, since at least the 1993 Compliance Agreement and the 1995 Fish Stocks Agreement, as one of the keys to controlling the activities of fishing vessels at the national, regional and international levels.[1] The experience of the vessel database provided for by the Compliance Agreement – the High Seas Vessels Authorization Record – made it clear that: true comprehensiveness is crucial; data exchange should be mandatory with incentives attached to facilitate compliance; records should be transparent and widely available; user needs must be considered; and flag States should not be the sole source of information, as their remittances of data can be unreliable. These issues will reverberate through this chapter, as it explores a new tool to combat IUU fishing. This is the proposed FAO Comprehensive Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels (hereinafter referred to as the Global Record).

International developments

Enhancing transparency in the shipping, labour and fisheries sectors

The now very focused call for a comprehensive database of fishing vessel information began simply, when keeping national records of flagged vessels was made a fundamental duty of flag States under the LOSC.[2] The Compliance Agreement, Fish Stocks Agreement and the non-binding Code of Conduct called on States to keep records on their vessels and exchange certain information. Indeed, most flag States do keep some form of record of their vessels and vessel operators and/or owners – generally by keeping a register which contains licencing information. But without a standardized system for logging this information, or any obligations to collect more than the most basic information, the gaps in data kept at the national level are significant. The exchange of that data is minimal, in part because of ongoing confidentiality concerns about both fishing activities and beneficial vessel owners. One of the objectives of creating a Global Record is to bring some standardization and harmonization to these national vessel records. This will enhance their usefulness to the international community. It will also help the flag States themselves to better manage their own registries in the face of growing criminal involvement in fishing operations and widespread IUU fishing.

---

[1] Lodge, Michael W., Anderson, David, Løbach, Terje, Munro, Gordon, Sainsbury, Keith, Willock, Anna. 2007. *Recommended Best Practices for Regional Fisheries Management Organisations: Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organisations.* The Royal Institute of International Affairs. Chatham House. p.44.

[2] Article 94(2)(a) provides that every state shall: "maintain a register of ships containing the names and particulars of ships flying its flag, except those which are excluded from generally accepted international regulations on account of their small size."

When, as seen in the previous chapter, States did not exchange data to the extent envisaged by the Compliance Agreement and the Fish Stocks Agreement, the 1999 soft law FAO International Plan of Action for the Management of Fishing Capacity urged States to establish national records of fishing vessels and provide data to the High Seas Vessels Authorization Record.[3] Two years later, the 2001 International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) called for a more comprehensive approach. States were urged to implement a suite of monitoring, control and surveillance measures. These includes maintaining vessel records and other systems for the acquisition, storage and dissemination of monitoring, control and surveillance data.[4] The IPOA-IUU envisaged cooperation and coordination between States in the form of information and data exchange. States were urged to:

> 28.1 exchange data or information, preferably in standardized format, from records of vessels authorized by them to fish, in a manner consistent with any applicable confidentiality requirements;
> 28.2 cooperate in effective acquisition, management and verification of all relevant data and information from fishing;
> 29. In the light of Article VI of the 1993 FAO Compliance Agreement [Exchange of Information], flag States should make available to FAO and, as appropriate, to other States and relevant regional or international organizations, information about vessels deleted from their records or whose authorization to fish has been cancelled and to the extent possible, the reasons therefor.

It encouraged States to keep detailed records, including, *inter alia,* the name and ownership history of the vessel and its history of non-compliance. This was to make it more difficult for a vessel with a history of re-flagging from freely continuing to do so.[5]

In the merchant shipping and maritime safety sectors, increasing transparency has been a priority for some time. While an in-depth exploration of these sectors is beyond the scope of the present work, it is understood that national and international shipping regimes have long used vessel and company records as key governance tools. The IMO maintains the Global Integrated Shipping Information System under one of its key conventions – the 1974 Convention for the Safety of Life at Sea. The commercially-oriented Lloyd's Register-Fairplay and the European Quality Shipping Information System (Equasis) are also databases of significance.[6] Registering with Lloyd's is a

---

[3] Paragraph 18 of the IPOA-Fishing Capacity provides: "While awaiting the entry into force of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement), States should support the establishment by FAO by the end of 2000 of an international record of fishing vessels operating in the high seas, following the model indicated in the Compliance Agreement."

[4] Paragraphs 24 through 24.10. IPOA-IUU.

[5] Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: The economics of illegal, unreported, and unregulated fishing.* Organisation for Economic Co-operation and Development. OECD Publishing. p.114.

[6] According to Equasis: "One of the main conclusions of the Quality Shipping Conference in Lisbon in June 1998, was an unanimous call from the participants representing the whole range of industry professionals (including ship-owners, cargo owners, insurers, brokers, classification societies, agents, ports and terminals), to make such information more accessible. In response to this call, the European Commission and the French Maritime Administration decided to co-operate in developing an information system collating existing safety-related information on ships from both public and private sources and making it available on the Internet." http://www.equasis.org/EquasisWeb/public/About?fs=HomePage. Accessed 20 August 2008. Equasis was launched in November 1997 as part of the Quality Shipping Campaign by the European Commission and the UK Government. Its aim was to improve marine safety and reduce substandard shipping. Participating maritime authorities are Australia, France, Japan, Norway, Spain, the United Kingdom, and the European Maritime Safety Agency representing the European

prerequisite for securing vessel insurance, where Equasis exists to "help promote the exchange of unbiased information and transparency in maritime transport."[7] The Equasis project was initiated by the appreciation that one fundamental impediment to "a genuine quality culture in shipping is the lack of transparency in the information relating to the quality of ships and their operators."[8] Equasis collects and disseminates quality- and safety-related information about the world's merchant fleet.[9] Data for Equasis are provided not just by the flag States of the vessels but by dozens of public authorities, industry and international organizations.[10]

Transparency has also been used to raise labour standards within the shipping industry. In 2000 the IMO published a 'white list' of countries considered to be in full compliance with IMO and International Labour Organization (ILO) training and certification requirements. This was part of a concerted campaign to raise standards in the face of the globalization of the merchant shipping workforce. Pressure was applied because vessels that used seamen from "'non-white list' countries could expect to be

---

Commission. (The International Maritime Organization and the US Coast Guard are observers.) Equasis holds data on merchant ships over 100GT but not fishing vessels, yachts or naval craft, so it is it is most useful as a potential model or case study. Equasis currently holds information regarding 77,000 vessels. Underpinning Equasis are the following principles: a) Equasis should be a tool aimed at reducing substandard shipping, and it should be limited to safety-related information on ships; b) Equasis has no commercial purpose – it addresses a public concern and should act accordingly; c) Equasis should be an international database covering the whole world fleet; d) Active co-operation with all players involved in the maritime industry is needed; e) Equasis will be a tool used for better selection of ships, but it will be used on a voluntary basis and there will be no legal pressure for industry to use it. See: www.equasis.org. Accessed 20 August 2008. Information from this and other databases (such as Lloyd's) is available to government and the private sector, and is clearly a potential source of data for the Global Record. See: Midson, David. 2009. "A New Global Record for an Old Threat." *Australian and New Zealand Maritime Law Journal*. Vol. 23. Forthcoming. The present author read the unpublished version of this paper in 2008.

[7] http://www.equasis.org/EquasisWeb/public/About?fs=HomePage. Accessed 20 August 2008.

[8] http://www.equasis.org/EquasisWeb/public/About?fs=HomePage. Accessed 20 August 2008. 'Transparency' has been described by Sampson and Bloor (discussing so-called 'smart regulation' and the shipping industry) as the "key to the creation of a competitive market based on quality as opposed to cost." Samson, Helen, and Bloor, Michael. 2007. "When Jack gets out of the box: the problems of regulation a global industry." *Sociology*. Vol. 41. No.3. p.558.

[9] Equasis can be searched online at http://www.equasis.org by either "Ship" or "Company". Users need to be registered. Each "Ship record" contains ship characteristics and management information. The next version of Equasis will apparently provide a "ship manager's overview" and may contain statistics related to individual shipowners or managers. For example, number of ships in service, number of inspections, average number of deficiencies per vessel. FAQ page. www.equasis.org. Accessed 20 August 2008.

[10] Data providers are listed on the Equasis website. At the time of writing this section (20 August 2008), providers of information to Equasis are: *Port State Control Regimes:* Paris MOU on Port State Control, The US Coast Guard, Tokyo MOU on Port State Control. *Private inspections:* Chemical Distribution Institute, Oil Companies International Marine Forum. *IACS Classification Societies:* American Bureau of Shipping, Bureau Veritas, China Classification Society, Det Norske Veritas, Germanischer Lloyd, Korean Register of Shipping, Lloyds Register, Nippon Kaiji Kyokai, Registro Italiano Navale, Russian Maritime Register of Shipping. *Associate Members of IACS:* Indian Register of Shipping, International Group of P&I Clubs, American Steamship Owners Mutual P&I Association Inc., Assuranceforeningen Gard – Norway, Assuranceforeningen Skuld – Norway, Britannia Steamship Insurance Association Ltd., Japan Shipowners P&I Association, London Steam-Ship Owners Mutual Insurance Assoc. Ltd., North of England P&I Association, Steamship Mutual Underwriting Assoc. (Bermuda) Ltd., The Shipowners' Mutual P&I Association (Luxembourg), The Standard P&I Club, The Swedish Club, The West of England Shipowners, UK P&I Club. *Other P&I Club(s):* Noord Nederlandsche P&I Club. *Other:* Green Award, Intertanko, Intercargo, International Ship Managers' Association, International Labour Organization, International Transport Workers' Federation, Lloyd's Register Fairplay, European Maritime Safety Agency, Q88. The database claims it is "subject to continuous improvement" with more information sources being added over time.

detained by port-State control officers, thereby incurring considerable costs. This effectively guaranteed that no seafarers from non-approved countries were employed by international ship operators after the year 2000."[11] While the 'white list' was reportedly flawed by inconsistencies (because it was derived from State-based port inspections, which can also be inconsistent[12]), the 'shipping quality' databases described briefly above, and white lists in general, offer some guidance to validating both the concept of a Global Record and assisting with its design. Clearly, incentives, disincentives, neutrality of information and transparency must be key components of the new, proposed instrument.

In 2005 the Ministerially-led Task Force on IUU Fishing on the High Seas recognized that a dearth of "transparent and unbiased information about the ownership and control of fishing vessels makes control of IUU fishing much more difficult for national enforcement authorities and RFMOs."[13] It called for a global information system to be established for fishing vessels.[14] It was suggested that such a database might form one of the core activities of the Monitoring, Control and Surveillance Network and that building upon Equasis should be considered.[15] The 2005 session of COFI did not discuss such an information system, but at the FAO Ministerial Meeting on Fisheries in Rome, immediately afterwards, Ministers called for the development of a new monitoring, control and surveillance tool to help combat IUU fishing.[16] This Rome Declaration called, *inter alia,* for the development of "a comprehensive record of fishing vessels within FAO, including refrigerated transport vessels and supply vessels, that incorporates available information on beneficial ownership, subject to confidentiality requirements in accordance with national law."[17] At the time it "was envisaged as a tool to collect existing fishing vessel registration and other information from flag States."[18] Such an instrument would address the problems of non-transparent beneficial ownership, help identify IUU vessels and allow for the activation of port

---

[11] Samson and Bloor. 2007. Above, n.8. p.557.

[12] Bloor, Michael, Datta, Ramesh, Gilinskiy, Yakov, Horlick-Jones, Tom. 2006. "Unicorn among the Cedars: On the Possibility of Effective 'Smart Regulation' of the Globalized Shipping Industry." *Social & Legal Studies.* London. December. Vol. 15. Iss. 4. p.540-547.

[13] High Seas Task Force "How to get better information about high seas fishing vessels." Meeting of the High Seas Task Force. Paris, France. 9 March 2005.

[14] Proposal 2. High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. The High Seas Task Force was created to investigate high seas illegal, unreported and unregulated fishing. When it met in Paris on 9 March 2005 it agreed, *inter alia*, on the need to establish a global information system on high seas fishing vessels in the form of a publicly available international database. See: High Seas Task Force. 2005. Above, n.13.

[15] FAO. 2007. *Report on the Development of a Comprehensive Record of Fishing Vessels. FAO Committee on Fisheries.* Twenty-seventh session. Rome, Italy, 5–9 March 2007. COFI/2007/Inf.12. Food and Agriculture Organization of the United Nations. Rome, Italy. Paragraph 3.

[16] The 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing, adopted by the FAO Ministerial Meeting on Fisheries in Rome on 12 March (immediately after the 2005 COFI session ended). The Rome Declaration's Preamble noted, *inter alia*, "that effective fisheries monitoring, control and surveillance (MCS) is essential to combat IUU fishing and that integrated MCS, including vessel monitoring systems (VMS), as well as a comprehensive global record of fishing vessels within FAO, are key tools..."

[17] Paragraph 4. Rome Declaration on Illegal, Unreported and Unregulated Fishing.

[18] Turner, Jeremy. "IUU discussions at the Committee on Fisheries (COFI) 5 – 9 March 2007." 3rd Chatham House IUU Fishing Update and Stakeholder Consultation. Royal Institute of International Affairs. Chatham House. London 8 – 9 May 2007.

controls against certain vessels.[19] Later that year, FAO undertook a study aimed at assessing the feasibility of a Global Record. This study confirmed that no single and complete record of the number of fishing vessels in the world existed. In addition, there was no single and complete source of information on vessel ownership.[20] The study found that:

- the development of a Global Record was technically feasible;
- flag States and economic entities would have to be prepared to make a firm commitment to accept relevant recommendations of the study concerning the provision of vessel details and their ownership that would be essential, both administratively and technically, to ensure a workable and useful system;
- there would be a need to introduce a system through which any vessel could be uniquely identified over time, irrespective of change of name, ownership or flag;
- the costs of the development and maintenance phases would be significant and a phased approach would be desirable.[21]

In its 2005 Resolution on Sustainable Fisheries, the UN General Assembly gave its encouragement and support to the development of a Global Record by FAO.[22] Items on the agenda for the 2007 session of COFI included combatting IUU fishing "through monitoring, control and surveillance, port State measures and other means."[23] Other relevant developments came through the September 2007 Expert Consultation and February and August 2008 Technical Consultations on the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas. Heightened transparency in fisheries and better record keeping were very much a feature of these discussions. Participants agreed that flag States should make publicly available, through FAO, a list of the vessels that they authorize to conduct deep-sea fishing.[24] Along with mandating that these vessels' positions and movements are to be monitored via a satellite-based Vessel Monitoring System,[25] Annex 1 ("Data Collection and Reporting") provides that registers of vessels authorized to conduct deep-sea fishing should contain:

> detailed information on each vessel including length, tonnage, types of gear, and the areas, fisheries and species for which the vessels are authorized to fish, and whether the vessels are active in [deep-sea fisheries]. Flag states should continuously update this information and submit it on an annual basis to relevant RFMOs/As and FAO. Flag States should ensure that all vessels

---

[19] Swan, Judith. 2006. "Port State Measures to Combat IUU Fishing: International and Regional Developments." *Sustainable Development Law & Policy*. Vol. VII. Issue 1. Fall 2006. p.40.

[20] FAO. 2007. Above, n.15. Paragraph 6.

[21] FAO. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance*. Rome, Italy. 24–26 October 2006. Fisheries Report No. 815. Food and Agriculture Organization of the United Nations. Rome, Italy. p.9–10.

[22] It has done each year since then, too. See: A/RES/60/31 (2005); A/RES/61/105 (2006); A/RES/62/177 (2007); A/RES/63/112 (2008).

[23] Reported by Turner. 2007. Above, n.18. Port state measures had been high on the fisheries agenda for some time and in 2005 the voluntary FAO Model Scheme on Port State Measures was adopted (these will be discussed in the following chapter). Judith Swan describes port state measures as "the last untapped area" regarding combatting illegal, unreported and unregulated fishing. Swan. 2006. Above, n.19. p.38.

[24] Paragraph 6C ("Monitoring and Compliance") of the August 2008 FAO Draft International Guidelines for the Management of Deep-Sea Fisheries in the High Seas provides that: "(53) In regard to the monitoring of fisheries, vessel register data should be regularly updated to identify changes in the fleet composition, fishing power and gear types; (54) States should make publicly available, through FAO, a list of those vessels flying their flag authorized to conduct [deep-sea fishing], and the measures they have adopted to regulate the activities of such vessels."

[25] Annex 1. Paragraphs 1(ii) and 3. August 2008 FAO Draft International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

> conducting [deep-sea fisheries] have a permanent ID (e.g. International Maritime Organization number) to assist in collecting high quality data and information on the activities of the vessel.[26]

How or whether these developments will ultimately be implemented, and how they will be connected to the establishment of the Global Record is unclear. However, they do strongly suggest that heightened transparency, in all manner of forms, is now a fixed trend in fisheries governance – at least at the international level. The gathering and exchange of information, the designation of permanent vessel identification numbers and regular updates to a central repository are now widely agreed to be keys to creating *effective* fishing vessel monitoring, control and surveillance regimes.

The proposed FAO Comprehensive Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels

While IUU fishing operations can be removed from an area by enhancing traditional MCS measures, like at-sea patrols, such activities do not eliminate the problem on a global scale.[27] Rather, a suite of measures must be employed. This may include: more funding for patrols; better training for local authorities; mandating the use of Vessel Monitoring Systems and real-time submission of documentation; and enhancing port and market-based measures. In addition to these, as demonstrated above, increasing the transparency of fishing operations, unveiling true ownership ties, and obtaining better quality information on vessels and their movements are now considered crucial to gaining more effective control over fishing activities. Despite the existence of the international legal framework, described above, which has repeatedly called for data, insufficient numbers of States have released information to the international community. What information does exist is often poor quality, out-of-date, veiled by privacy and confidentiality protections, and lacking in wide accessibility.

This author acknowledges that a "global record of vessels" has, in a way, been tried before. This was the High Seas Vessels Authorization Record. It had marked limitations from the beginning and, subsequently, did not succeed. It was poorly supported by States, and barely used. Altering the Compliance Agreement to allow the *extension* of the High Seas Vessels Authorization Record, or the *attachment* of a more comprehensive system, is straightforward neither in law nor in practice. For these reasons, the High Seas Vessels Authorization Record is ultimately, as Lugten has observed, "inadequate to address the real purpose of a FAO Global Record which is to be a remedial tool in the fight against IUU fishing."[28] Given, also, that the High Seas Vessels Authorization Record is widely seen as a failure, attempting to retrofit it is

---

[26] Paragraph 1(i). August 2008 FAO Draft International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

[27] Indeed, the international legal regime appears to have gaps of such size that rather than shutting down IUU it has instead, Lugten notes, led: "to a proliferation of activity that falls beyond the law: dual registration and demise charters, vessels that are legally transparent as they are less than 24 metres in length, beneficial owners hidden behind front companies that are based in international tax havens, flags of convenience." Lugten, G.L. 2008. "Legal consultation for the Food and Agriculture Organization of the United Nations – Development of a comprehensive Global Record of fishing vessels, refrigerated carriers and support vessels." Appendix H. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. p.58.

[28] Lugten, Gail. 2009. "The FAO Global Record of Fishing Vessels: Issues for Pacific Island States and the Forum Fisheries Agency." Chapter four. Tsamenyi, B.K.M., and Hanich Q. (eds). *Legal and policy trends in the implementation of international fisheries instruments in the Western and Central Pacific Region.* Kluwer Publishing. The Netherlands. In press.

unwise. The High Seas Vessels Authorization Record is generally considered, at best, a "prototype" for a Global Record.[29] While not all members currently agree, FAO is proceeding with a Global Record as an entirely new instrument. This chapter now turns to an exploration of the major issues that will be involved in the creation of such an instrument. It proceeds on the basis that, conceptually at least, such a thing can greatly enhance the effectiveness of the other layers of control in fisheries, via transparency, provision of information and its connection to market-based incentives.

Designing the Global Record of fishing vessels

An Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels was held at FAO in Rome in February 2008. This four-day meeting considered a wide range of issues which were encapsulated in two questions: Can a Global Record be developed and implemented successfully. If so, how can this success be maximized and maintained?[30] It was agreed that the goal of a Global Record will be "to prevent, deter and eliminate IUU fishing and related activities, making it more difficult and expensive for vessels and companies acting illegally to do business."[31] No longer seen as a tool solely for collecting existing information from flag States, it is envisaged to be a "one-stop shop" for information – a "portal." It would support FAO and RFMO efforts to garner more accurate statistics on the size and structure of the global fishing fleet.[32] In addition, it would support three major branches of activity: national, regional and international monitoring, control and surveillance activities, including catch documentation monitoring; port State measures; and the traceability and certification needs of industry, retailers and consumers.[33] In doing so, the Global Record would become part of a growing trend toward so-called 'smart regulation.' Raw data would be made rich by its accumulation and analysis, allowing other important objectives to be achieved, namely:

- Improving the traceability of vessels and products regarding IUU detection;
- Transparency of vessel information and operation;
- Strengthening risk assessment for both governments and industry at all levels;
- Supporting decision-making on a broad range of topics including fleet capacity, management, safety, pollution, security, statistics and related issues.[34]

To attain these goals, the Global Record must, firstly, be robust. This means it should create mandatory actions, and use market-based incentives so that domestic industry pressures States to supply more timely information. This was something that the High Seas Vessels Authorization Record manifestly failed to achieve – with the result that it was not used. For a Global Record to succeed, an active user base will be crucial. Secondly, the Global Record will need to be continually updated in order to stay relevant. It must draw information from a wide range of trusted data sources, not just the flag State. These sources will include industry (fishers, buyers and insurers),[35] port

[29] Lugten. 2009. Above, n.28.
[30] FAO. 2008. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. Food and Agriculture Organization of the United Nations. Rome, Italy. p.1.
[31] FAO. 2008. Above, n.30. p.4.
[32] Midson. 2009. Above, n.6.
[33] FAO. 2008. Above, n.30.
[34] FAO. 2008. Above, n.30. p.5.
[35] And, later, possibly also banks and insurers that will use information from the Global Record to assess the risk of investments made in the fishing industry.

State authorities, RFMOs, and national and international MCS authorities. These providers of information would, in most cases, also be the *users* of it. Indeed, the Global Record should be developed as a *user-oriented instrument.* These users are likely to be those most affected by IUU fishing. This will include port and coastal States and their MCS authorities, and those many buyers that are at pains to not purchase IUU-caught fish.[36] The diverse and constant demands of its information suppliers and users will help the Global Record acquire a relevance that the High Seas Vessels Authorization Record did not have. It will also help it obtain what Lugten rightly cautions it will need in order to be properly supported – "long-term sustainability."[37]

As envisaged by FAO, the Global Record would act as a neutral information source, which is appropriate because FAO is a neutral body, not a management body.[38] It would have a personality akin to a database rather than a vessel registry.[39] Therefore, it would offer no legal standing, such as "the right to fish." It would simply house data.[40] It would contain informal, unverified data and would not make judgements on the information it contains.[41] It was noted in the previous chapter that most of the important RFMOs maintain both black lists and white lists of vessels. Black listed vessels are

---

[36] It has been suggested that, over the long term, if the Global Record becomes a living tool and expands beyond the initial remit regarding illegal, unreported and unregulated fishing, that users further down the track may include those involved in the safety of vessels, pollution control and customs and immigration. Personal communication with Michele Kuruc, FAO. 8 April 2009.

[37] Lugten. 2009. Above, n.28.

[38] Lugten, Gail. 2008. "Current legal developments: Food and Agriculture Organization: The FAO Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels." *International Journal of Marine and Coastal Law.* Vol. 23. No. 4. p.762. Lugten further notes that creating black lists would not be allowed under FAO's Constitution. p.762; See also Midson. 2009. Above, n.6. There are parallels here to the IUCN Red List of Threatened Species. http://www.iucnredlist.org/. The Red List assesses the status of the world's animals facing or threatened with extinction. The scale runs from "extinct" to "least concern" and is a collection of data pulled from numerous sources including states. Then states, political forums, international organizations, the media and NGOs draw information from the Red List when forming policy. The IUCN *itself* does not set policy and is not a management body; its Red List therefore is neutral. It is probably because of this that it is a well-respected information source.

[39] The global information system for high seas fishing vessels that the High Seas Task Force called for (as one of the High Seas Task Force's nine final proposals) was explored for feasibility during roughly the same time frame that discussion within FAO-COFI began on the Global Record. See: Global Fishing Vessel Information System (FishVis). November 2006. Feasibility Study. www.closingthenet.info/project_establish.htm. Accessed 22 August 2008. This Fishing Vessel Information System ("FishVis") would be: i) Web-based; ii) Have a single reference point; iii) Include all interested parties – the public, fisheries managers, enforcement personnel and NGOs; iv) Provide information to inform monitoring, control and surveillance activities as well as industry practice. p.3. It would also be passive in nature, and non-judgmental. p.3. Its point was simply to provide greater transparency. It was envisaged to become a web-based reference point, enabling "States, ports, commercial buyers of fish products, NGOs and individuals to make informed decisions based on a wide range of facts" and "enable users to identify and make comparisons between vessels and linkages between companies and flag states suspected of involvement in IUU fishing." p.6. The feasibility study approached Equasis for a partnership arrangement which Equasis rejected. p.11. However Lloyd's (which maintains Equasis) *will* contribute information to the Global Record. Ultimately, the FishVis project, though found to be feasible, recommended that focus turn towards the proposed Global Record of fishing vessels, which was gaining momentum through COFI, and that "all High Seas Task Force members actively support and work together with the FAO to achieve the mutual goal of a credible global fishing vessel information system." p.13.

[40] Midson. 2009. Above, n.6.

[41] It is possible that a commercial entity or an NGO may take the data on the Global Record and create intelligence out of it which attempts verification and incorporates judgements. Here, though, it should be noted that 60–70 people work full time verifying information on the Lloyd's Register. Resources of this kind may not be found for verifying Global Record fishing vessel information.

those accused of IUU fishing in some form or another.[42] In contrast, the Global Record would act as "a simple record, and States, RFMOs, NGOs can interpret the data on the record as they see fit."[43] It therefore must contain information sufficient for other entities (whether public or private) to be able to apply enforcement measures against suspected IUU vessels and their owners.[44] It must also provide market participants with sufficient information on which to base their decisions – for example, the decision to insure or finance a vessel, or to reject landed fish. FAO's current vision for the Global Record is for it to be a web-based portal which is free to access, simple to search, and accessible by all users, including the public. It has been suggested that the portal could be modeled along the lines of FAO's International Phytosanitary Portal at www.ippc.int. This is akin to a shop-front with links to "existing national and other databases."[45] Other information sources including Equasis, Lloyd's Register-Fairplay and its subscriber-based online database Sea-web, Lloyd's Sea Sentinel and Bureau Veritas would also inform the design of the Global Record.[46]

Scope and sources of information

The 2008 Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels did not venture further than a preliminary discussion of conceptual and technical details. It looked at a basic structure and issues regarding content. It was generally agreed that the Global Record's scope would be broad.[47] The following section examines what this broad scope might encompass and addresses some key issues that will challenge the Global Record's effectiveness at combatting IUU fishing.
It is self-evident that the Global Record has to contain high quality data if it is to become a living tool valued by MCS practitioners, coastal State authorities, port States, regional fisheries management bodies, industry, the market and the public at large. It has been seen that keeping accurate, up-to-date records will be the most important way for the Global Record to maintain support from its information providers and users. It is timely to ask how the Global Record would gather sufficient good quality information when national records – an obvious preliminary source of information – are very often

[42] To be black listed requires that a judgement be made of a vessel's activities. Lugten. 2009. Above, n.28. It should be noted that while RFMOs have rigorous procedures for black listing vessels, it is almost always in the absence of court-substantiated evidence. Lugten notes that the FAO was concerned about exposing itself to liability should a judgement it made about a vessel's activities be proven incorrect. Lugten advised FAO to attach a Disclaimer of Liability, such as the following: "The Food and Agriculture Organization of the United Nations hereby disclaims any liability or responsibility arising from the use of information or data contained in this Record. The Organization, members of its staff and its contractors shall not be liable for any financial or other consequences whatsoever arising from the use of information or data contained in this Record." Lugten. 2008. Above, n.27. p.51.
[43] Lugten. 2009. Above, n.28.
[44] This proposition animates research done by Mee, Ben. 2008. *Filtering Out IUU Fishing with the Global Record: Black and White or Shades of Grey?* Unpublished research paper. School of Law. University of Tasmania.
[45] Notes 10 and 11. FAO. COFI. 2008. *Combating Illegal, Unreported and Unregulated Fishing, including through a Legally Binding Instrument on Port State Measures and the Establishment of a Global Record of Fishing Vessels.* Twenty-eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/6. Food and Agriculture Organization of the United Nations. Rome, Italy. It should be noted that the International Phytosanitary Portal has a base in international law – the International Plant Protection Convention, which also has a Commission and a Secretariat. As a potential model for the Global Record, the International Phytosanitary Portal is limited, on these grounds alone.
[46] http://www.lrfairplay.com; www.sea-web.com; www.bureauveritas.com.
[47] Lugten. 2008. Above, n.38. pp.761-767.

so poor.[48] So-called flag of convenience States are an obviously problematic category, as are those flag States which are traditionally reluctant to exchange information of national interest – for example, Chinese Taipei,[49] mainland China, North Korea and South Korea. While it is hoped that commercial vessel databases may fill in some of these gaps, Smith reports that the strongest extant database, the commercially-based Lloyd's Register, also has weak data from these States.[50] To emphasize the challenge that this represents, it should be noted that a rough FAO estimate of the share of "engine-powered fishing vessels" flagged by China, the South Korea and Chinese Taipei are 25%, 4% and 1% respectively – that is, together they constitute roughly 30% of the world's fleet.[51]

Thus, it is widely agreed that the Global Record must not be solely dependent on flag State information. Most responsible flag States – whether developing or developed – keep some form of record of their flagged vessels and vessels' operators or owners.[52] In addition, some structure has come to these national records by way of regional fisheries bodies. The experiences within those bodies are likely to influence the sourcing of information for the Global Record. In the Pacific region thirty years ago, the Pacific Islands Forum Fisheries Agency (FFA) established the Regional Register of Foreign Fishing Vessels.[53] Foreign fishing vessels are to register on it (and maintain good standing) before seeking fishing licences from individual FFA member States.[54] CCAMLR established a register in 1997 when faced with evidence of extensive IUU fishing in its convention area. Over the following decade most of the major RFMOs

---

[48] In COFI discussions regarding the Global Record, it was envisaged that flag states would be required to "provide detailed information regarding vessels and their ownership. There may be less enthusiasm about doing this than hoped. A piece of research that would assist these discussions would examine what a Global Record of fishing vessels would look like if only available RFMO and Lloyd's data was used, in combination with data kept by already-compliant states. If that were sufficient to create incentives within the market, it could create a cascade effect where initially reluctant states would come on board.

[49] Smith, Andrew R. 1999. *Analysis of the Vessels over 100 Tons in the Global Fishing Fleet.* FAO Fisheries Circular No. 949 FIIT/C949. Food and Agriculture Organization of the United Nations. Rome, Italy. 1999. p.3; FAO. 2008. Above, n.30. p.6. In addition, the 2008 FAO Expert Consultation on the development of a Global Record heard from the representative of the Indian Ocean Tuna Commission on the difficulties of collecting official data from the province. This is exacerbated by the UN's "one-China" policy.

[50] Smith. 1999. Above, n.49. pp.3–9.

[51] Email communication with Sachiko Tsuji, Senior Fishery Statistician, FAO. 21 April 2009. Tsuji made the point of noting that these figures are indicative only and should not be treated as FAO's formal estimates. FAO continues to collect but has not disseminated global fishing fleet statistics since 1998. This is mainly due to a low reporting rate and a shortage of the resources required for data examination and evaluation.

[52] FAO. 2007. Above, n.15. Paragraphs 8 and 9.

[53] The FFA is not a high seas RFB or RFMO, but an institution, as Baird notes, the aim of which was to help states "manage the fisheries resources within their EEZ." Baird, Rachel. 2008. "The development of a comprehensive Global Record for fishing vessels, refrigerated transport vessels and supply vessels: an analysis of the practice of regional fishery bodies." Appendix G. FAO. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. p.31.

[54] Baird. 2008. Above, n.53. p.31. Baird makes the point that this makes the FFA registry self-regulating, which is not the case for any of the high seas RFMOs or any national registers. This regional vessel register was part of the establishment of shared MCS capabilities which also included VMS, observers, surveillance, standard boarding procedures and other measures. See: FAO. 2007. "Combating Illegal, Unreported and Unregulated Fishing through Monitoring, Control and Surveillance, Port State Measures and other means." *COFI. Twenty-seventh session.* Rome, Italy. 5-9 March 2007. COFI/2007/7. p.4.

implemented some sort of register, albeit with varying information requirements.[55] CCAMLR and NEAFC each publish their register on their websites.[56] In 2005 and 2006, RFMOs began adding authorized transshipment vessels to the registers,[57] which subsequently formed the basis of the RFMO 'white lists'.[58] RFMOs now keep the most extensive – and the most exchanged – information in the international system. The acquisition of RFMO data would be invaluable, providing the Global Record with data on potentially tens of thousands of vessels.[59] Rachel Baird's 2008 analysis of the data collection and exchange practices of regional fisheries bodies is instructive to what shape the sourcing for the Global Record should take.[60] Baird found that flag State-derived information was supplemented within RFMOs by information from elsewhere. These sources included Vessel Monitoring Systems and other MCS data, port records, trade data (including data from the various RFMO catch documentation schemes), and the IUU black lists.[61] The High Seas Task Force believed that a global information system would allow data on RFMO black listing and deregistration activities to be quickly and easily made available to fish purchasers, shipbrokers and prospective purchasers of vessels, as well as to States considering entitling vessels to fly their flags.[62] So while RFMOs keep "registers" (which accord a status) and the Global Record would merely keep "records", the RFMO experience demonstrates that the incorporation of other information is the best way of getting a true picture of individual fisheries and the vessels operating within them.[63]

---

[55] CCAMLR, ICCAT and IOTC have the most comprehensive vessel information requirements. See Baird. 2008. Above, n.53. p.29. See also Lodge *et al.* 2007. Above, n.1. p.45: "Some RFMOs require the flag State to submit only basic information, such as vessel name, radio call sign, external registration number, owner name and vessel capacity, length and power. Others ask for additional information, such as details of the vessel's previous name(s) and flag(s) and photographs of it."

[56] *Ibid.*

[57] ICCAT in 2005, IATTC and IOTC in 2006. *Ibid.*

[58] Vessels that are *not* listed on the white lists but are seen fishing in the convention area will, after an nternal process, generally form the basis of the RFMO *black* lists.

[59] Baird's 2008 study of RFMO vessel lists shows a combined total of 24,117 vessels from the FFA, IATTC, CCSBT, ICCAT, WCPFC and IOTC commissions. Baird. 2008. Above, n.53. p.33. There may be some overlap as some vessels may be authorized to fish in more than one convention area, but these records certainly represent a beginning. Issues that are outside the scope of this dissertation but require further research include: whether or not the UN Fish Stocks Agreement's duty to cooperate would incorporate an obligation to exchange data with the Global Record; the exact nature of the proposed interaction between the RFMO lists and the Global Record; whether or not there would be reductions in compliance levels within RFMOs if an obligation to exchange information with the Global Record was institutionalized by the RFMO; and whether, in those RFMOs whose decision-making is consensus-based, such a decision would ever be made.

[60] Baird. 2008. Above, n.53. pp.25-35.

[61] Baird found that the biggest weakness in the regional system is the total reliance on flag states for "accurate, complete and timely" information. Baird. 2008. Above, n.53. p.31.

[62] High Seas Task Force. 2006. Above, n.14.

[63] Depending on its final design, it is possible that the Global Record may need to grapple with the possibility of litigation or accusations of defamation. However, as the Global Record would not engage in vessel black listing this concern may recede from the foreground. RFMOs have been untroubled by defamation suits despite engaging in black listing for some years now. They employ a lengthy and transparent process in order to place vessels on their black lists which guards them against such accusations. (See generally: Lugten. 2008. Above, n.27; Baird. 2008. Above, n.53.) While the non-governmental International Southern Oceans Longline Fisheries Information Clearing House (ISOFISH) was wary of potential suits, none eventuated, and the Coalition of Legal Toothfish Operators has not been sued either, despite keeping a "Rogues Gallery" on its website for some years. (Though removed from the website, the 2003 document can be viewed at http://www.colto.org/PDFs/RoguesGallery.pdf.) As an observer at CCAMLR Commission Meetings, COLTO representatives faced a hostile reception from South Korea, Uruguay and Russia, which had been named as supporting the alleged IUU fishing vessels

Baird rightly warns that regular updates are as crucial as full and complete data.[64] She quotes the Pacific Islands Forum Fisheries Agency's Monitoring, Control and Surveillance Working Group: "The accuracy of information stored on the FFA Vessel Register is only as good as the systems that are built to ensure the validity of the data and the frequency of their use."[65] This warning is deeply relevant to the Global Record project: just because a database field is set up does not mean corresponding information is going to be filed or exchanged. Baird notes that "incomplete data" from contracting parties was a common complaint recorded in RFMO annual reports. It is certainly a common lament within FAO. It could be argued that contracting parties within RFMOs have a greater incentive to comply with information collection and exchange requirements than might be the case with an international database, as the connection is more intimate and practical. This means that not only must the Global Record's framework be technically and politically durable but the incentive structure will have to be at least as robust as that which exists within RFMOs.[66] Thus, the experience with RFMOs, reluctant flag States and those with poorly-maintained registries reveals that information providers other than States and RFMOs are important. They will include private entities, NGOs, States applying port State controls and market participants.[67]

---

named in the document. See: Antarctic and Southern Ocean Coalition. "Meeting Report. CCAMLR XXII. 24 October–7 November, 2003. Hobart, Australia." November 2003. http://www.asoc.org/Portals/0/ASOC%20final%20report%20CCAMLR%20XXII,%20Dec%2003.pdf. Accessed 26 May 2009. FAO has been advised to place legal disclaimers on the Global Record site when it is developed. It should be noted that the Equasis website contains a long list of riders and disclaimers, placed there by some of its many information providers. See http://www.equasis.org/EquasisWeb/public/About?fs=About&P_ABOUT=Providers.txt. Accessed 26 August 2008. This may be sufficient to quell legal concerns that could otherwise paralyze progress on the Global Record.

[64] Baird. 2008. Above, n.53. p.32.

[65] *Ibid.*

[66] One foreseeable problem with the use of RFMO data is that vessel lists are generally presented to a Commission meeting annually, having been prepared some months before. It is beyond the scope of this dissertation to examine at length the black and white listing process within RFMOs, but it is sel-evident that the lists are at least nominally out of date by the time the regional body meets to endorse it, potentially more so by the time the information is forwarded to whomever will be administering the Global Record. This immediate limitation would apply for most, if not all, the data from RFMOs. The dangers of old (potentially inaccurate) information are highlighted by a September 2006 article on the shipping news and information website Maritime Global Net. It reported that Equasis, was "missing detentions and deficiencies picked up by inspections", noting that some vessels deemed "clean" by Equasis had actually been detained by port authorities in the previous months. For example, "...the 166,139 dwt, Hong Kong-flag bulk carrier Rubin Grace was detained in Dampier, Australia on 10 August this year but according to Equasis... its last inspection was in Hamburg on 22 May. The Tokyo MOU [port state control scheme] website categorises the Rubin Grace's risk level as "high". Moreover although Equasis notes five occasions since August 2005 when the ship was inspected by Tokyo MOU port state control authorities it gives no details beyond the date. In fact the ship had not been detained in any of the earlier of the inspections and had come through one without any deficiencies being found. Contacted by Anderimar Shipping News the new CEO of Equasis Jaques Benard conceded that there was a problem. He said that Equasis does not receive data directly from the Tokyo MoU. He explained: "We receive a monthly file including the IMO number of the ships inspected and the date of the inspection. With that information we establish a hyperlink toward the Tokyo MoU website allowing the Equasis users to consult the details of the inspections..." See: "Holes Found in Equasis Database." *Maritime Global Net.* 28 September 2006. http://www.mgn.com/news/dailystorydetails.cfm?storyid=7019&type=2. Accessed 21 August 2008. It should be noted that this website sees itself as a public-good database on ship quality information. It is therefore, in a way, competing with Equasis.

[67] The above-referenced September 2006 Maritime Global Net article highlighted the importance of good, real-time information for users – in this case charterers: "A vessel could have a pollution incident today but if it takes 2 months before it shows up on Equasis then the data is of no use to the Charterer fixing a ship tomorrow." See: "Holes Found in Equasis Database." *Maritime Global Net.* 28 September 2006. The

Above all, the key to sourcing information for the Global Record will be properly assessing the *market* for the information. The benefits that will accrue to users of the Global Record are hoped to provide sufficient incentives to drive information *to* the Global Record.[68] FAO does not envisage needing to "cajole" States into providing information.[69] Rather, it is believed that compliance-related activities that are already occurring, and developments within the market, will throw up vast amounts of information that the Global Record would simply need to gather up.

Content

Along with its exact scope and sources of information, the nature of the Global Record's *content* is yet to be ascertained. This is predominantly because FAO has not yet completed an analysis of user needs, beyond informal conversations undertaken by senior staff with practitioners and between the small number of expert gathered at the 2008 Global Record Expert Consultation. The program of work which has been set for the Global Record (at the 2009 session of COFI) includes completing such an analysis. Much of the data for this will be gathered via surveys and upcoming workshops.[70] Because it is unclear exactly what sort of data will need to be collected in order for the Global Record to become an effective tool to combat IUU fishing,[71] this section will explore some of the issues and challenges surrounding possible content.

Under the draft Port State Measures Agreement, certain information is required to be sent in advance of a fishing vessel's arrival in a foreign port. This set of data could be used as a template for the Global Record.[72] This information includes vessel specifications, identification, operation and ownership details, authorizations, and recent fishing and transshipment activities. This information is designed to assist the port State authority to decide whether it will allow the vessel to enter its port or use its services. This information is contained in Annex A of the draft Port State Measures Agreement. This annex can be found in Appendix D of this dissertation.

1. Intended port of call
2. Port State
3. Estimated date and time of arrival
4. Purpose(s)
5. Port and date of last port call
6. Name of the vessel

---

proposed Global Record of fishing vessels would presumably be entirely electronic, so there should be no reason why information on the database cannot be up-to-date and available for near-to-immediate release as soon as the administrators received the information from the provider. This might be akin to sending monetary funds overseas, where delays are usually no more than 48 hours.

[68] Personal communication with Stephen Stuart, FAO. 18 March 2009; Personal communication with Michele Kuruc, FAO. 8 April 2009.

[69] Personal communication with Michele Kuruc, FAO. 8 April 2009.

[70] Personal communication with Michele Kuruc, FAO. 8 April 2009.

[71] Rachel Baird views the expectation that the Global Record could gather information on "every licenced fishing vessel" as unrealistic, which this author concedes, especially when support and supply vessels are added. Baird suggests investigating what levels of support might be needed in order to make the project viable. Baird. 2008. Above, n.53. p.34. The present author suggests also considering what level of compliance will be 'good enough' for the Global Record of fishing vessels to be *useful* to users and therefore considered an initial and ongoing success.

[72] This author appreciates the intellectual contribution to this note of Gail Lugten of the University of Tasmania, whose 2008 suggestion was based on an earlier (and far more comprehensive) version of the draft Port State Measures Agreement's Annex A.

7. Flag State
8. Type of vessel
9. International Radio Call Sign
10. Vessel contact information
10*bis*[73] Vessel owner(s)
11. Certificate of registry ID
12. IMO ship ID, if available
13. External ID, if available
14. RFMO ID, if applicable
14 *bis*. VMS: No/Yes/National/RFMO(s)/Type:
14 *tris*. Vessel dimensions: Length/Beam/Draft
15. Vessel master name and nationality
16. Relevant fishing authorization(s): Identifier/Issued by/Validity/Fishing area(s)/Species/Gear
17. Relevant transshipment authorization(s): Identifier/Issued by/Validity
18. Transshipment information concerning donor vessels: Date/Location/Name/Flag State/ID Number/Species/Product form/Catch area/Quantity
19. Total catch onboard: Species/Product form/Catch area/Quantity
20. Catch to be offloaded: Quantity[74]

Annex A of the draft Port State Measures Agreement represents a compelling foundation of information for the Global Record. It should be noted that Annex A originally contained fifty-four items. The draft treaty has since been modified by two Technical Consultations with a third scheduled for May 2009.[75] Notably, "Global Record Number" and information on beneficial owners have disappeared. Annex A now contains only the twenty items listed above.

This author feels compelled to raise two matters of concern in this section regarding the ideal content for the Global Record. Firstly, responsible vessel owners and operators should be allowed some way to personally comply with the Global Record's requirements. The proposed Global Record should not be seen as the developed world imposing more standards and burdens on the developing world, so much as being a way to open up the international marketplace to all vessels of good standing. This would be regardless of the status of its home state or flag, its remote geographic area of operation, or the species it harvests. Some vessels are flagged to flag of convenience States because they are genuinely linked to that flag State. The owner or operators may be from that State, as may much of the crew, and may wish its tax dollars to stay 'home'. It would be a poor result indeed if a responsible, legal vessel, identified by the Global Record as belonging to a flag of convenience State, or a State with little control over its vessels, found itself locked out of markets. Worse, if it changed flags to get out of that situation, it might be considered as engaging in "flag hopping." This is linked to a concern that perception-based decisions will be favoured over more time-consuming evidence-based decisions. There are concerns from some flag States that relying on unverified information on the Global Record would constitute a *de facto* market-based measure.[76] Nonetheless, it is likely that many States would be prepared to act on unverified information if they believed it constituted a 'red flag'.[77]

---

[73] Where "*bis*" "*tris*" are used in this dissertation, it denotes a new subsection added to the February 2009 Chairperson's Text of the draft Port State Measures Agreement. These terms are in the text of the Agreement.
[74] Annex A of the draft Port State Measures Agreement is entitled "Information to be provided in advance by vessels requesting port entry."
[75] These Technical Consultations took place in June 2008 and January 2009.
[76] Personal communication with Michele Kuruc, FAO. 8 May 2009.
[77] *Ibid.*

Secondly, details of the beneficial ownership of vessels must be included in the Global Record. International financial devices that shield beneficial owners from regulatory or legal liability continue to hound fisheries managers. While the 'corporate veil' will probably not be raised through the developments in international fisheries that this dissertation has explored, it is nevertheless submitted that the Global Record will be a poorer instrument for not including details about beneficial vessel owners. The globalization of world trade has ruptured the traditional relationship between flags and ownership. The notion that an owner flags a vessel where he or she lives and operates is no longer necessarily the norm. Admiralty laws against multiple vessel ownership, along with attractive profit-motives, have created incentives for owners and stakeholders to take advantage of opaque ownership ties, shelf companies, sheltered legal havens and the easy purchase of flags of convenience.[78] A market exists for confidential, virtually anonymous flagging. The High Seas Task Force made note of an observation by the OECD Maritime Transport Committee, that:

> all shipping registers are vulnerable to potential misuse by terrorists or organised crime, but... open registers are inherently far more vulnerable, especially those promoting the fact that they are committed to protecting the anonymity of beneficial owners of vessels.[79]

Proposals to deal with this situation include: a) better scrutiny of ship owning arrangements that involve foreign corporate vehicles, in order to ensure that beneficial ownership details are available; b) elimination of the use of devices such as bearer shares, nominee directors, office holders and shareholders; and c) requiring a substantial and robust local presence by the ship-owner in the jurisdiction.[80] The Committee proposed measures which included "targeting ships where beneficial ownership is obscure, or even ships from particular flag States, for intensive scrutiny".[81] This would include the application of port State measures, and would result in the restriction of port access to only those ships which were willing to fully disclose their beneficial ownership.[82] In the refinements made to Annex A during the recent draft Port State Measures Agreement Technical Consultations, reference to the vessel's beneficial owner has disappeared. This may be a foreboding sign. It is nevertheless submitted that the Global Record would miss a great opportunity if it did not ensure the mandatory provision of information on beneficial owners. The 'corporate veil' will not be consigned to history this week or next, but at some point a genuine effort must be made to remove the shield that beneficial owners have been using to escape their responsibilities. It should also be noted that in many cases these ties are disturbingly opaque even to the flag State.

---

[78] The FAO has reported that "the information required by an administration at time of registration concerns the name of the owner or owners and the shares held, as well as details of priorities between persons holding security interests over the vessel such as mortgages, liens and other encumbrances" but this information can be difficult for authorities to access and hard to follow. FAO. 2007. Above, n.15. p.3. Issues surrounding the 'corporate veil' are long term problems. Lugten rightly asserts that avoidance of them is no solution. Instead international law needs to raise it as an important issue and states need to begin discussing how to deal with it, which might be a five or ten year project. Personal communication with Gail Lugten, University of Tasmania.18 November 2008.

[79] See: DSTI/DOT/MTC(2003)61/Rev.1. High Seas Task Force. 2006. Above, n.13. Chapter 3, endnote # 23.

[80] High Seas Task Force. 2006. Above, n.14. Chapter 3, endnote # 23.

[81] *Ibid.*

[82] *Ibid.*

Until FAO conducts its planned analysis of user needs, it is difficult to know what information will form the core content of the Global Record. It is possible that three lists will emerge – items that are *critical* to its effectiveness, items that are not critical but *valuable*, and those which speak to the Global Record's aspirational goals. Those pieces of data likely to be seen as crucial include all of the above-mentioned items from Annex A of the draft Port State Measures Agreement. In addition, actual VMS data, verified by the flag State, may be considered critical. Identification data is also likely to be considered critical – especially if a system of unique vessel identifiers becomes operational, as planned. Fishing activities are also likely to be seen as critical pieces of information, as may a vessel's history of re-flagging. As demonstrated in the negotiations around the draft Port State Measures Agreement, ownership details and history, especially *beneficial* ownership details, are likely to be resisted by States. Since participation will be decisive, such details may be consigned to the second list – *valuable* but not critical. Whatever content COFI members settle on in the end, it is likely that a patient, phased approach will be necessary. This will mirror the phased approach which is very likely to be taken regarding the size and type of vessels which will be included in the Global Record. It is to these issues that this chapter now turns.

Size and type of vessels

Typically, fishing and merchant shipping vessels have been categorized by their length (for example, 24 metres or longer) and/or their bulk (for example, 50GT, 100GT). Most vessels over 100GT are capable of operating on the continental shelf, beyond the EEZ limits and into the high seas.[83] For some time, the high seas was an area considered to need special attention, so those vessels were singled out for the application of the bulk of international and regional fisheries measures. This view has changed somewhat, because knowledge about the scale of IUU fishing is now far more comprehensive. It is known that both large and small operators engage in it.[84] This, in combination with an aspiration to support decision-making on fleet capacity, means that the Global Record aims to include "all vessels." The scale of this is both tremendous, and unrealistic: FAO estimates that there are 4 million fishing vessels around the world, approximately 1.3

[83] See: Smith. 1999. Above, n.49.

[84] As a result of this, the draft Port State Measures Agreement (which will be explored in its own right in the following chapter) covers a broader set of vessels than in any other agreement. If the Global Record is linked to it, which this dissertation submits it should be, it will apply first to large-scale, high seas fishing vessels and extending, eventually, to fishing vessels of all sizes. The 2006 FAO SOFIA noted that "national administrative records often exclude smaller boats whose registration is not compulsory and/or whose fishing licences are granted by provincial or municipal authorities. Data made available to FAO by national respondents concerning these smaller fishing boats are often estimates." FAO. SOFIA. 2006. p.25. Broadening the definition allows it to obtain those vessels that have evaded controls by being purpose-built slightly smaller than usual 24 metres. RFMOs have also seen the need for flexibility away from the typical 24-metre threshold. The General Fisheries Council for the Mediterranean set the lower limit for the application of the Compliance Agreement at 15 metres in length. Fitzpatrick, John. 2000. *Measures to enhance the capability of a flag state to exercise effective control over a fishing vessel. Presented at the Expert Consultation on Illegal, Unreported and Unregulated Fishing. Government of Australia in cooperation with FAO.* Sydney, Australia. 15-19 May 2000. The CCSBT had initially agreed that only longliners of 24 metres or more in length would be listed on their vessel register, a provision that was removed in 2004. NAFO applies its vessel record to all fishing vessels over 50GT (24m in length roughly equates to a 100GT vessel). The Declaration of Responsible Tuna Fishers at the International Tuna Fishers Conference on Responsible Fisheries and Third International Fishers Forum held in Yokohama, Japan from 25–29 July 2005 expressed "concern that illegal, unreported and unregulated (IUU) fishing activities still persist, including shifting operations from larger vessels to smaller vessels to avoid RFMO regulations for larger vessels..."

million of which are decked vessels of various sizes.[85] In light of this, FAO will seek to engineer a phased-in, multi-year approach to the Global Record's implementation, as follows:

- Phase I. Vessels 100GT and above.
- Phase II. Vessels 55GT – less than 100GT.
- Phase III. Vessels 10GT – less than 55GT.[86]

While vessel sizes will be phased in, the vessel *types* that will be included in the proposed Global Record will probably be established from the outset. At the 2008 Global Record Expert Consultation, most experts agreed that the definitions within the draft Port State Measures Agreement offered a comprehensive and useful set of criteria. Given their key place in the Global Record's likely framework, it is worth noting the draft Port State Measures Agreement's key definitions here:

> (b) "fish" means all species of living marine resources, whether processed or not;
> (c) "fishing" means searching for, catching, taking or harvesting fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish;
> (d) "fishing related activities" means any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipment or transport of fish that have not been previously landed at a port, as well as the provision of personnel, fuel, gear and other supplies at sea;
> (j) "vessel" means any vessel, ship of another type and boat used for, equipped to be used for, or intended to be used for, fishing or fishing related activities.[87]

The definition of "vessel" is clearly very broad. It is also relatively simple. As the Global Record Expert Consultation noted, they "are based on commonly used text, and they clearly encompass fishing vessels of all types and refrigerated transport vessels and supply vessels on all waters. They eliminate the need to rely on other criteria, such as such as tonnage, length or other factors, where standards are applied inconsistently in some states."[88] The vessel definitions are also designed to harmonize across jurisdictions. This reflects the widespread view that the traditional definitions of "vessel" have been implemented haphazardly at the national level. They are also designed to stand the test of time. The broad scope should suit the Global Record from the first implementation phase (capturing data on vessels 100GT and over) to a point down the track where even the small craft that engage in illegal activities such as cyanide poisoning or dynamite blasting for reef fish are also captured.[89] So, too, would be the undecked boats destructively targeting reef sharks solely for their fins.[90] The Global Record's use of the draft Port State Measures Agreement's definitions of "fishing", "fishing-related activities" and "vessel" should give it ongoing relevance. This is because the matter at the heart of the Global Record is not how big or small a fishing vessel is, or where it is operating, but *what it is doing.* Allowing tonnage and

---

[85] FAO. SOFIA. 2006. p.23.
[86] FAO. 2008. Above, n.30. p.4. It should be noted that most fishing vessels are under 100GT. See: FAO statistical databases. http://www.fao.org/fishery/topic/3457/152925/en. Accessed 17 April 2009.
[87] Article 1(1) of the draft Port State Measures Agreement.
[88] FAO. 2008. Above, n.30. Paragraph 34.
[89] Personal communication with Gail Lugten, University of Tasmania. 13 August 2008.
[90] It is conceded that the possibility of this may lead state negotiators to *narrow* the definition as the project proceeds into Technical Consultations and actual design and drafting.

length measurements to be all but discarded sets a clear path for the future of global fisheries management.[91]

Whichever set of definitions are ultimately used, it is submitted that vessel types included within the Global Record must include refrigerated transport vessels ("reefers") and support vessels.[92] The crucial assistance these types of vessels give to IUU fishing vessels has been well documented. Lodge *et al* describe their role:

> Many IUU operators transship at sea as a way to reduce the chance of detection. By transferring catches to reefers, IUU fishing vessels can avoid entering ports in order to land their fish. On reefers, IUU catches are often laundered by mixing them with legally caught fish. Further, reefers are often used to transport the fish from the RFMO area where the fish were harvested to ports of non-members of a particular RFMO.[93]

As well as providing cover to IUU fishing vessels, the extensive use of support vessels and refrigerated vessels also reduces the time those vessels "spend steaming to and from the fishing grounds."[94] FAO predicts that their use will only increase as a result of the continuing high cost of fuel.[95] For these reasons, the Global Record Expert Consultation recommended that "the scope of the record should capture data on all vessels in the supply chain" and "include all vessels (excluding recreational vessels) as defined in the port State measures agreement."[96] There is some contention in those debates as to whether "support" also includes "supply" vessels, such as bunkering vessels. The Global Record designers will need to grapple with this.

While all these issues will be debated over the next two years before the 2011 COFI session, a clear danger exists for the designers of the Global Record.[97] If the Global Record seek too much information, the cost to flag States will be high and compliance may drop. If it seeks too little information, its potential utility may be lost and compliance, again, may drop. It will be recalled that this was the fate of the High Seas Vessels Authorization Record. The analysis of potential user needs will be crucial to this aspect of the Global Record project. It needs to be designed with maximum

---

[91] These measurements were formalized in the 1969 International Convention on Tonnage Measurement of Ships. See: http://www.imo.org/Conventions/contents.asp?topic_id=259&doc_id=685. Accessed 26 May 2009.

[92] This is reflected in the long title of the Global Record: The proposed FAO Comprehensive Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels.

[93] Lodge *et al*. 2007. Above, n.1. p.53.

[94] FAO. SOFIA. 2006. p.25. It is crucial that data is kept and exchanged on fish carriers, as these transshipment vessels often bear dubious flags, with some being rendered virtually invisible, flagged "unknown." According to FAO, using Lloyd's maritime information service data, "the countries reporting more than 60 fish carriers in 2005 were China, Japan, Panama and the Russian Federation. Forty-three fish carriers (6 percent of the total) were identified as "unknown" flag, among which 50 percent had previously been recorded as flying the flags of Belize or the Russian Federation." FAO. SOFIA. 2006 p.27. It should be noted that inclusion of support vessels into the Global Record of fishing vessels is not necessarily straightforward. The FAO has noted that "not all of the ships falling under those categories are dedicated to the support of fishing operations and for this reason it would not be possible to establish a factual record of such vessels of all sizes based on information held in the register of ships of a flag State." FAO. 2007. Above, n.15. p.3.

[95] FAO. SOFIA. 2006 p.27.

[96] FAO. 2008. Above, n.30. p.9.

[97] It should be noted that FAO is currently undergoing an external audit, and one of the suggested changes to its operations may affect the timing of COFI. If this change goes ahead, it is possible that the next COFI session will in fact be in September or October 2010, rather than March 2011. A decision on this should be made in the middle of this year, 2009. Personal communication with Michele Kuruc, FAO. 8 April 2009.

flexibility – to add more information later, if the need arises or political winds change, and also to respond quickly to changing market needs.

Data compatibility of records

The exchange of vessel information between States, RFMOs and FAO has, to date, been poor and *ad hoc*. There is reason to believe this will improve with the establishment of the Global Record, because, embedded within it, will be incentives to provide information. These incentives are related to the marketplace. In the event that record keeping and information exchange on an international level continues to be inconsistent, the original idea of the Global Record as a FAO-based database of all the world's fishing vessels will be difficult, if not impossible, to achieve. The Global Record as a "portal" linking already-available vessel information in the one place is much more realistic.[98] While this rhetorical and aspirational refinement is significant, it will still not be easy to achieve. It will be a monumental task to piece together information from the Compliance Agreement's High Seas Vessels Authorization Record, insurance information kept by Lloyd's, data held by the IMO, vessel lists compiled by RFMOs, port States and already-compliant flag States. Records are currently kept in different formats and contain incompatible, incomplete or inconsistent information. Until all participating information providers agree to use the same format, the Global Record administrators will have to put substantial resources into data input. While the information presented below is dated (1993), it illustrates the different database management systems in use by RFMOs. It hints at the difficulties this is likely to present to the exchange of data between RFMOs and the body that will be responsible for the Global Record.[99]

CCAMLR	FFA	IATTC	ICCAT	ICES	IPTP	NAFO	SPC	NPAFC	GFCM
Powerhouse	Oracle, Foxpro, MSAccess	Datatrieve	In-house (Fortran)	SAS, In-house (Cobol)	Foxbase, dBase	dBase	Oracle, FoxPro	None	In-house (Fortran)

In the short and medium term, the harmonization and standardization of data from both RFMOs and States will be a challenge. Even taking into account the RFMOs that issue joint information (NEAFC and NAFO) and the combined efforts of the five tuna RFMOs, each regional organization currently has its own data management system, its own data-entry format, its own definitions of size and type of vessel, even, as the Coordinating Working Party on Fishery Statistics (CWP) notes, its own criteria for defining what an IUU vessel is.[100] Clearly, RFMO vessel registers are far from

[98] The FAO has defined "portal" in the context of the Global Record to mean: "a framework which provides a single point of access to a variety of information and tools." The FAO considers its International Phytosanitary Portal (www.ippc.int) a model for the Global Record "portal." FAO. COFI. 2008. *Combating Illegal, Unreported and Unregulated Fishing, including through a Legally Binding Instrument on Port State Measures and the Establishment of a Global Record of Fishing Vessels.* Twenty-eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/6. Food and Agriculture Organization of the United Nations. Rome, Italy. p.4.

[99] FAO. 1999. "Annex 1: Summary of Data Collated and Held by Regional Fisheries Agencies." *Report of the Meeting of FAO and non-FAO Regional Fishery Bodies or Arrangements.* 11–12 February 1999. Rome, Italy. Fisheries Report No. 597. Food and Agriculture Organization of the United Nations. Rome, Italy.

[100] FAO. 2007. *Report of the Twenty-Second Session of the Coordinating Working Party on Fishery Statistics.* Rome, 27 February–2 March 2007. Fisheries Report No. 834 FIES/R834. Food and Agriculture Organization of the United Nations. Rome, Italy.

harmonized.[101] The CWP has been reviewing the IT fields and codes that are used across various vessel databases and lists in order to refine global fleet statistics.[102] This process will undoubtedly assist FAO in its development of the Global Record,[103] but it should not be underestimated how technically time-consuming this process will be. Even designing the Global Record around a series of links to other information will be a significant undertaking.

Unique vessel identifiers

Under Article III of the 1993 Compliance Agreement each member flag State is obliged, *inter alia*, to collect information on the operations of their flagged vessels. Each flag State must also ensure that fishing vessels flagged to it are identifiably marked in accordance with generally accepted standards, such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels (FAO Standard).[104] Under the soft law Code of Conduct, fishing vessels authorized to fish outside of the flag State's waters "should be marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard".[105] Under the soft law IPOA-IUU flag States may require vessels to be marked "in accordance with internationally recognized standards, such as the FAO Standard" as a discretionary condition under which an authorization to fish is granted.[106] Under the hard law Fish Stocks Agreement, the flag State is to set requirements for the marking of fishing vessels and gear "in accordance with uniform and internationally recognizable vessel and gear marking systems", such as FAO Standard.[107]

The updated FAO Standard seeks to assist MCS activities by allowing the rapid identification of both the vessel type and the individual vessel.[108] They are usually used in conjunction with international radio call signs, which are designed to assist in the identification of vessels at sea.[109] The international radio call sign is described by Smith as follows:

---

[101] Lodge *et al* note that: "many of the current lists hold different and inconsistent pieces of information, often in incompatible data formats. This can make it extremely difficult to establish linkages from one register to another or from one region to another." Lodge *et al.* 2007. Above, n.1. p.45. The FAO has noted that while data harmonization and standardization of formatting might be progressing slowly "it should be noted the RFMOs are gradually evolving their own systems, to meet the needs of their own regions and constituents, and thus the subject of harmonization is sometimes sensitive, sometimes premature." Turner. 2007. Above, n.18. p.3.

[102] Ongoing discussions about the Global Record project "provide good opportunities and incentives to further discuss harmonization of fields and codes in various vessel databases," according to FAO. FAO. 2007. Above, n.100. p.5.

[103] In its 2007 meeting the Coordinating Working Party on Fishery Statistics placed on hold plans to simplify the International Standard Statistical Classification of Fishing Vessels regarding the structural characteristics of vessels. It intends to wait until the issues surrounding "support" vessels are clarified by the Global Record project. This was a group of vessels that the Coordinating Working Party had previously agreed to leave out of the scope of its planned changes, but clearly they have become important to the success of attempts to combat IUU fishing. FAO. 2007. Above, n.100. Appendix 7. p.39.

[104] The FAO Standard Specification and Guidelines for the Marking and Identification of Fishing Vessels can be found at Annex J: Flewwelling, Peter, Cullinan, Cormac, Balton, David, Sautter, Raymond P., and Reynolds, J. Eric. 2003. *Recent Trends in Monitoring, Control and Surveillance Systems for Capture Fisheries.* FAO Fisheries Technical Paper 415. Rome, Italy.

[105] Article 8.2.3. FAO Code of Conduct.

[106] Paragraph 47.8. IPOA-IUU.

[107] Article 18(1). UN Fish Stocks Agreement.

[108] Flewwelling *et al.* 2003. Above, n.104. p.70.

[109] Smith. 1999. Above, n.49. p.5.

> The Call Sign in its simplest form is a four-character code with the first two letters indicating the nationality of the vessel. This two letter code is allocated to the country by the International Telecommunications Union (ITU), and the subsequent letters or numbers allocated to the vessels by the country's national administration. Under the recommendations of the Marking of Fishing Vessels the Call Sign is to be displayed in large letters on the side of the vessel and on the bridge top or on a horizontal deck (so that they can be recognised by aircraft). In this manner the Call Sign can be read from a distance of more than one mile at sea, long before the name of the vessel or even the flag of the vessel can be read.[110]

Under none of the above-mentioned agreements, hard or soft, is a *unique* identifier called for. Useful as radio call signs and the FAO Standard certainly are, they are not permanent identifiers. Their numbers are linked to the flag State and are therefore as highly mobile as the vessels themselves. Markings can, and are, easily painted over.[111] These systems are doubly unreliable for identifying IUU fishing vessels, which typically change flags and physical identities more often than legal vessels.[112] In addition, the speed with which a vessel's authorization, flag and ownership can be changed presents a challenge for monitoring, control and surveillance of fishing vessels. The primary tool for countering all of these challenges is a system of unique vessel identifiers.[113]

The only extant unique and permanent vessel identifier is the International Maritime Organization number (usually called an IMO Number[114]), which is derived from its Lloyd's Register number. While predominantly involved in the merchant shipping industry, Lloyd's Register does include some fishing vessel records. Indeed, some 26,000 large-scale fishing vessels have a permanently-assigned Lloyd's Register number.[115] But the wide-scale use of this system as a primary basis for the Global Record's unique vessel identification system is problematic, as IMO Numbers typically only apply to vessels over 100GT.[116] This will not inhibit the Global Record's establishment, as the first Phase will focus on vessels over 100GT. But over the long term, some combination of the IMO system and a FAO numbering system for smaller vessels will need to be introduced. This system is yet to be designed or agreed, although

---

[110] Smith further notes that the International Telecommunications Union's website lists vessels and their call sign. This is a clear benefit to patrol vessels at sea. *Ibid.*

[111] It should be noted that names are not permanent identifiers either, as they can be duplicated (deliberately or not). The FAO reported in 2007 that: "it is not uncommon for vessels entitled to fly the flag of the same State, but registered in different ports, to be given the same name. In addition, the name of a vessel could change with change of owner or through a demise charter party and or change of flag, thus the name, *per se*, is not a unique identifier." FAO. 2007. Above, n.15. p.3.

[112] FAO. 2007. Above, n.15. Paragraph 11. The 2005 FAO Global Record feasibility study noted that "it is not uncommon for vessels entitled to fly the flag of the same State, but registered in different ports, to be given the same name. In addition, the name of a vessel could change with change of owner or through a demise charter party and or change of flag, thus the name, per se, is not a unique identifier."

[113] The 2005 feasibility study stressed that one of the keys to the effective operation of a Global Record of fishing vessels would be unique vessel identifiers. Only with unique identifiers could a vessel could be identified permanently, "irrespective of change of vessel name, ownership or flag." Turner. 2007. Above, n.18. p.4. It should be noted that unique vessel identifiers were called for as early as November 2002. See: FAO. 2003. *Report of the Expert Consultation to Review Port State Measures to Combat Illegal, Unreported and Unregulated Fishing.* Rome, 4–6 November 2002. FAO Fisheries Report No. 692 FIPL/R692. Food and Agriculture Organization of the United Nations. Rome, Italy.

[114] These were established under the 1987 IMO Ship Identification Number Scheme, which began on a voluntary basis but was made mandatory under the IMO Convention for the Safety of Life at Sea.

[115] FAO. 2008. Above, n.30. Paragraph 42.

[116] FAO. 2007. Above, n.15. Paragraph 52.

discussions on the issue of vessels under 100GT within the Joint FAO/IMO *ad hoc* Working Group are continuing.[117]

In a further important development, the Secretariat of the Western and Central Pacific Fisheries Convention launched a study of unique identifier systems within the five tuna RFMOs. In partnership with FAO, a harmonized global pilot project will get underway in 2009.[118] This scheme will introduce unique vessel identifiers for the tuna fishing vessels which operate within those RFMOs.[119] Because the five tuna RFMOs cover all global tuna stocks, the pilot is clearly significant.[120] The number of vessels involved could arguably make the pilot scheme a 'mini Global Record.' It was estimated in April 2006 that the authorized fishing vessel lists compiled by the five tuna RFMOs contained roughly 11,000 vessel records from 57 States. Accounting for duplication, this probably translates to 8,000 individual vessels, sufficient to test the concept.[121]

The progress of the Global Record will be greatly influenced by these developments, as it will hopefully gather the political will to employ best practice on this critical issue. The results of the tuna vessel pilot project will be a component of the case the project team at FAO presents to COFI in 2011, in support of the Global Record's establishment.[122] Assigning permanent, unchanging numbers to fishing vessels – regardless of their size – will be crucial to the success of the Global Record as a tool and may also prove to be a significant milestone on the journey towards future sustainable fisheries management.[123] In addition, permanent numbering will be important to market-related traceability. Some States require tuna fishing operations to tag individual fish at the time of capture with the identification number of the harvesting vessel, along

---

[117] Closer linkages between the IMO and fishing vessels appear inevitable, in any case. Amid heightened security concerns, discussions within the IMO suggest that fishing vessels are not likely to be exempt from future amendments to the maritime transport security provisions of the Convention for the Safety of Life at Sea. FAO. 2007. Above, n.15. p.3.

[118] These organizations are: Inter-American Tropical Tuna Commission (IATTC), International Conservation for the Conservation of Atlantic Tunas (ICCAT), Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Indian Ocean Tuna Commission (IOTC), and Western and Central Pacific Fisheries Commission (WCPFC).

[119] Personal communication with Stephen Stuart, FAO. 18 March 2009. It should be noted that, at the time of writing (April 2009), the terms of reference for this pilot have not yet been finalized.

[120] While FAO estimates that 91% of the tuna catch was harvested by members and cooperating non-members of the five tuna RFMOs, it notes that four (unnamed) states which have reported substantial tuna catches (~5,000MT per year) do not participate in the relevant tuna RFMO. In addition, many small, developing states "struggle to sustain adequate level [sic] of management, control and surveillance (MCS) for domestic and foreign fleet operations." This suggests that the FAO's estimate may be overstated. That is, that less than 91% of global tuna is actually caught under the management regimes of the tuna RFMOs. Tsuji, Sachiko. 2007. "Overview of existing data collection and monitoring mechanisms for tuna stock and fishery management." *Report of the Joint Meeting of Tuna RFMOs. January 22–26, 2007. Kobe, Japan.* Appendix 6. FAO Fishery and Aquaculture Information and Statistics Service. FAO. Rome, Italy.

[121] Tsuji. 2007. Above, n.120.

[122] Personal communication with Michele Kuruc, FAO. 8 April 2009.

[123] A note should be added here about another tool – unique identifiers for companies and registered owners. This idea copies a successful IMO scheme which, like the vessel identifier scheme, also utilizes Lloyd's Register–Fairplay numbers. The Maritime Safety Committee of the IMO adopted a voluntary scheme in 2004 known as the IMO Unique Company and Registered Owner Identification Number Scheme (adopted as Resolution MSC.160(78) on 20 May 2004). Its purpose was to "enhance maritime safety and security and pollution prevention and to facilitate the prevention of maritime fraud." Paragraph 1. This may become important as the issue of beneficial owners avoiding liability for the activities of their fishing vessels comes under greater scrutiny, either through the negotiations surrounding the Global Record of fishing vessels, or through changes to international finance and corporations law.

with a serial number.[124] Thus, the future introduction of a global system of unique identifiers for fishing vessels will almost solely depend on the willingness of States to require their flagged vessels to employ such permanent identifiers, but the market will clearly play a role.[125]

The special needs of developing countries.

Numerous States have not signed up to the international fisheries agreements of the past fifteen years. Some have signed them but do not comply with them, or do not fully comply with them. Together, these States can fit into two categories. The first category contains those States whose international reputation in the area of fisheries is not yet sufficiently valuable for them to want to bear the costs of compliance.[126] Baird identifies two broad types of these problematic flag States – those which cannot supply the information that is required because fishing is managed through local communities or villages and those which are unwilling to support a Global Record for whatever reason.[127] These States are gaining materially, tangibly, from acting outside prevailing norms. The other category contains those States that want to comply, and become good international citizens, but are financially and administratively incapable of meeting the myriad obligations contained within the agreements. It was discussed in chapters three and four that the developing world supplies many, if not most, of the flags of convenience used by IUU fishing operations. It will be seen in the following chapter that many of these States also supply ports of convenience. But the developing world is also very much a *victim* of IUU fishing. It is estimated, for example, that sub-Saharan economies alone lose around $1bn per year to IUU fishing.[128] Flag of convenience States Guinea, Sierra Leone and Liberia lose somewhere in the order of $140 million a year to illegal fishing.[129] It is therefore submitted that the special needs of developing States cannot be discounted, especially because much of what they are being asked to do by the international community may go against short-term economic development goals.

This author strongly believes that States that are currently unable to meet the aspirations of the global community should be presumed to *want* to meet these aspirations and assisted to do so. Cochrane and Doulman report that the top three constraints cited in 2003 by developing countries regarding their implementation of the

---

[124] Tsuji. 2007. Above, n.120. In the future, cutting edge food traceability technologies such as steganograms, microtags and other forms of embedded identifiers (See: Nightingale, Stephen D. 2005. "Prospects for embedded identifiers in food chain management." Paper presented at the 2005 World Food & Agribusiness Conference. Chicago, USA) may be introduced in fisheries, at least at this high-value end.

[125] Tsuji notes that "If the tag and related information will stay with fish throughout whole distribution and processing process and be provided to consumer, this may offer innovative case [sic] to improve traceability and transparency of fishery products." *Ibid.*

[126] This author concedes there may always be a number of states that will not comply with international agreements (whether fisheries, environmental, or intellectual property), but if the number of these states can be dramatically reduced then the problem states will be easier to identify, and perhaps easier to marginalize economically using the market-related measures this dissertation will explore in chapter 8. Belize, for example, was a flag of convenience State for years, with a registry containing many vessels implicated in IUU fishing. Its registry has been cleaned up in past years and the state is now a member of many important regional and international fisheries agreements.

[127] Baird. 2008. Above, n.53. p.33.

[128] Bostock, Tim. 2008. "Opening Statement." Appendix E. *FAO regional workshop in port state measures to combat IUU fishing. Workshop Report.* Cape Town. 28-31 January 2008. p.32.

[129] Open Sources Information. "IMO to tackle coastal piracy." 2 October 2007. http://www.illegal-fishing.info/ Accessed 4 March 2009.

Code of Conduct were lack of capacity, funds and problems with the policy or legal framework.[130] Not all flag States possess complete and accurate information on vessels flying their flags and/or authorized to fish, especially if they are a developing State or a reformed or reforming flag of convenience State. In 2007 FAO conducted a survey of measures taken by member States to prevent, deter and eliminate IUU fishing.[131] Although the response rate was poor, it found that 83.1% of respondents identified IUU fishing as a problem.[132] 25% of African countries had taken steps to implement a licencing system and a vessel register; 20% of Asian States had done the same, as had 28.6% of Latin American and Caribbean States and 33.3% of Near East States.[133]

Clearly there is a long way to go. Most States that are currently non-compliant will need assistance from the international community. This will help them clear their registries of IUU fishing vessels and in other ways begin to participate in the record-keeping and information-exchange expected under the extant international agreements, including the proposed Global Record and the draft Port State Measures Agreement. A FAO pilot project is expected to begin in southern Africa in October 2009 under the "Partnerships for Africa" program. These States have shown a willingness to combat IUU fishing.[134] The pilot project will provide another test for the concept of the Global Record, at the same time as giving invaluable support to States which have struggled with capacity issues.[135]

In addition to targeted capacity-building work, extra funding may be allocated to support developing States, as it is under Article 22 of the draft Port State Measures Agreement. It is widely recognized that these States will probably carry "a disproportionate burden" when they implement port State duties under that Agreement.[136] Article 22 of the draft Port State Measures Agreement is devoted to their special needs. Funds are to be directed specifically towards:

> (a) developing national, regional and international port State measures;
> (b) developing human capacity, including for fisheries managers, inspectors, monitoring, control and surveillance and legal personnel, including training and capacity-building at national and regional levels;
> (c) monitoring, control, surveillance and compliance activities relevant to port State measures; and
> (d) assisting developing States Parties to meet the costs involved in any proceedings for the settlement of disputes that results from action they have taken pursuant to this Agreement.[137]

At the 2007 meeting of COFI it was agreed that "developing countries may require assistance in the creation and maintenance of fishing vessel registers and records."[138]

---

[130] It should be noted that only 16 countries responded to the FAO's survey – 14 of them being developing countries. Seven of the 14 developing countries cited "lack of capacity." Six of the 14 developing countries cited "lack of funds." Six of the 14 developing countries cited "problems with policy or legal framework." Cochrane, Kevern, L., and Doulman, David J. 2005. "The rising tide of fisheries instruments and the struggle to keep afloat." *Philosophical Transactions of the Royal Society B.* Vol. 360. p.86.

[131] FAO. 2007. Above, n.54. p.4.

[132] Only 39 countries responded.

[133] FAO. 2007. Above, n.54. p.4.

[134] Personal communication with Michele Kuruc, FAO. 8 April 2009.

[135] Personal communication with Stephen Stuart, FAO. 18 March 2009; Personal communication with Michele Kuruc, FAO. 8 April 2009. It should be noted that the terms of reference for this pilot have not yet been finalized, at the time of writing (April 2009).

[136] Article 2 of the draft Port State Measures Agreement reflects this.

[137] Article 22(3).

[138] Turner. 2007. Above, n.18. p.4.

The international community will need to provide better assistance to these States than the Compliance Agreement did if it is to capture the broadest possible swath of participating States. It is submitted that the Compliance Agreement gave no more than lip service to their special needs, making only a vague exhortation for parties to assist other States.[139] This may go some way to explaining why even the small number of signatories to the Compliance Agreement did not better support its High Seas Vessels Authorization Record. Understanding this link between assistance and compliance, the Global Record Expert Consultation agreed that the means should be established for delivering financial assistance, personnel and legal expertise to developing States. This will build information collection and exchange capacity in these countries.[140] Participants in that forum pointed to the draft Port State Measures Agreement's Article 22 fund, above, as a possible model for assistance. They also recommended a "UN system-wide approach for funding and support among other specialized UN agencies such as the World Bank and United Nations Environment Programme (UNEP)". Such a broad-based funding approach would help secure compliance from those States willing but unable to give it. These States should not miss out on the market-based incentive system represented by the Global Record.

Paying for the Global Record

The October 2006 Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance agreed that a Global Record had value as a tool to combat IUU fishing. However, it cautioned against underestimating its cost.[141] The estimated cost of the Global Record, based on a 2006 American dollar, is USD2.5 million for its development phase and USD600,000 annually for maintenance.[142] This funding will not come from FAO and will need to be found externally. It will probably come from donor countries and NGOs. The States most likely to be interested in making a substantial contribution to the Global Record's establishment are those whose industries would be best served by such a system. This will mean those countries whose compliance level is already high, and whose vessels would therefore appear on the list in good standing. It will mean those countries whose vessels fish the most commercially attractive stocks, as well as those that trade in high-value export fish. It will be those countries whose vessels supply the 'greening' marketplace (which will be discussed in chapter eight) by fishing sustainably. In other words, the Global Record should serve both developed *and* developing countries.

The potential attractiveness of the Global Record as a device for assisting vessels to better participate in the market, and its usefulness as a compliance tool for

[139] Article VII of the Compliance Agreement, "Cooperation with Developing Countries," provides only that: "Parties shall cooperate, at a global, regional, subregional or bilateral level, and, as appropriate, with the support of FAO and other international or regional organizations, to provide assistance, including technical assistance, to Parties that are developing countries in order to assist them in fulfilling their obligations under this Agreement."

[140] FAO. 2008. Above, n.29. Paragraphs 47 and 48.

[141] FAO. 2007. Above, n.15. Paragraph 54.

[142] FAO. 2008. Above, n.30. p.4. The projected costs of the High Seas Task Force's proposed FishVis global information system project were roughly similar – €1,955,000 for its development and annual costs of €555,000 per year thereafter. The FishVis feasibility study made a point of observing that over the three establishment years this cost would still only be 0.03% of the estimated cost of IUU fishing, which was put by the High Seas Task Force as USD9 billion per year. It should be noted that the establishment time for the Global Record of fishing vessels might be rapid: The High Seas Task Force's FishVis project claimed such a thing could be established with one year with further enhancements taking another 2 years. FishVis. 2006. Above, n.39. p.5.

governments and fisheries managers, is therefore clear. However, when the Australian government approached CCAMLR members for input as part of its enquiries into the feasibility of a similar project, cost was a contentious issue.[143] Most of the respondents wanted it to be "free of charge."[144] It is likely that the donor countries that most want to see it developed will therefore pay the bulk of its establishment and ongoing costs.[145] Collaborations with NGOs will constitute another portion of its funding.[146] It is unclear how or whether industry users will contribute anything towards the system. Many of these potential participants are already paying tens of thousands of dollars for the fisheries in which they work to gain Marine Stewardship Council accreditation. The question of whether the Global Record could be developed as a successful commercial venture is beyond the expertise of this author, but it may be an option once it is established.[147]

For now, budgetary constraints regarding the Global Record are so significant that they may constitute the biggest barrier to its establishment. The effect of the global financial crisis should not be underestimated, either. It will almost certainly shrink the potential funding available through NGOs, and some donor governments will inevitably need to re-prioritize planned funding to target domestic fall-out from the crisis. For this reason, among others, the southern Africa pilot project will be tremendously significant. It will leverage existing information systems, local partners and FAO expertise, and test the concept in a real and challenging setting. It may be successful in helping to combat IUU fishing and secure entry to the market for only those vessels and States which are compliant. If so, as a case study it will do much to shore up financial support and build momentum for the Global Record project.

A review process

The last major issue in this discussion concerns the ability to review the Global Record once it is established. One key reason for the failure of the FAO High Seas Vessels Authorization Record was its inability to re-invent itself as the limitations of the Compliance Agreement became apparent and as, simultaneously, IUU fishing emerged. The Compliance Agreement had no review mechanism beyond the protracted process of calling together all the signatories and re-negotiating parts of it. Being negotiated under the auspices of FAO arguably hindered its success, as well, in part because the review mechanisms available under FAO are laborious. With the low level of participation and support from which the Compliance Agreement was already suffering, an easier review mechanism may have helped revive it. But without such a mechanism, the High Seas Vessels Authorization Record's attachment to the *binding* Compliance Agreement (seen as crucial at the time) gave it little advantage. The High Seas Vessels Authorization Record also lacked accountability mechanisms. While it is not within expertise of this author to suggest what these might look like, it is submitted that the Global Record will

[143] This was the High Seas Task Force-allied FishVis project, noted above.
[144] FishVis. 2006. Above, n.39. p.7.
[145] For example, the UK and the US have already been generous in this respect, and Japan is a major contributor to the FAO budget.
[146] The successful Marine Stewardship Council was originally a collaboration between the WWF and Unilever.
[147] Perhaps it could pay for part of its upkeep through web advertising or partnerships with companies like Google. It may even use its search engine. FAO confirms that approaching Google has been discussed but without more design specifics it has not done so. Email communication with Michele Kuruc, FAO. 25 May 2009.

need to incorporate effective and efficient accountability and review mechanisms in order to reach its goals.[148]

Can the Global Record become a key tool in fisheries governance?

The Global Record will become a vital, active tool to deter IUU fishing only if it exists in an environment in which the vast majority of States support it. Support must come in the form of collecting and exchanging information, and *using* that information to target vessels which appear to be acting outside prevailing national, regional and international rules. States can target these fishers on the seas as part of their MCS activities, in ports as part of their port State responsibilities, or in markets, using market-related measures such as import bans or supporting certification demands. Because the Global Record will be nothing without reliable, valid content, the question of how best to "convince countries to provide the needed data" becomes a vital consideration.[149] RFMOs have been successful in creating regional vessel record systems and can utilize internal pressure and compliance mechanisms. They can also offer strong incentives for member States and cooperating non-members to comply. An international instrument does not necessarily have these tools at its disposal. This is where market-based measures are vital to the success of the Global Record.

Market access

Many of the 157 States that have signed and ratified the LOSC did so in anticipation of the benefits it would bring. As this dissertation outlined in chapter three, the LOSC's extensive rights were also attached to legal obligations. One of these obligations was that States were responsible for the activities of their flagged vessels. The international fisheries agreements adopted since then have sought to remind States of those obligations, and bind them in more specific detail. Participation in binding fisheries agreements has subsequently dropped as many States asked "what is in it for us" – as Lugten has put it.[150] It has been a struggle to get some States beyond that question. For those responsible fishing nations that want to see wholesale changes in the way global fisheries operate, and the end of IUU fishing, a concession has been made: Instead of attempting to enforce the obligations contained in the LOSC through the international court process (an option fraught with prohibitive cost, time delays and the possibility of defeat in court), or making more hortatory declarations, the new tools, including the proposed Global Record, will rely for their influence on port and market-based compliance and enforcement mechanisms.

In order for the Global Record to hold sufficient information to be of use, States will need to be convinced of the need to support the Global Record. As this dissertation has discussed, many of these States neglected the High Seas Vessels Authorization Record. The difference will come through the behaviour of responsible States towards vessels

[148] Merely 'building a database and hoping they will come' is naïve, particularly in light of the HSVAR experience. See also: FAO. 2008. Above, n.30. p.6

[149] FAO. 2008. Above, n.30. Abstract.

[150] It could be asked if the HSVAR failed because the cost/benefit analysis of participating did not come out in the majority of states' favour. Lugten rejects this, observing that: "...the legal notion of Flag State responsibility is not open to a cost/benefit analysis. It is a legal obligation imposed historically and contemporarily on all States... furthermore, the legal obligation must be met if the international community is to realize its goals of addressing IUU fishing in order to ensure sustainable marine and inland capture fish stocks." Lugten. 2008. Above, n.27. p.44.

on the list, or more particularly, those which are not. These vessels will be entering States' ports and attempting to land catch and export into their markets. If the Global Record is supported with sufficient information it will be able to show, for example, that a vessel has been subject to inspection in three different ports, or has changed flag numerous times, or is flagged to a known flag of convenience State. The vessel can then be blocked from using the port, or landing or exporting the catch. This constitutes a significant incentive for the fishing operation to begin the transition to compliance. It is strongly believed that a vessel owner's *desire* (and that of its flag State) to be transparent in its activities will form the key to compliance with the Global Record.[151] Lugten notes that: "When the European Union and Japan take a commercial stand in favour of the Global Record, it is time for the global fishing fleet to pay attention."[152]

Along with steering and assisting this non-flag State enforcement, the success of the Global Record will also depend on the behaviour of the market.[153] This is because, in a couple of large pockets of the world (Europe and North America), consumers have made it clear that they do not want to buy the products of IUU fishing. The wholesalers and retailers that supply them are working hard to ensure the integrity of their sourcing systems; seafood industry representatives were reportedly prominent during the Global Record Expert Consultation.[154] The EU processing industry has already taken action to avoid the products of IUU fishing.[155] Private companies have invested in creating internal systems to verify their supply chain.[156] Initiatives such as the Marine Stewardship Council fisheries certification program have been strongly embraced. This, and the 2008 establishment of a Europe-wide catch documentation system, support the notion that the market can be used to bring significant compliance pressure to international fisheries. It worked, with dramatic effects, in the case of Dolphin-friendly tuna.

---

[151] Indeed, with novel approaches the net could tighten further: Midson suggests that states wishing to register vessels to their flag must agree to it being recorded on the Global Record before other states would recognize the right of these vessels to fish. Midson. 2009. Above, n.6

[152] Lugten. 2009. Above, n.28; Baird notes briefly how existing vessel lists within the tuna RFMOs may have had an impact on market access, in this example within the CCSBT Convention area. All Southern bluefin tuna comes under the Commission's auspices. As a result: "...wherever the fish has been caught in the world's oceans, if the vessel is not on the authorized vessel record, the master will (in theory) find difficulty selling or unloading in legal market [sic]. In practice, implementation of the system is not perfect. However, the use of authorized vessel records reduces the options for IUU vessels... With the trade of [Southern bluefin tuna] primarily to Japan, the flagged vessels of non-members have been shut out of the legal market. There is evidence that this is directly influencing non-member states to take steps to comply with the Convention, its resolutions and become a member or cooperating non-member." Baird. 2008. Above, n.53. pp.31-32. There are still important unresolved legal questions regarding vessel lists. One of them is posed by Serdy: What does it mean if you are not on either list? Personal communication Andrew Serdy, Southampton University. 1 Nov 2007.

[153] Lugten notes that the Global Record's market orientation will "ensure both increased levels of compliance and a greater impact for the Global Record as a remedial tool to address IUU fishing." Lugten. 2008. Above, n.38. p.767.

[154] Lugten. 2009. Above, n.28. p.21.

[155] FAO. 2008. Above, n.30. p.7.

[156] For example, the 'traffic lights' used by Unilever under its Fish Sustainability Initiative. See: Roheim, Cathy A., and Sutinen, Jon G. March 8, 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices.* Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force. p.46.

In the eastern tropical Pacific yellowfin tuna fishery, dolphins habitually swim with schools of tuna.[157] In the 1950s purse seine fishers began setting their nets on dolphins in order to catch the tuna. This produced a gruesome dolphin by-catch in the order of 600,000–700,000 animals a year through the 1960s and 1970s and 80,000–100,000 a year through the following decade.[158] Responding to public outcry, the US government passed the Marine Mammal Protection Act of 1972 which prohibited US tuna fishers from setting on dolphins. It provided for the imposition of embargoes on imports from countries that did not put in place comparable provisions. With little success changing the fishing methods of vessels from other countries, in 1990 the US instituted a series of import bans and passed the Dolphin Protection Consumer Information Act of 1990. This law laid out the standard for a dolphin-safe label. The International Dolphin Conservation Act of 1992 then prohibited the sale, purchase, transport or shipment in the US of tuna that did not meet this standard. Environmental organizations targeted the consumer and the United States market for tuna that was not in possession of the label collapsed.[159] With industry attention duly fixed, the 'La Jolla Agreement' was adopted in 1992. This was succeeded by the multilateral International Dolphin Conservation Program which entered into force in 1999 under the auspices of The Inter-American Tropical Tuna Commission. The Commission reported that "NGO pressure on canneries to purchase tuna only from vessels certified by the Commission to be participating in the International Dolphin Conservation Programme [overcame] the problem of flags of convenience in that fishery."[160] Dolphin mortality in the eastern tropical Pacific fell to 1% of previous levels.[161] The US Secretary of the Interior at the time, Bruce Babbitt, observed that:

> Every nation in the world is today headed towards using dolphin-safe fishing practices, because of the power of American markets... The idea will provide the next great international opportunity:

---

[157] Gabriel, Otto, von Brandt, Andres, Lange, Klaus, Dahm, Erdmann, Wendt, Thomas. 2005. *Fish catching methods of the world*. 4th Edition. Wiley-Blackwell. p.462. The affected dolphin species were the spotted dolphin – *Stenella attenuata*, the spinner dolphin – *S. longirostris*, and the common dolphin – *Delphinus delphis*. Southwest Fisheries Science Center, NOAA. http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=228&id=1408. Accessed 27 October 2008.

[158] See Figure 3, "Estimated annual number of dolphins killed in the eastern tropical Pacific purse-seine tuna fishery, total for all dolphins and separately for the two dolphin stocks with the highest number killed." Southwest Fisheries Science Center, NOAA. Above, n.157. See also: Shabecoff, Philip. "3 Companies to Stop Selling Tuna Netted With Dolphins." *The New York Times*. 13 April 1990. Populations of the northeastern offshore spotted and eastern spinner dolphin populations reportedly dropped to 20% and 30%, respectively, of their pre-fishery levels. See: "NOAA study shows eastern tropical pacific ocean dolphin populations improving." *Earth & Climate*. 5 June 2008. Published on http://esciencenews.com. Accessed 27 October 2008. NOAA notes that: "The number of dolphins killed since the fishery began in the late 1950s is estimated to be over 6 million animals, the highest known for any fishery. For comparison, the total number of whales of all species killed during commercial whaling in the 20th century was about 2 million." Southwest Fisheries Science Center, NOAA. Above, n.157.

[159] These efforts included the production of the documentary film "Where Have All the Dolphins Gone?" which promoted a boycott of Heinz products. This is because the H.J. Heinz company had a major tuna canning subsidiary (Starkist). A week before the film was due to air, Heinz declared it would buy only dolphin-safe tuna for its canneries. See: "Do Environmental Films Help the Environment?" http://www.mediarights.org/news/2001/09/07/do_environmental_films_help_the_environment. Accessed 27 October 2008.

[160] FAO. 1999. Above, n.99. Paragraph 34.

[161] Southwest Fisheries Science Center, NOAA. Above, n.157.

> to come together with other countries to say we are going to use the markets of the world as a stick to enforce environmental standards.[162]

North America and the EU represent huge and lucrative potential markets from which vessels would not want to be barred. Both are also growing markets: for example, some 65% of the fish consumed within the EU is now imported from outside it.[163] While emerging markets – in Asia, Africa, the Pacific nations and South America – are not 'greening' in the same way or at the same rate, vessels from these countries are trying to sell *into* these markets. It is believed that the market forces will work both ways – that the linking of international legal frameworks and industry enforcement mechanisms in this way will close the substantial gap between the IUU fishers and the international community. It is true that IUU operations are fast and mobile where international law is not,[164] but industry has shown that when there is an economic imperative and a chance to gain a competitive advantage it, too, is flexible and fast.

It is therefore possible that the market orientation of the Global Record will be the counter that the vexing problem of IUU fishing sorely needs. In partnership with the draft Port State Measures Agreement, the Global Record could assist the transition from what Brack and Hayman call "gunboat enforcement" to the tighter, more cost-effective web provided by port and market States.[165] The world's markets are becoming educated about overfishing and IUU fishing. Concerted consumer campaigns (including the advent of the Marine Stewardship Council) are but the more remarkable symbols of a growing trend toward greater transparency and market participation in fisheries management, arguably begun by Dolphin-safe tuna.

The Global Record will serve this new constituency – the market – by providing information to the public domain.[166] Within FAO and COFI it is strongly believed that fish wholesalers and retailers, responsible States and legitimate vessels would support the Global Record regime with information, as they have a great deal to gain from it. To test this concept, the US-based industry association Seafood Choices Alliance sent a

---

[162] Babbitt, Bruce. 1993. "Lecture: The future environmental agenda for the United States." *University of Colorado Law Review.* Vol. 64. No. 2. p.521. Babbitt noted at the time that the US faced three major environment-related problems – a) climate change, and the reliance on fossil fuels; b) biodiversity; and c) whether there was any chance that the US could bring "the rest of the world along." p.514.

[163] FAO. 2008. Above, n.30. p.7.

[164] Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combatting IUU operations?" In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD environment and sustainable development. Vol. 11. 2004. p.26.

[165] Brack, Duncan and Hayman, Gavin. 2002. "International Environmental Crime: The Nature and Control of Environmental Black Markets." *Background paper for RIIA workshop.* 27-28 May 2002. Sustainable Development Programme, Royal Institute of International Affairs. p.10. The present author is acutely aware that participation from all states – particularly states which have previously been reluctant to provide information to the international domain – will be crucial to a long-term outcome, and remains a challenge. When CCAMLR members were asked for input during the feasibility study for the High Seas Task Force-allied FishVis project, respondents considered the proposed global information system to be useful, but "the responses seem to indicate that it is unlikely that information other than what is already available would be offered to fill the gap." FishVis. 2006. Above, n.39. p.7. Hopefully this is where market-based incentives will produce results.

[166] Lugten notes: "Ideally, the Global Record will create a situation whereby if a vessel is not on the Global Record, it could be presumed to be an IUU vessel, and consumers (such as the EU) would not buy the fish." Lugten. 2009. Above, n.28. p.13. The Global Record negotiations have specifically endorsed the inclusion of aspirational goals that look to the future and cover a comprehensive range of needs beyond its obvious role in fighting illegal activity. Lugten notes that this includes improving "the traceability of vessels and their fish products; [strengthening] risk assessment for both governments and industry; and [supporting] decision-making on topics such as fleet capacity, safety at sea, pollution, and vessel security." p.22.

survey to "over 700 selected contacts in the seafood industry identified as likely users of the Global Record."[167] Only 18 of these contacts completed it. Representatives from 13 companies also engaged in interviews with the group. Respondents were based in either North America or Europe. This small sample was not statistically meaningful, but in the absence of the FAO's planned user-needs survey it constitutes a moderately useful guide. Of the respondents contacted or interviewed by Seafood Choices Alliance, 95% were either "very" or "extremely" concerned about ensuring that the seafood they procure was from traceable, legal sources. Seventy percent of respondents felt that a Global Record would be "very" or "extremely" useful in helping to make procurement decisions. Over 60% of respondents would want to search the Global Record using a unique vessel identification number[168] and over half wanted to be able to see a vessel's history of infractions. The three most important pieces of information the Global Record would be expected to offer users were: permits, quotas or catch allowance, a full list of global vessels and their country of origin.[169]

Industry, as represented by the respondents to the Seafood Choices Alliance's survey, appear cautiously optimistic that the Global Record will benefit them in making procurement decisions. Clearly, a more rigorous and wide-ranging study needs to be commissioned. Such a study will do as much to test the concept of the Global Record as the two FAO-partnered pilot studies described earlier. Without the market's full engagement, this author is concerned that the Global Record will become just another device to improve monitoring, control and surveillance. If so, it will be without market-based incentives and compliance may again stagnate. If this is to be the case, then other options may need to be explored that are more cost-efficient for the international community. Without very high interest and engagement from industry, the estimated USD2.5 million for development and USD600,000 for annual maintenance may be more usefully sunk into the Article 22 'trust fund' developed under the draft Port State Measures Agreement.

Two other cautions must be sounded. First, assuming strong industry support does eventuate, and market-based incentives *do* act to promote compliance, it may eventuate that vessel additions to the Global Record may become far more *ad hoc* than planned for by FAO. As discussed early in this chapter, the Global Record will probably implement a phased approach to including vessel information – beginning with the biggest fishing vessels. It will also consider the efforts of the five tuna RFMOs. However, if the market-based incentives work as it is hoped, participants in particular fisheries may group together and lobby to be included in the Global Record sooner. This will be regardless of the type of fishery or the size of vessels that are required to exploit it. They will do this in order to gain access to the markets that the Global Record promises to *close* to those vessels not included or in good standing. Enthusiastic chaos may ensue.

The second caution this author must sound is for FAO, and the States which will negotiate the scope, contents, and cost of the Global Record. They must ensure that talks do not take so long that industry stakeholders get exasperated, lose momentum, and put their support, funds and interest elsewhere. Fish processors, wholesalers and

---

[167] See: *Global Record of Vessels: Outreach and Raising Awareness.* Document prepared by Seafood Choices Alliance for use as part of Global Record discussions at FAO. Not in wide circulation. Contact FAO.

[168] The other options were: vessel name (57.1%), vessel country or origin (57.1%), unique identifying number (61.9%), and 'other' (no figure).

[169] 76.2%, 61.9% and 61.9%, respectively.

retailers, particularly in the United States, Europe and the Antipodes, sensed well over a decade ago that fish stocks were declining. They recognized early that IUU fishing was a problem. While market participants are reportedly desperate for the sort of information the Global Record could provide, they are already independently developing systems to deal with these threats to its supply. The Global Record needs to be ready before industry turns away from the international community and determines its own proprietary, totally de-centralized methods of guaranteeing traceability of its products. The surprisingly comprehensive IUU Vessel List maintained by Greenpeace is already a challenger in this space.[170] It is noted that the Expert Consultation recommended attaching the Global Record to a soft law instrument as an interim measure while its attachment to a hard law instrument is negotiated.[171] This will go some way to addressing this author's concern regarding speed, but any delays in international consultations concerning the Global Record will not be a welcome development.[172] For now, the project is a FAO instrument. It is therefore tied to COFI endorsement and COFI only meets once every two years, in a brief February/March window.

Institutional character

Institutional character

The final section in this chapter concerns the likely institutional character of the Global Record. What form the administration of the Global Record eventually takes will depend on how this is resolved. As the Global Record would not be a 'register' that gives vessels any legal personality, it is understood that it does not *need* to be attached to a legal instrument.[173] However, in order for the Global Record to be sufficiently comprehensive, it is submitted that it needs to be attached to an instrument. Doing so would exhort States (if it is a soft law instrument) or direct States (if it is a hard law instrument) to enact national legislation allowing for two things: the mandatory domestic exchange of data with the Global Record, and the mandatory use of an internationally-agreed system assigning permanent, unchanging identifiers to its flagged vessels.[174]

Attachment to a legal instrument should give the Global Record a status it may not enjoy as a free-standing database. In addition, Midson notes that in sourcing data from RFMOs and States, a legal foundation would support and help guide their participation.[175] This author sees that there are two ways to link the Global Record with a legal instrument: It could reside within a soft law instrument – either the Code of Conduct, the IPOA-IUU or the IPOA-Fishing Capacity. These instruments emphasize the keeping and sharing of national vessel records. Alternatively, the Global Record could be attached to the Port State Measures Agreement, which is currently still in draft form. The 1995 Code of Conduct contains guidelines that apply to all fisheries no matter where they occur. It addressed every stage in the cycle of production, from the catch to the consumer. It is the umbrella instrument for the four (non-binding) FAO

[170] http://blacklist.greenpeace.org/1/vessel/report_iuu_vessel.
[171] FAO. 2008. Above, n.30. p.8.
[172] One of the Global Record Expert Consultation's recommendations was that COFI "identify resources for the development, implementation and long-term sustainability of the Global Record..." FAO. 2008. Above, n.30. p.9.
[173] See generally: Lugten. 2008. Above, n.27. pp.51-55.
[174] FAO. 2007. Above, n.15. p.5.
[175] Midson. 2009. Above, n.6.

International Plans of Action, the Code of Conduct Technical Guidelines and the (binding) Compliance Agreement. It is undoubtedly a 'live' document. Placing the Global Record under its auspices is therefore a viable option. However, while it has been suggested that the International Plans of Action have recently gained significant support, suggesting that a soft law approach might be feasible, evidence for this is thin. It is submitted that both the Code of Conduct and the two potential International Plans of Action are better considered detailed sets of technical guidelines, not 'law' which can direct State action. Instead, it is submitted that the Global Record should be attached to a piece of international hard law. The most logical instrument for this purpose is the draft Port State Measures Agreement.

Attaching the Global Record to the draft Port State Measures Agreement would give the Global Record the status of hard law. It would encourage better flag State performance by creating obligations that are enforceable through courts – the International Court of Justice, the International Tribunal for the Law of the Sea or another dispute settlement forum. Lodge and Meere observed of the Fish Stocks Agreement that "getting a State to become a party to an international agreement is a necessary precondition to making that State live up to the obligations contained in it."[176] Ideally, the Global Record will receive a great deal of compliance pressure from the marketplace. But in the event that non-compliance by some parties leaves large and exploitable gaps for IUU fishers, instead of the sole mode of enforcement being diplomatic pressure through COFI, advocates would be able to count, instead, on gaining a hearing in an international court.[177] Linking the Global Record to the draft Port State Measures Agreement would also work in practical terms: while the latter could be finalized in 2009, potentially before even the concept of the Global Record is fully determined, the ongoing negotiations have kept the Global Record fresh. If negotiations around the draft Port State Measures Agreement are not finalized in 2009, the Global Record may even catch up. In addition to their potentially providential timing, there are clear synergies between the two proposed new tools "in their aims, provisions and in their practical application."[178] Article 6 of the draft Port State Measures Agreement calls on parties to exchange information with States, RFMOs, international organizations (such as FAO) and other entities. The Global Record aspires to include all of the vessels the draft Port State Measures Agreement will cover. Further, the information required for regional and international port State controls to work effectively could be provided, in part, by the Global Record. In turn, the information provided by the port records and inspections could be fed back into the Global Record.

---

[176] Lodge, Michael and Meere, Frank. March-April 2005. "High Seas Governance: Meeting of the High Seas Task Force." *Maritime Studies*. Paris, France. 9 March 2005. p.3.

[177] Personal communication with Gail Lugten, University of Tasmania. 13 August 2008. The present author concedes that the benefits of this, while theoretically clear, may not be so in practice. The Global Record Expert Consultation noted that "[i]nternational case law on the law of the sea suggests an inherent conservatism on the part of the judiciary which prefers a narrow, literal meaning of treaty words, and rejects the bigger picture which is sustainability of global fish stocks." FAO. 2008. Above, n.30. p.58. Added to this is the very low number of fisheries cases that have come before ITLOS (approximately one per year), and therefore the relatively untested nature of the hard law obligations that currently exist. Some authors have suggested that cases be brought before the courts to test provisions under the LOSC and the UN Fish Stocks Agreement, but so far this has not happened. See: Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: How flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. p.61. With a separate fisheries court and 21 judges sitting on each case, drawing salaries and living allowances, ITLOS is clearly an expensive way to progress international fisheries management.

[178] Midson. 2009. Above, n.6.

The Global Record could become an *Annex* to the draft Port State Measures Agreement, though this would present a big challenge for the drafters. In order for the Global Record to become an Annex to the Agreement, the process of finalizing the Global Record – or at least the decision as to what information it would hold – and the process of finalizing the draft Port State Measures Agreement would need to occur close to simultaneously. As noted, the draft Port State Measures Agreement is tantalizingly close to finalization. If the Global Record misses that window of opportunity, it could still become a *Protocol* to an adopted and in force Port State Measures Agreement. While this author believes that doing so could result in a loss of momentum for the Global Record (as the focus shifts to the implementation of the Port State Measures Agreement), remaining a stand-alone database without the mechanisms a legal instrument would bring would diminish the Global Record's potential. Another vitally important caution must be sounded here: It remains to be seen what effect attaching the Global Record to the draft Port State Measures Agreement would have on acceptances and implementation of the latter treaty. It is unclear whether the draft Port State Measures Agreement would suffer for its association with the Global Record or benefit from it. An in-depth user-needs analysis will help provide an answer to this dilemma. The last thing the draft Port State Measures Agreement would want is a Global Record albatross around its neck.

Conclusion

The amount of support that the Global Record will ultimately receive from States, in using it to remediate IUU fishing activity, providing data for it and funding it, is unclear. It is foreseeable that the Global Record will face reluctance, even recalcitrance, from some flag States regarding the exchange of information on their flagged vessels. This will be heightened if the Global Record becomes, as it is submitted that it should be, a resource that is widely and publicly available;[179] further again if it takes any significant steps toward lifting the corporate veil. If the direct addition of VMS data and unique vessel identifiers are required, some flag States may step even further back. These are issues of design that will directly affect States' expected compliance with the proposed instrument.

Despite these concerns, the recommendations of the Global Record Expert Consultation were presented to the 2009 COFI session, and COFI endorsed further progress on the project's development. COFI agreed to a program of work for FAO which comprised of convening a Steering Committee, defining the terms of reference for the tuna RFMO and southern Africa pilot projects, defining the needs of potential users of the Global Record, progressing technical development, and commissioning a series of papers to ensure that FAO's understanding of the core issues is sound.[180] For now, the project has forward momentum. The Global Record will face challenges, as the experience of the High Seas Vessels Authorization Record made clear. The primary factor which led to the failure of the High Seas Vessels Authorization Record was that data was months or years out of date or not provided at all. The Global Record will only succeed if a vast majority of States support it over the medium to long term – whether

[179] The Global Record may have to use access filters for data fields which contain confidential information and that which might erode competitive advantage. For example, monitoring, control and surveillance practitioners may have access to more data than the general public would.

[180] Personal communication with Michele Kuruc, FAO. 8 April 2009. In addition, in 2009 FAO will commission a series of papers. One will deal with the vexing issue of Chinese Taipei and FAO's "one China policy". Another will explore governance issues in an in-depth way.

they have an interest in catching, buying or selling fish. Another concern is whether or not its incorporation of unique identifiers for fishing vessels of all sizes is acceptable to most States. A related issue is that of making more transparent a vessel's ownership ties. It is not clear to this author that it would truly be welcomed by States. While it is clear that the Global Record will be less effective if it does not challenge this 'corporate veil', unfortunately discussions suggest that the issue has been put in the too-hard-basket. As the design of the Global Record gets underway, identification of beneficial owners may be watered down to ascertaining the 'operational responsibility' of the vessel instead.[181] The Global Record must also successfully account for the needs of developing States, and not simply by providing technical help and knowledgeable personnel.[182] Significant financial assistance must be readily accessible, and an awareness campaign ought to be undertaken to alert developing States to its existence.[183] Those States that are not yet ready to be good international citizens, even so-called 'rogue' or 'IUU States', should not be asked to give up tangible income, however nominal, from corporate taxes and port fees, without an incentive to do so. The Global Record needs to exist in an atmosphere in which cooperation from flag States is strong, and heeding their self-interest will help provide this.

The issues explored in this chapter make it clear that the Global Record is still very much a nascent, emerging tool. The two pilot projects will help refine the concept and clarify its design. As the draft Port State Measures Agreement enters its final negotiations and opens for signature, it will become clearer what assistance a proposed Global Record will give it. Many developing States do not have access to the sort of information they need to carry out their duties as responsible port States. They may not be subscribers to Lloyd's Register, or other extant commercial databases. Or perhaps the vessel attempting to enter their port is smaller than 100 GT. Much more extensive research and engagement with users will inform the international community about whether market-based incentives or the needs of port State authorities are sufficient to underpin the Global Record project by driving data and users to it. If it does not, alternative monitoring, control and surveillance tools should be considered, in view of the Global Record's cost.

The Global Record could dramatically increase transparency in fisheries. It could also be a tremendous resource to help countries be more effective flag, port and market States. To do so, it should be supported by States and fishers. It should be supported by NGOs, which would supply their own information to it and also use its data for publicity-oriented activities. For the policy and academic research community it would be a valuable source of data. While the Global Record is already strongly

---

[181] A related issue is the long-running lack of precise meaning around what sort of a "genuine link" a vessel should have to a flag state. Unresolved by the LOSC and subsequent instruments, this issue is raised time and again in international fisheries discussions whenever a tighter regulatory environment is proposed. With the decision to concentrate on 'operational responsibility' instead of beneficial owners, it is unlikely to be resolved by the process of establishing the Global Record.

[182] Such as that provided by the Programme of Global Partnerships for Responsible Fisheries (known as "FishCode"), a FAO Fisheries Department programme which funds activities that facilitate implementation of the FAO Code of Conduct for Responsible Fisheries and other FAO fisheries instruments. FishCode has 15 donor partners – agencies representing the EU, Finland, Iceland, Japan, the Nordic Development Fund, Norway, Sweden, the UK, the US, "as well as several international organisations." FAO. 2007. "Progress in the Implementation of the 1995 Code of Conduct for Responsible Fisheries, related International Plans of Action and Strategy." *COFI. Twenty-seventh session.* Rome, Italy. 5–9 March 2007. COFI/2007/2. Food and Agriculture Organization of the United Nations. Rome, Italy. pp.11-12.

[183] This will probably be done by FAO, which energetically convenes regional workshops and other aware-raising and training activities to assist in the implementation of its instruments.

supported by a predictable group of States, if the market-based incentives prove to exist this should bring a cascade of other States on board, particularly from the developing world. There is every reason for this author to believe that if States support the Global Record – even if their full participation occurs further down the track – it will become a vital management tool. Its advancement at COFI this year should therefore be welcomed.

If the Fish Stocks Agreement, the Compliance Agreement, the FAO International Plans of Action and the draft Port State Measures Agreement (which will be examined in the following chapter) were designed to 'close the net' on IUU fishing, then the role of the Global Record will be to 'shine a light.' In this era of Google Earth, the Global Record is technologically appropriate to the information needs and expectations of the era; indeed, on this ground alone it makes no legitimate sense for the project to not be fully supported. Its establishment would bring an unheard-of level of transparency to global fishing activities. It could coalesce industry, States and NGOs – all using and sharing information – and allow it to do what Lugten suggested in 2008 it could: "totally change the way we manage, catch and purchase our fish and fish products."[184] If this happens, it will be well-placed to become a long-term, living instrument, helping remediate IUU fishing and also powerfully contributing to the future sustainable management of the world's globalized, interconnected fisheries.

[184] Lugten. 2009. Above, n.28. p.22.

Chapter 7 – The draft 2009 FAO Legally-Binding Port State Measures Agreement: An Evaluation of its Potential to Combat Illegal, Unreported and Unregulated Fishing*

Introduction

This chapter explores the important role port States play in combatting IUU fishing. It is widely believed that strengthening port State measures in fisheries will bring a degree of control to the sector. Fisheries governance has long been limited by minimal enforcement possibilities in the event of non-compliance by owners and operators of fishing vessels, and the countries that flag them. Measures taken in ports are a way of exercising high seas non-flag enforcement against non-compliant vessels.[1] This chapter will focus on an important new international legally-binding instrument that could help coordinate and enhance the use and effectiveness of port State measures in fisheries. Port State measures are requirements established by port States with which a foreign fishing vessel must comply as a condition of its use of the port.[2] Port State measures may also include interventions undertaken by the port State.[3] Many States already implement such measures against suspected IUU fishing vessels on a national basis. Such national requirements typically include the "prior notification of port entry, use of designated ports, restrictions on port entry and landing or transhipment of fish, restrictions on supplies and services, documentation requirements and port inspections, as well as related measures, such as IUU vessel listing, trade-related measures and sanctions."[4] Most regional fisheries management organizations have schemes in place which require measures such as these to be in place at member ports. In addition, coordinated port State controls for merchant ships have been under establishment within the IMO since in 1982. Together, these activities by states have demonstrated that the ill consequences of lax flag State controls can be limited by the increased activities of port States. Formalized cooperation between the IMO and FAO began in 1999. This drew on the experience of the IMO and has, *inter alia*, explored ways in which port States can help combat IUU fishing.[5] Enhanced port State measures in the fisheries sector are now seen by the United Nations General Assembly as a vital contemporary measure to more effectively deal with the problem of IUU fishing.[6] In recent years, support has grown

---

* This chapter is an extended version of a paper which will appear in the *Journal of Antarctic and Southern Ocean Law and Policy* in 2009 (forthcoming).

[1] Rayfuse, Rosemary Gail. 2004. *Non-flag state enforcement in high seas fisheries.* Martinus Nijhoff Publishers. Leiden. Boston. p.ix.

[2] FAO. "Database on Port State Measures." http://www.fao.org/fishery/psm/en. Accessed 27 February 2009.

[3] *Ibid.*

[4] *Ibid.* Roheim and Sutinen further note that a port State "may inspect documents, fishing gear and catch on board fishing vessels, when such vessels are voluntarily in its ports. It may also adopt regulations to prohibit landings and transshipments where it has been established that the catch has been taken in a manner which undermines the effectiveness of sub-regional, regional or global conservation and management measures on the high seas." Roheim, Cathy A., and Sutinen, Jon G. 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices.* Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force. p.19.

[5] FAO. 2001. *Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* Rome, Italy. 9–11 October 2000. FAO Fisheries Report No. 637. FIIT/R637. Food and Agriculture Organization of the United Nations. Rome, Italy.

[6] See: A/RES/57/142 (2002); A/RES/58/14 (2003); A/RES/59/25 (2004); A/RES/60/31 (2005); A/RES/61/105 (2006); A/RES/62/177 (2007); A/RES/63/112 (2008).

for globally coordinated port State measures to be introduced. This sentiment has come to a head with the drafting of the legally-binding Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (draft Port State Measures Agreement, or the Agreement). This treaty is currently in late stage development within FAO. This chapter will evaluate its potential to combat IUU fishing.

The IMO port State control regimes

A network of nine regional port State control regimes exists under the auspices of the IMO and the International Labour Organization. The first was established in Europe in 1982, with the adoption of the Paris Memorandum of Understanding on Port State Control (the Paris MoU)[7]. This regime was aimed at "eliminating the operation of sub-standard ships through a harmonized system of port State control." It would do this by inspecting, detaining or banning vessels.[8] The Paris MoU was struck between 14 States which agreed to coordinate port State controls, harmonize inspection procedures, and "inspect a certain minimum percentage of all merchant ships visiting their ports."[9] The Paris MoU's focus reflects the ILO and IMO's priorities: crew and vessel safety, vessel seaworthiness and the prevention of marine pollution by ships. The Agreement has since expanded to 27 member administrations. It covers the European coastline as well as the North Atlantic, via its inclusion of the east coast of Canada.[10] The Paris MoU targets suspected substandard vessels for inspection, carries out and reports on those inspections, detains those vessels considered substandard to a "clearly hazardous"[11] degree. It maintains a list of ships that are banned from entering the regime's ports, and updates it yearly.[12]

Within ten years of the Paris MoU's adoption, the 17th Assembly of the IMO adopted a resolution to establish port State control regimes around the world in order to eradicate substandard shipping.[13] Regional agreements were struck covering the

---

[7] It was adopted in 1982. See: http://www.parismou.org/.

[8] Prior to that agreement, monitoring, control and surveillance tools for port States were specifically authorized under the International Labour Organization's 1976 Merchant Shipping (Minimum Standards) Convention and the IMO's key conventions. Hoppe, Heike. 2000. *Port State Control – an update on IMO's work*. Maritime Safety Division, IMO. http://www.imo.org/InfoResource/mainframe.asp?topic_id=406&doc_id=1079. Accessed 19 September 2008. The port State control provisions are as follows: Regulation I/19, Regulation IX/6 and Regulation XI/4 of the 1974 International Convention for the Safety of Life at Sea (SOLAS), Article 21 of the 1966 International Convention on Load Lines, Articles 5 & 6, Regulation 8A of Annex 1, Regulation 15 of Annex II, Regulation 8 of Annex III and Regulation 8 of Annex V of The International Convention for the Prevention of Pollution from Ships 1973 and its Protocol of 1978, Article X and Regulation I/4 of The International Convention for the Prevention of Pollution from Ships (MARPOL) 1973/1978, Article X and Regulation I/4 the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers and Article 12 of the 1969 International Convention on Tonnage Measurement of Ships.

[9] High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. p.29.

[10] http://www.parismou.org/ParisMoU/Organisation/About+Us/xp/menu.3943/default.aspx. Accessed 19 September 2008; Paris MoU. 2007. *Annual Report*. p.4.

[11] Section 3.7.1 of the Paris MoU.

[12] That is, Europe and the North Atlantic. Sage, Bénédicte. 2005. "Identification of 'High Risk Vessels' in coastal waters." *Marine Policy*. Vol. 29. Issue 4. July 2005. p.350.

[13] Resolution A.682(17), Regional Co-operation in the Control of Ships and Discharges. Hoppe. 2000. Above, n.8.

Asia/Pacific region, Latin America, the Caribbean, West and Central Africa, the Black Sea region, the Mediterranean, the Indian Ocean and the Gulf Arab States.[14] This global network of agreements essentially established coordinated coverage of the entire maritime shipping fleet.[15] The IMO's ultimate aim is to "deprive substandard ships of any area of operation."[16] While the schemes are regional in both implementation and administration, the standards applied to vessels are effectively universal.[17] The success of the schemes' comprehensive coverage and successful implementation provides elements of a model for the international community when devising global port State measures for fisheries.

Internationalizing port State controls in fisheries

This dissertation has seen in previous chapters that a large number of flag States lack the capacity, or willingness, to effectively control the activities of their vessels. This has facilitated IUU fishing on a global scale. The use of flags of convenience by fishing vessels is reportedly on the increase. To reduce the impact of IUU fishing, the global community of states has progressively developed tools that avoid exclusive reliance on flag States for control of fishing vessels. When appropriate, these tools can even circumvent flag States. Rayfuse has noted that contemporary limitations have been placed on traditional freedoms, such that flag State jurisdiction is *primary*, not exclusive.[18] Non-flag jurisdiction has thus been vested in port States (and market States, which will be explored in the following chapter).

Under international law, vessels have "no right of access to foreign ports"[19] and port States have well-established rights in relation to pollution control, the refusal of

[14] The series of regional agreements struck over the past 26 years are as follows: Europe and the North Atlantic (including the eastern Canadian coast) is covered by the Paris MoU on Port State Control, adopted 1 July 1982: http://www.parismou.org/; Latin America is covered by the Acuerdo de Viña del Marcus scheme, adopted 5 November 1992: http://www.acuerdolatino.int.ar/; The Asia/Pacific region is covered by the Tokyo MoU, adopted 2 December 1993: http://www.tokyo-mou.org/; The Caribbean is covered by the Caribbean MoU, adopted 9 February 1996: www.caribbeanmou.org; West and Central Africa by the Abuja MoU, adopted 22 October 1999; The Black Sea region is covered by the Black Sea MoU, adopted 7 April 2000: http://www.bsmou.org; The Mediterranean is covered by the Mediterranean MoU, adopted 11 July 1997: www.medmou.org; the Indian Ocean by the Indian Ocean MoU, adopted 5 June 1998: www.iomou.org; and the Gulf Arab States by the GCC or Riyadh MoU, adopted 30 June 2004. Websites are not available for all schemes.

[15] High Seas Task Force. 2006. Above, n.9. p.29. The regional port State agreements were struck through the 1990s and into the present decade. The High Seas Task Force observed that "global coverage is now virtually complete." p.85, footnote 18. Indeed, it has been observed that the IMO has long held the ambition of a "global strategy for port state control". Plaza, Fernando. 1999. "Flag state implementation and port state control." In Nordquist, Myron H., and Moore, John Norton. *Current Maritime Issues and the International Maritime Organization*. University of Virginia. Center for Oceans Law and Policy. Martinus Nijhoff Publishers. p.208.

[16] Plaza, Fernando. 1999. Above, n.15. p.205.

[17] Kwiatkowska, Barbara and Dotinga, Harm. 2002. *International Organisations and the Law of the Sea: Documentary Yearbook 1988*. Martinus Nijhoff Publishers. Leiden. Boston. p.42.

[18] Rayfuse further notes that "Where a flag state fails to meet its responsibilities a secondary jurisdiction over its vessels may be vested in non-flag states." Rayfuse, Rosemary. 2005. "To Our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *The International Journal of Marine and Coastal Law*. Vol 20. Nos 3–4. p.513.

[19] Molenaar, Erik Jaap. 2007. "Port State jurisdiction: Towards comprehensive, mandatory and global coverage." *Ocean Development & International Law*. Vol. 38. No. 1. p.22.

unseaworthy vessels, the carrying of slaves, arms or drugs, and fish catch.[20] Baird describes the legal basis for port State control, as follows:

> As a port is part of a State's internal waters over which a State can exercise the same jurisdiction as if the internal waters were part of the land of the State, a foreign vessel in port is subject to the same jurisdiction as an alien on land. Therefore whilst the flag State does retain authority over a vessel visiting the port of a third State, under international law the sovereignty of the port State prevails whilst the vessel is in port... the port State applies its national laws and regulations on the basis of acts performed within the jurisdiction of the State. Thus acts such as seeking to unload or tranship catches or possibly even the act of arriving in port having engaged in or supported IUU fishing, would trigger the port State's jurisdiction.[21]

Port State initiatives are considered supplementary to flag State jurisdiction, not a replacement for it.[22] For the flag State that is struggling to fully control all of its flagged fishing vessels, port State measures allow for a second line of defence.[23] For the flag State with so little capacity that it can barely monitor, let alone control, the operations of its flagged vessels, port State measures support that State's efforts to expose wrongdoing, impose effective sanctions, and in other ways assist it to rid its vessel registry of non-compliant vessels. For those flag States which do not, and will not, control the fishing activities of their flagged vessels, port State measures become a first line of defence for the international community.

By enhancing port State controls globally it is believed that the costs to operators of conducting IUU fishing will rise significantly. This will be due to increased steaming time in order for the vessel master to find a port that will allow him to land or transship his catch. It will be due to increased legal costs or the possibility of legal action associated with inspections, and time lost through delays at port. Raising the number of port-based inspections carried out on foreign fishing vessels, and the quality of these inspections, will increase the likelihood of the discovery of IUU fish or evidence of unauthorized transshipments at sea. Harmonizing the process across regions or subregions will add to their effect. It is hoped that making port access difficult to gain for vessels from certain flags States will pressure that State into instituting more effective national enforcement action against IUU fishing vessels on its registry. It should also make access to markets more difficult. In both cases financial returns for IUU fishing operations would be expected to drop. Enhanced and coordinated port State controls should therefore have a direct impact on profit margins. It will also directly

---

[20] FAO has noted that because of uncertainty about the extent of a port State's legal rights over foreign vessels, the international community of states has tended towards elaborating them in the form of agreements. FAO. "Database on Port State Measures." http://www.fao.org/fishery/psm/en. Accessed 27 February 2009. Molenaar notes that some States believe they bear "unlimited prescriptive powers" within their own ports. Molenaar, Erik Jaap. "Book Review – Rayfuse, Rosemary Gail. 2004. Non-flag state enforcement in high seas fisheries." *The International Journal of Marine and Coastal Law*. Vol. 19. No. 2. Koninklijke Brill NV. p.204.

[21] Baird, Rachel J. 2006. *Aspects of illegal, unreported, and unregulated fishing in the Southern Ocean.* Springer. p.108.

[22] Løbach, Terje. 2000. "Measures to be Adopted by the Port State in Combatting IUU Fishing." *FAO Expert Consultation on Illegal, Unreported and Unregulated Fishing Organized by the Government of Australia in Cooperation with FAO.* Sydney, Australia. 15-19 May, 2000. US:IUU/2000/15. Paragraph 31; Molenaar. 2007. Above, n.19. p.226.

[23] Fabra, Adriana, Gascón, Virginia and Werner, Rodolfo. (No date) "The use of port State measures to improve fisheries compliance: Issues and instruments." http://www.illegal-fishing.info/uploads/Fabra-use-of-port-state-measures.pdf. Accessed 20 February 2009.

address the entrenched incentive and profit structures that have sustained IUU fishing operations for well over a decade.[24]

The use of port State measures to enhance international fisheries governance has a relatively short history. The LOSC allowed for port State enforcement regarding discharge violations.[25] The 1989 Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific restricted port access and port servicing facilities for driftnet fishing vessels.[26] The 1993 Compliance Agreement, the non-binding 1995 Code of Conduct, the 1995 UN Fish Stocks Agreement and the non-binding 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU) all contained duties for port States to take action against non-compliant vessels.[27] Under the IPOA-IUU, port States have been encouraged to deploy measures when a suspected IUU fishing vessel ports, or attempts to port, within their jurisdiction.[28] If port access has been granted to a fishing vessel and "clear evidence" is subsequently found that it has engaged in IUU fishing activities, the port State is urged to not allow the vessel to land or transship fish within its ports. It is also to report the matter to the vessel's flag State.[29] It urges States to cooperate within RFMOs to develop port State measures in general.[30] The IPOA-IUU urges States to adopt measures which presume that a vessel is engaging in IUU activity if they are in a fishery managed by an RFMO to which their flag State is neither a party nor a cooperating non-party.[31]

---

[24] Swan notes that with "less and less access to port services – and to the markets reached though ports – profits will drop, and the incentive to perpetuate illegal activities starts to disappear. We need to hit IUU fishers in the pockets and this is one of the more effective means of doing that." In "Stronger port security key to fight against illegal fishing." 29 August 2006. www.fishupdate.com. Accessed 11 June 2008 via www.illegal-fishing.info.

[25] Article 218 "Enforcement by port States."

[26] Article 3(2)(d).

[27] Article 5(2), paragraph 8.3, Article 23, paragraph 55, respectively.

[28] Under Paragraph 55 a port State, prior to allowing a vessel to port: "should require fishing vessels and vessels involved in fishing related activities seeking permission to enter their ports to provide reasonable advance notice of their entry into port, a copy of their authorization to fish, details of their fishing trip and quantities of fish on board, with due regard to confidentiality requirements, in order to ascertain whether the vessel may have engaged in, or supported, IUU fishing."

[29] Paragraph 56. Port states retain the right to inspect fishing vessels and may collect detailed information about the vessel and the catch for remittance to the flag state "and, where appropriate, the relevant regional fisheries management organisation." (Paragraph 58.) During inspection if the officers find "reasonable grounds to suspect that the vessel has engaged in or supported IUU fishing in areas" the port State should contact the vessel's flag State and, where appropriate, the relevant Coastal states and regional fisheries management organisation. The flag state may then ask the port State to take further measures, or give its consent for the port State to take further action. (Paragraph 59.) The best case scenario would be if the flag state revoked the vessel's flag, rendering it stateless and therefore able – if the port State has passed such domestic legislation – to "treat stateless vessels as though they were vessels flying their own flag, and thus to take enforcement action against them." Lodge, Michael W., Anderson, David, Løbach, Terje, Munro, Gordon, Sainsbury, Keith, Willock, Anna. 2007. *Recommended Best Practices for Regional Fisheries Management Organisations: Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organisations.* Royal Institute of International Affairs. Chatham House. p.55.

[30] Paragraphs 62, 63 and 64.

[31] Paragraph 63: "States should consider developing within relevant regional fisheries management organizations port State measures building on the presumption that fishing vessels entitled to fly the flag of States not parties to a regional fisheries management organization and which have not agreed to cooperate with that regional fisheries management organization, which are identified as being engaged in fishing activities in the area of that particular organization, may be engaging in IUU fishing. Such port State measures may prohibit landings and transshipment of catch unless the identified vessel can establish that the catch was taken in a manner consistent with those conservation and management measures. The

In the wake of the IPOA-IUU, all states had a framework within which to begin implementing a standard for invoking port State control over foreign vessels. Pioneer states had been doing so for some time. For example, as Lodge *et al*-observe, Chile introduced rigorous port State controls whereby "all foreign fishing vessels [must] comply fully with applicable conservation and management measures and to use a vessel monitoring system" or it cannot use its ports.[32] Løbach describes a similar system operating in Norway, as well as an agreement between Canada and Norway, which denies access to ports for vessels that undermine the effectiveness of conservation and management measures applying in the marine areas between the two countries.[33] Iceland bans the landing and transshipment in its ports of fish from foreign fishing vessels which have violated "agreements on utilization and preservation of living marine resources to which Iceland is a party."[34] These are admirable efforts by individual States.

Chapter 4 of this dissertation summarized FAO findings on the national implementation of port State measures, which convincingly suggested that state practice in this area is already strong, if uncoordinated.[35] Because this state practice has begun the process of creating port State control norms, they are also significant markers in the evolution of global port State controls in fisheries. In general, however, it has taken some time for states to formulate the manner in which they would implement their port State duties.[36] In addition, it was clear that gaps in coverage in the form of one port State (or even one individual port) in an important species-specific or geographic region had the potential to undermine the effect of port State measures. It therefore came to be seen as important to formulate a global minimum standard which could be implemented by all States.

In Rome in August 2004 a Technical Consultation to Review Port State Measures to Combat Illegal, Unreported and Unregulated Fishing was convened. This meeting proposed the development of a template of measures to be implemented by States. In 2005 the voluntary FAO Model Scheme on Port State Measures to Combat IUU Fishing (FAO Model Scheme) was elaborated.[37] The FAO Model Scheme arguably contains a

---

identification of the vessels by the regional fisheries management organization should be made through agreed procedures in a fair, transparent and non-discriminatory manner." The utility of this is self-evident. As Rayfuse observes: "While RFOs cannot oblige [Non-Consultative Parties] vessels to carry observers, VMS, electronic logbooks or otherwise comply with their measures, they can, and virtually all do, oblige their [Consultative Parties] not to allow landings or transshipments either at sea or in port of catches from [Non-Consultative Parties] vessels unless it is established by positive proof that the fish were caught in a manner that did not undermine the effectiveness of the RFO's measures." Rayfuse. 2005. Above, n.18. p.523.

[32] Lodge *et al*. 2007. Above, n.29. p.55.

[33] Løbach. 2000. Above, n.22. "Executive Summary."

[34] Løbach. 2000. Above, n.22. Paragraph 27.

[35] FAO Conference. 2003. *Progress Report on the Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing*. Thirty-second session. Rome, Italy. 29 November–10 December 2003. FAO Fisheries Report No. 555. FIDI/R555. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/meeting/007/J0403e.htm. Accessed 3 July 2008.

[36] Article 23(1) of the Fish Stocks Agreement provides that "A port State has the right *and the duty* to take measures, in accordance with international law, to promote the effectiveness of subregional, regional and global conservation and management measures." Emphasis added.

[37] Accessible at http://www.fao.org/docrep/010/a0985t/a0985t00.htm. The Model Scheme was developed between 2002 and 2004 through a series of FAO consultations.

minimum standard for control of vessels in ports,[38] by providing "guidance on the measures to be taken by port States including establishing a checklist of information to be provided by foreign fishing vessels seeking port access and instruction for both the training of port State inspectors and the conduct of port inspections."[39] It has been the basis for the development of regional and national port State measures.[40] The FAO Model Scheme was endorsed by the 2005 session of COFI. It was supported by the Ministerially-led Task Force on IUU Fishing on the High Seas[41] and the United Nations General Assembly.[42] But its non-binding nature was quickly seen as problematic.

By the 2007 session of COFI, 131 governments and the European Commission agreed that an urgent need existed for a comprehensive suite of port State measures in the form of a legally-binding instrument.[43] A FAO Expert Consultation was held in the second half of 2007. This was followed by a text which was drafted through two Technical Consultations, held in June 2008 and January 2009 in Rome.[44] The resulting February 2009 Chairperson's Text is the current draft of the Agreement.[45] This can be found in Appendix B of this dissertation. The Chairperson's Text was presented to the 2009 session of COFI. While a number of important issues remain to be resolved before the text is finalized, COFI endorsed further inter-sessional work on the draft treaty. It stressed the desire for a successful outcome and an effective and widely accepted agreement.[46] The next section describes this draft treaty.[47]

---

[38] Nomura, Ichiro. 2008. "Opening Statement." Appendix D. *FAO regional workshop in port State measures to combat IUU fishing. Workshop Report.* Cape Town. 28-31 January 2008. p.30.

[39] Baird. 2006. Above, n.21. p.109-111. It should be noted that states have the flexibility to adopt even stricter standards.

[40] FAO. SOFIA. 2006. p.74; Participants at the Conference on the *Governance of High Seas Fisheries and the UN Fish Agreement – Moving From Words to Action*, held at St John's, Newfoundland and Labrador, Canada, in May 2005 agreed that states should apply the FAO Port State Model Scheme and RFMOs should consider applying it on a regional basis. Conference on the Governance of High Seas Fisheries and the UN Fish Agreement: Moving from Words to Action St. John's, Newfoundland and Labrador, Canada. May 1 to 5, 2005. Conference Report. 1 June 2005. p.19.

[41] High Seas Task Force. 2006. Proposal 6. Above, n.9.

[42] *Ibid.* Proposal 6 and Paragraph 42 of the 2005 UN General Assembly Resolution on sustainable fisheries (A/RES/60/31), respectively. The pertinent part of the resolution reads: "The UN General Assembly "recognizes the need for enhanced port State controls to combat illegal, unreported and unregulated fishing, urges States to cooperate, in particular at the regional level and through regional and subregional fisheries management organizations and arrangements, and encourages States to apply the model scheme on port State measures endorsed by the Committee on Fisheries at its twenty-sixth session in March 2005 at the national and regional levels, to promote its application through regional fisheries management organizations and arrangements and bodies, and to consider, when appropriate, the possibility of developing a legally binding instrument."

[43] See: FAO. 2007. *Report of the Twenty-Seventh session of the Committee on Fisheries.* Rome, Italy. 5–9 March 2007. FAO Fisheries Report No. 830. FIEL/R830. Food and Agriculture Organization of the United Nations. Rome, Italy. Paragraph 68.

[44] A Technical Consultation on the Annexes took place in November 2008. Another Technical Consultation was held in May 2009.

[45] The Chairperson's draft is on the FAO website at ftp://ftp.fao.org/FI/DOCUMENT/tc-psm/2009/PSMAgreement.pdf

[46] Personal communication with Judith Swan, FAO. 17 March 2009.

[47] Within this paper references are made to provisions in the Agreement which are followed by the abbreviation "bis", "tris" (for example, Article 21(3bis)). These abbreviations are used by FAO to denote a new subsection in the February 2009 Chairperson's Text of the Agreement. Similarly, this paper will use square brackets surrounding text in the Agreement. In this instance, the use of square brackets denotes unsettled language. Finally, it should be noted that the spelling "transshipment" is preferred over "transhipment."

The FAO draft Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

The draft Port State Measures Agreement's ultimate goal is to ensure the long-term conservation and sustainable use of living marine resources by enhancing port State measures to combat IUU fishing.[48] Each party is obliged to apply the Agreement's measures to foreign fishing vessels wishing to use its ports. The primary actions available to a port State under the Agreement are: requiring prior notice of a foreign fishing vessel's arrival in port; the ability to prohibit that vessel's entry to port; the ability to deny it the use of its port to unload fish and access services; and the right to inspect foreign fishing vessels. The application of these measures is to be fair, transparent and non-discriminatory.[49] Flag States also have duties under the draft Port State Measures Agreement. They are to encourage their flagged vessels to only use ports in States that apply the Agreement's measures.[50] Further, they are to require their vessels to cooperate with the port State's inspections and, if necessary, request that the port States take measures against their flagged vessels.[51] Flag States themselves are to act against vessels that have engaged in IUU fishing.[52]

Broad application

The Agreement contains broad definitions for "fish," "fishing related activities" and "vessels." This is to ensure the Agreement covers as many fishing activities as possible. The Agreement does away with previous differentiations between whole fish and fish products by defining "fish" as "all species of living marine resources, whether processed or not."[53] Article 1 outlines the broad definitions of what constitutes "fishing" and "fishing related activities" for the purposes of the Agreement:

> (c) "fishing" means searching for, catching, taking or harvesting fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish;
> (d) "fishing related activities" means any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipment or transport of fish that have not been previously landed at a port, as well as the provision of personnel, fuel, gear and other supplies at sea.

The Agreement applies to "any vessel, ship of another type, boat and other craft used for, equipped to be used for, or intended to be used for, fishing or fishing related activities."[54] Along with substantially increasing the number and type of vessels against which port State measures can be taken, this allows each coastal or port State (or RFMO) to exercise a great deal of flexibility. Using these broad definitions, they are able to act against whichever type of vessel is causing the most grief in their geographic area or region.[55] The Agreement uses the generally uncontroversial definition of IUU fishing that was laid down in the 2001 International Plan of Action to Prevent, Deter

[48] Article 2.
[49] Article 3(1) and (2).
[50] But, notably, not "require".
[51] Articles 21(1), 21(3), 21(2).
[52] Article 21(3*bis*).
[53] Article 1(b).
[54] Article 1(j).
[55] It will likely assist the draft Port State Measures Agreement to adapt to changing circumstances and remain relevant through the years to come.

and Eliminate IUU Fishing. There is continuing debate over its language and placement within the treaty, which will be discussed later in this chapter.[56]

Designating ports

The Agreement seeks to ensure that fishing vessels are only accepted at ports where there are adequate inspection facilities and trained personnel available to apply the port State measures called for in the Agreement. To this end, Article 7(1) of the draft Port State Measures Agreement directs parties to "designate and publicize ports to which vessels may request entry".[57] Parties are to further ensure that each of the designated ports "has sufficient capacity to conduct inspections"[58] of foreign fishing vessels that are seeking a port, given that they may have been engaged in IUU fishing activities.

Requiring advance notice

As noted, fishing vessels are only to be accepted at ports where there are adequate inspection facilities and trained personnel available. Under Article 8, port States are to require of foreign fishing vessels advance notice of their arrival in port. They are also to require a detailed set of information regarding those vessels' recent fishing or fishing-related activities.[59] This is what is known as the 'notification procedure.' No set number of days' notice is mandated in the Agreement, just a direction that the notice and information be received by the port authorities "sufficiently in advance to allow adequate time for the port State to examine" it.[60] While the information to be provided by the incoming vessel in advance is extensive, much of it can be completed before a journey commences. The advance notice information requirements are found in Annex A of the draft Port State Measures Agreement:[61]

1. Intended port of call
2. Port State
3. Estimated date and time of arrival
4. Purpose(s)
5. Port and date of last port call
6. Name of the vessel
7. Flag State
8. Type of vessel
9. International Radio Call Sign
10. Vessel contact information
10*bis* Vessel owner(s)
11. Certificate of registry ID
12. IMO ship ID, if available
13. External ID, if available

---

[56] Both the June 2008 and the February 2009 drafts of the draft Port State Measures Agreement define illegal, unreported and unregulated fishing as the IPOA-IUU had done – substantially word for word – but the February 2009 draft actually spells it out. It should be noted that this addition appears to have not yet been agreed, being rendered still in square brackets, a matter which will be discussed later in this chapter.

[57] Article 7(1).

[58] Article 7(2).

[59] Article 8(1). The information to be forwarded is found in Annex A of the draft Port State Measures Agreement.

[60] Article 8(2).

[61] It should be noted that the list of required information in the February 2009 draft is less than half the amount that was required in the June 2008 draft. This could be suggestive of either a watering-down of requirements (and less ability to target a vessel) or about streamlining the task for port authorities and fishers.

14. RFMO ID, if applicable
14 *bis*. VMS: No/Yes/National/RFMO(s)/Type:
14 *tris*. Vessel dimensions: Length/Beam/Draft
15. Vessel master name and nationality
16. Relevant fishing authorization(s): Identifier/Issued by/Validity/Fishing area(s)/Species/Gear
17. Relevant transhipment authorization(s): Identifier/Issued by/Validity
18. Transhipment information concerning donor vessels: Date/Location/Name/Flag State/ID Number/Species/Product form/Catch area/Quantity
19. Total catch onboard: Species/Product form/Catch area/Quantity
20. Catch to be offloaded: Quantity[62]

In light of the above information being rendered, a port State authority must come to a decision about whether or not to allow the vessel access to its port. Once the port State authority has decided whether or not to allow the vessel access to its port, it is to communicate to the vessel (or its representative) the decision. This necessitates sending to the vessel either an authorization for entry, or a prohibition. This communiqué is to be presented to the port authorities once the vessel arrives at port.[63] It should be noted that Article 11(*2bis*)[64] provides that a vessel which enters port *without* gaining such a prior authorization must be inspected.

Denying entry to and use of ports

Three components form the core of the Agreement's ability to achieve control over foreign fishing vessels. These are: denial of entry to a port; denial of the *use* of a port and its services; and inspections of vessels when in port. This section will address the first two core components. Article 8*tris*(2) provides that a port State is to deny a vessel access to its port if that vessel is on an RFMO IUU list.[65] Significantly, a vessel can be allowed entry into port "exclusively for the purpose of inspecting it and taking other appropriate actions which are at least as effective... as prohibiting port entry."[66] Once a State has authorized a vessel to enter its port, port authorities can deny permission to land, transship, package or process its catch. It can also deny the provision of port services. The circumstances under which the port State can do so are:

- if that vessel is on an RFMO IUU list
- if it has no appropriate fishing authorization
- if the flag state fails to confirm that the catch on board was taken in accordance with the requirements of an RFMO or coastal state (as appropriate),[67]

---

[62] Annex A – "Information to be provided in advance by vessels requesting port entry." The text of the 2008 draft Annex A and the 2009 draft Annex A can be found at Appendix G and H of this dissertation, respectively.
[63] Article 8*bis*. It should be noted that no such subsection existed in the June 2008 draft, indicating that some form of written response from the port State was seen as helpful to both parties – the vessel seeking entry to port and the port authority representatives on the ground which would be receiving the vessel.
[64] This subsection is in square brackets, so the addition of this subsection has not yet been settled.
[65] Article 8*tris* "Port entry prohibition" – note that the entire Article is enclosed in square brackets. In the June 2008 draft only the manner in which a state could deny "use" of a port was delineated, which led to uncertainty regarding whether simple "entry" to a port could be prohibited. The February 2009 draft has added 2 subsections – Article 8*bis* "Port entry authorization" and Article 8*tris* "Port entry prohibition." While the subsections remain in square brackets, it is submitted that the provisions significantly add to the treaty and should be retained.
[66] Again, note that the language of this section is not agreed.
[67] Article 9(2). Article 9(3), as required by either (a) its flag state if the fishing area was *not* covered by an RFMO, (b) by the RFMO if the fishing took place in its area of competence, or (c) by a coastal state if the fishing took place in an area of national jurisdiction.

or if the vessel:

> [(a) was engaged in fishing in an area and for fish under the competence of a regional fisheries management organization and was not flying the flag of a member of that organization, or of a State which has agreed to apply the conservation and management measures established by that organization, or was engaged in fishing related activities in support of such fishing;]
> [(b) has been reported by a State or regional fisheries management organization, accompanied by supporting evidence, as engaged in illegal, unreported and unregulated fishing or fishing related activities in the area of competence of a relevant regional fisheries management organization or in an area under the national jurisdiction of a coastal State;] or
> [(c) has been identified as participating or supporting unregulated fishing activities in areas or in relation to species where there are no applicable conservation or management measures and where the said fishing activities are not carried out in accordance with responsibilities relevant to the conservation of living marine resources that fall on the State in accordance with international law,]
>
> [unless the vessel can establish that the catch was taken in a manner consistent with relevant conservation and management measures.]][68]

The burden is clearly on the vessel to prove that it has not engaged in IUU fishing. Article 9(6*bis*) further clarifies this burden. It delineates the *one ground* upon which a port State is to allow a vessel to land, transship or receive supply of services: where it can be proved that the vessel has acted in conformity with conservation and management measures adopted in accordance with international law.[69] A burden is also on the vessel's flag State to confirm that the catch was taken in accordance with the requirements of the RFMO or coastal State in which waters the fish were taken.[70] A port State which has denied a vessel the use of its port is to "promptly notify" the vessel's flag State that it has done so. It must also, if appropriate, inform "relevant coastal State(s), regional fisheries management organization(s) and other relevant organizations of such action."[71]

Inspections

The third core component of the draft Port State Measures Agreement is vessel inspection.[72] Article 11 provides the means for port States to prioritize which vessels will be inspected. The inspections themselves are given a framework in Article 12 and operational detail in Annex B, which outlines an obligatory minimum inspection procedure.[73] The flag State may be invited to participate in the vessel's inspection.[74] All effort is to be made to avoid "unduly delaying" the vessel or adversely affecting the quality of the fish.[75] Inspectors are to verify the vessel's identification and ownership documentation, using contacts within the flag State or consulting "international records

---

[68] Article 9(1). Note that much of this section is in square brackets.
[69] Note that this whole subsection is in square brackets.
[70] Article 9(3*bis*).
[71] Article 9(5).
[72] Articles 11(1) and (2) provide that a target for the annual number of vessel inspections that would meet the objectives of the draft Port State Measures Agreement should be set – that is, the long-term conservation and sustainable use of living marine resources by using enhanced port State measures to more effectively combat IUU fishing. It is envisaged that such a target will be set on a regional or international basis, not by states alone: Article 11(3). It is not clear to this author how and when such a target would be made.
[73] It uses the operative word "shall" and constitutes a "minimum standard." Article 12(1).
[74] Article 12(2)(e).
[75] Article 12(2)(f).

of vessels" if required.[76] (This may include the FAO Comprehensive Global Record of Fishing Vessels (Global Record).) Inspectors are to check that its flag and markings are as documented. They are to verify that the vessel's fishing authorizations are consistent with the information that had been provided in advance to the port State authority when the request to enter the port was made.[77] Documentation and other records are to be inspected, including VMS data, logbooks, catch and trade documents, crew lists, stowage plans and descriptions of fish holds.[78] The inspector is to examine the gear, including "any gear stowed out of sight."[79] He or she is to check whether the gear conforms to the conditions of the fishing authorization.[80] He or she must also examine the catch – either while it is still in the hold, while it is being landed, or after it has been landed. This is in order to determine its quantity and composition. Sampling may be undertaken. The inspector may "open containers where the fish has been pre-packed and move the catch or containers to ascertain the integrity of fish holds. Such examination may include inspections of product type and determination of nominal weight."[81]

All of this is done to determine whether the fish on board was harvested in accordance with the vessel's fishing authorization. The inspector must "evaluate whether there is clear evidence for believing that a vessel has engaged in illegal, unreported and unregulated fishing or fishing related activities."[82] If, upon inspection, IUU fishing is believed on "clear grounds" to have taken place, the port State is to deny the vessel the use of its port facilities for landing, transshipping, packing or processing fish, refueling, resupplying, maintenance and dry docking – except for essential services.[83] The port State is to "promptly notify" the vessel's flag State of the situation, along with relevant States, RFMOs and other organizations.[84] Whether evidence of IUU fishing has been found or not, once the inspection has been conducted, the inspection report (including all the information required to be collected under Annex C's reporting standard) is to be transmitted to the vessel's flag State, and, if appropriate, to other relevant States, relevant regional fisheries management organizations, FAO and other relevant international organizations.[85]

---

[76] Annex B, subsection a.
[77] Annex B, subsection c.
[78] Annex B, subsection d.
[79] Annex B, subsection e.
[80] The inspector must also check "that features such as the mesh and twine size(s), devices and attachments, dimensions and configuration of nets, pots, dredges, hook sizes and numbers are in conformity with applicable regulations and that the [gear's] markings correspond to those authorized for the vessel." Annex B, subsection e.
[81] Annex B, subsection g. It should be noted that in the June 2008 draft, the words "The inspector(s) may also examine any catch retained onboard" were present at the end of the foregoing subsection, a provision that is missing from the February 2009 draft.
[82] Annex B, subsection f. Annex B, subsection h. It should be noted that the April 2008 draft subsection was as follows: "evaluate whether there is *reasonable evidence* for believing that a vessel has engaged in, *or supported* IUU fishing (emphasis added)."
[83] Articles 17(1) and (2).
[84] Whether evidence of illegal, unreported and unregulated fishing has been found or not, once the inspection has been conducted, the inspection report is to be transmitted to the vessel's flag state, and, if appropriate, to other relevant states. Article 14.
[85] "Other relevant states" will include – and this language is not finalized – [those States for which there is evidence through inspection that the vessel has engaged in illegal, unreported and unregulated fishing and fishing related activities within waters under their national jurisdiction and those States of which the vessel's captain is a national.] The draft Port State Measures Agreement encourages states to establish between each other and other "entities and institutions" "a communication mechanism that allows for direct electronic exchange of messages... with due regard to appropriate confidentiality requirements." Article 15(1).

Training

Annex E of the draft Port State Measures Agreement lays out the areas in which port inspectors "should" be given training, so as to maximize consistency between the inspections at different port States. The training programs should include "at least" the following elements:

> 1. Ethics;
> 2. Health, safety and security issues;
> 3. Applicable laws and regulations, areas of competence and conservation and management measures of relevant regional fisheries management organizations, and applicable international law;
> 4. Collection, evaluation and preservation of evidence;
> 5. General inspection procedures such as report writing and interview techniques;
> 6. Analysis of information, such as logbooks, electronic documentation and vessel history (name, ownership and flag), required for the validation of information given by the master of the vessel;
> 7. Vessel boarding and inspection, including hold inspections and calculation of vessel hold volumes;
> 8. Verification and validation of information related to landings, transshipments, processing and catch remaining onboard, including utilizing conversion factors for the various species and products;
> 9. Identification of fish species and the measurement of length and other biological parameters;
> 10. Identification of vessels and gear and techniques for the inspection and measurement of gear;
> 11. Equipment and operation of VMS and other electronic tracking systems;
> 12. Actions to be taken following an inspection

This training will enable the inspector to carry out the extensive inspection regime laid down in Articles 11-16 of the draft Port State Measures Agreement and fulfill the requirements of Annexes B[86] and C.[87]

Enforcement action in port – Article 17

The preceding sections noted the primary powers of the port State under the draft Port State Measures Agreement. These are: denying a foreign fishing vessel entry to, or use of its ports, and inspecting vessels.[88] To institute other kinds of port State actions, a more specialized set of circumstances must prevail. Article 17(3) of the draft Port State Measures Agreement provides that further measures may be taken where:

> [(a) the measures are provided for in its national laws and regulations;
> (b) the flag State of the vessel has consented to the taking of such measures or requested such measures to be taken, or a relevant coastal State has requested the taking of such measures in respect of a violation that has occurred in an area under its national jurisdiction;
> (c) the vessel is without nationality; or
> (d) the additional measures gives [sic] effect to a decision of a regional fisheries management organization or is taken pursuant to other international agreements.[89]]

It is unclear from the text of the draft Agreement what these "measures" may be, but it is likely that trade and market-related measures are envisaged. It should be noted that neither the word "detention" nor "detain" is used in the Agreement. The word

[86] Annex B – "Port state inspection procedures."
[87] Annex C – "Reports of the results of the inspection."
[88] Articles 8, 9 and 12, respectively.
[89] Article 17(3). It should be noted that this entire subsection remains in square brackets.

"enforcement" is only used in relation to actions taken by flag State signatories.[90] Thus, flag States signatories are given enforcement duties under the draft Port State Measures Agreement. They are to cooperate "with port States and relevant coastal States, regional fisheries management organizations and other international organizations in the implementation of this Agreement."[91] This arguably creates an obligation to consent to the application of enforcement measures by the port State. In addition, if a flag State signatory has "clear grounds"[92] to believe that one of its flagged vessels has engaged in or supported IUU fishing and has then sought access to (or is within) another party's port, it is obliged to request the port State to "inspect the vessel or to take other measures consistent with this Agreement."[93] Under Article 21, flag States are obliged to ensure that all flagged vessels act consistently with the Agreement. They must assist in the identification of non-compliant States, and widely report on actions it has taken against vessels found to have been conducting or supporting IUU fishing. An addition to the 2009 draft obliges the flag State to "immediately and fully investigate" any inspection report it receives that indicates "clear grounds" for believing one of its flagged vessels has engaged in IUU fishing. The flag State is to "take enforcement action without delay".[94]

Evaluation of the draft Port State Measures Agreement

The foregoing section described this author's understanding of the major elements of the draft Port State Measures Agreement as they stand at the time of writing (May 2009). The following section explores the outstanding areas of disagreement and discusses how these issues are likely to impact on the effectiveness of the Agreement.

The definition of illegal, unreported and unregulated fishing

The draft Port State Measures Agreement uses the generally uncontroversial definition of IUU fishing contained in Paragraph 3 of the 2001 FAO IPOA-IUU. However, neither the text of the definition nor its exact placement within the treaty is settled among COFI members. Treaty Annexes are most commonly used for operational, technical and implementation information, not core definitions.[95] The definition of IUU fishing would certainly constitute a core definition. Therefore the definition should be placed within the body of the treaty. However, if amendments need to be made to the treaty over time it is less complex to amend technical Annexes than it is to amend the treaty clauses. It was mooted during negotiations in 2008 that the definition of IUU fishing should therefore be spelled out in an Annex.[96] However, after three drafts,[97] the definition remains within the body of the draft treaty – suggesting that it is likely to stay there.

---

[90] Article 21(3*bis*).
[91] Article 21(1).
[92] In the June 2008 draft this was "reasonable grounds".
[93] Article 21(2).
[94] Article 21(3*bis*). The action is to be "in accordance with its laws" – clearly one of the duties of the flag state is to have laws in place that provide for such action.
[95] See also: 23 January 2009 submission by the EC to the draft Port State Measures Agreement Technical Consultation.
[96] Personal communication with Judith Swan, FAO. 17 March 2009.
[97] An initial draft was attached to the 2007 FAO Expert Consultation report, an April 2008 draft was presented to the June 2008 Technical Consultation, and the current draft is the February 2009 Chairperson's Text.

In addition, the definition itself remains unsettled. This is because the IPOA-IUU, from which it is drawn, was a soft law agreement. It has been argued by some COFI members that the definition of "illegal, unreported and unregulated fishing" is rendered in 'soft law language.'[98] These countries want the language to be made more precise. While this is wholly appropriate, the result is that after more than a decade of international discussions about IUU fishing, it is unclear how it will even be defined in this new and critically important piece of international fisheries law.

Scope

While the scope and application of the draft Port State Measures Agreement is broad in many ways (for example, as mentioned above, its definitions of 'vessel', 'fishing' and 'fish') it applies only to foreign fishing vessels.[99] It does not cover domestic vessels. This is presumably because, as Løbach notes, "It is anticipated that the port State has several other means available for controlling their own vessels seeking their ports."[100] Nevertheless, it is submitted that this holds the potential for exploitation by IUU fishers, particularly those who use ports that are also major import destinations for fish and fish products. It remains to be seen how this limitation will affect the port State measures that are introduced on region-wide bases. It has been seen earlier in this dissertation that members of RFMOs have not always been in compliance with its rules. It would be a shame if membership of an RFMO gave a vessel 'cover' to be routinely passed over for inspections or other port State measures.

Another significant potential limitation is that the draft Port State Measures Agreement applies only to vessels involved, directly or indirectly, in fishing. Concern about this is reflected in the ongoing negotiations over whether or not bunkering and other types of supply vessels are to be included.[101] Within COFI, two major fishing nations (Japan and South Korea) are opposed to expanding the definition of "vessels" to include bunkering vessels.[102] A compromise could be struck if the supply vessel is "regularly" in contact with known fishing vessels.[103] On a related topic, the Agreement does not capture most fish transported using multi-cargo vessels – that is, container and cargo vessels that are carrying a shipment, or many shipments, of fish products.[104] Leaving multi-cargo vessels outside of the Agreement may constitute a gap in coverage of a size readily exploitable by IUU fishing operations.[105] The compromise on this issue will probably

[98] Personal communication with Judith Swan, FAO. 17 March 2009. See also: 25 September 2008 submission by the United States to the draft Port State Measures Agreement Technical Consultation, which supplied suggested language.

[99] Or, as written in the text of the Agreement, "vessels that are not flying [the port State's] flag."

[100] Løbach, Terje. 2006. "Port State Measures to Combat IUU Fishing: the FAO Model Scheme on Port State Measures." *FAO/FFA regional workshop to promote the full and effective implementation of port State measures to combat IUU fishing.* 28 August – 1 September 2006. Mocambo Hotel. Nadi, Fiji. p.2.

[101] Email communication with Judith Swan, FAO. 26 February 2009.

[102] See: the 15 September 2008 submission by Japan and the January 2009 submission by South Korea to the draft Port State Measures Agreement Technical Consultation.

[103] Personal communication with Judith Swan, FAO. 17 March 2009.

[104] FAO. 2008. *FAO regional workshop in port state measures to combat IUU fishing.* "Workshop Report." Cape Town. 28–31 January 2008. FAO Fisheries Report No. 859. FIEL/R859. Food and Agriculture Organization of the United Nations. Rome, Italy. p.8.

[105] The South Korean delegation submitted that it is "practically impossible" to transship fish illegally using a container ship because "when it leaves the port it goes through customs clearance and containers are sealed and attached with tracking devices." See: the January 2009 submission by South Korea to the draft Port State Measures Agreement Technical Consultation.

UNIVERSITY OF TAS LIBRARY

turn on whether the fish on board are being landed for the first time, in which case it will be covered. Indeed, this has now been worked into the current draft of the Agreement.

A third way the draft Port State Measures Agreement is, in general, limited in scope is that its measures only cover ship-borne imports or transshipments of fish. Landing catch at ports is not the only way fish is imported or exported, particularly fish that are caught in inland waterways or in waters close to shore: terrestrial movements of fish, as well as exportation and importation by air, are other common routes.[106] This will require extra measures to be taken by States on a domestic level, quite apart from, and unconnected to, the draft Port State Measures Agreement.

Article 9 of the draft Port State Measures Agreement

Some important provisions regarding the denial of a foreign fishing vessel's use of port are not yet agreed. They may come to affect the Agreement's potential to combat IUU fishing. Article 9 appears to have become the site of disagreement between those members wanting strong, sovereign port State powers, and those that want flag States to retain primary jurisdiction over vessels. It is also a battleground over *evidence*. Some portions of Article 9 have strengthened over the course of negotiations, while other portions have weakened. One way it has become stronger is in the relative weight it gives two actions: Where the April 2008 draft separated the denial of the use of a port to land and transship catch from the denial of the use of port services such as refueling and resupplying,[107] the later draft makes no such distinction. This suggests that the growing intention of COFI members is for port entry and port services to be denied to suspect vessels on an equal footing, a position this author supports.[108] In addition, the February 2009 draft places a burden firmly on the flag State to prove that the fish was caught in accordance with extant international, regional and national regulations. It also ensures that a foreign fishing vessel must not only have a valid authorization to fish, it must also be confirmed by the flag State that the vessel's harvesting activities were legal:[109]

> Article 9(3*bis*): A Party shall not allow a vessel to use its ports for landing, transhipping, packaging or processing of fish *where the flag State fails to confirm* that the catch was taken in accordance with applicable requirements of a relevant regional fisheries management organization or a relevant coastal State in the case where the fish was caught in the areas of their competence or jurisdiction respectively (emphasis added).

While raising the standard of proof, this change arguably weakens the port State's sovereign right to make decisions about vessels in its own port. It also keeps flag State primacy firmly entrenched – a problematic outcome in a sector plagued by inadequate flag State compliance. Despite this, it is submitted that negotiating States are clearly seeking to implement a high standard, and one based on evidence. Both factors will be

---

[106] The opening scene in Hubert Sauper's 2005 documentary "Darwin's Nightmare" shows an ex-military Soviet-made Ilyushin Il-76 cargo plane taking off for European markets. The plane is filled with processed Nile perch from the Lake Victoria ecosystem. It should be noted that developments are occurring within the EC regarding the integration of "port state measures with trade-related measures, including their application to the import of fish by sea, land and air". See: FAO. 2008. Above, n.104. p.6.

[107] Article 9(4).

[108] This position is supported by the Pew Environmental Group. See: 15 September 2008 position paper on the draft Port State Measures Agreement.

[109] Email communication with Judith Swan, FAO. 6 April 2009.

important if the Agreement is to attract the maximum participation by States. Article 9 is clearly a work in progress.

It should be noted that the Agreement's potential is weakened by the apparent inability of port States to deny a vessel's *exit* from port without the consent of the flag State or an RFMO measure backing up such an action. Article 17 does allow for additional measures to be taken, which may include denying a vessel exit from a port, if:

- the state has passed national legislation to that effect;
- the flag consents to it;
- the vessel is stateless; or
- an RFMO has agreed the measure and the port state is implementing it by detaining the vessel.

As noted above, neither "detention" nor "denying exit" is mentioned in the Agreement. The practical effect of this may be that detentions are not available under the draft Port State Measures Agreement. It therefore should be noted that under the Paris MoU substandard ships are required to fix their deficiencies before they are allowed to leave a port. Not doing so becomes a ground for possible black listing. The draft Port State Measures Agreement's silence on this matter appears to signal a continuing reluctance on the part of the international community to accept non-consensual non-flag State enforcement in fisheries.[110]

Inspection targets and 'high risk' vessels

Earlier in this chapter it was seen that a network of nine regional port State regimes have been established under the auspices of the IMO.[111] These schemes cover the maritime shipping sector. They are regional in implementation and administration, but the standards applied to vessels are universal.[112] Among other things, these port State schemes have demonstrated that setting targets for inspections is an important component of port State control. The draft Port State Measures Agreement sets no inspection target. Rather, it leaves the setting of one to a later date and a different forum:

> Article 11(1) Each Party shall [endeavour to] inspect a number of vessels in its ports required to reach an annual level of inspections sufficient to achieve the objective of this Agreement;
>
> Article 11(2) Parties shall seek to agree on the minimum levels for inspection of vessels through, as appropriate, regional fisheries management organizations, FAO or otherwise.

While this author does not necessarily believe this is a sign of a lack of commitment to creating an effective instrument, it should be noted that the Paris MoU *did* contain a set target. Under that agreement, a target of inspecting 25% of ships seeking access to its

---

[110] It has been suggested by Balton and Koehler that one of the primary reasons that some major fishing nations remain outside the framework of the 1995 UN Fish Stocks Agreement is *because* it provides for non-flag state enforcement. Balton, David A., and Koehler, Holly R. 2006. "Reviewing the United Nations Fish Stocks Treaty." *Sustainable Development Law & Policy*. Vol. VII. Issue 1. Fall 2006. p.8.

[111] These nine regional agreements have been struck over the past twenty-six years. Their aim is to "deprive substandard ships of any area of operation" and achieve the IMO's vision for a "global strategy" for port State controls covering the merchant shipping sector. Plaza. 1999. Above, n.15. pp.205, 208.

[112] Kwiatkowska and Dotinga. 1998. Above, n.17. p.42.

member ports was set.[113] Another problematic issue, similarly unaddressed by the draft Port State Measures Agreement, is how port State inspection duties will be 'divided up' between States so that the control burden is fairly – and effectively – distributed.[114] In any individual region there will be favoured ports at which fishing vessels prefer to unload their catches. These are based on factors such as ease, efficiency, amenability and geographical proximity to fishing grounds, and the availability and cost of onward transportation to market. For IUU fishing vessels, a search for ports that will accept them will almost certainly see them 'port shop.' It will therefore also be important that inspection burdens are mutable and flexible. This will also help ensure that all port States have an ongoing incentive to meet the standard set by the Agreement.

The IMO MoU regimes have also strongly indicated that a successful port State control scheme in fisheries will need to formulate methods of *targeting* so-called 'high risk' vessels for inspection.[115] Article 11(3) of the draft Port State Measures Agreement provides guidance for port States in determining which vessels to inspect. It clearly seeks to identify 'high risk' vessels, though this language is not used anywhere in the Agreement. Under the draft Port State Measures Agreement parties are to give priority to:

> (a) vessels that have been denied [entry or][116] use of a port in accordance with this Agreement;
> (b) requests from other relevant Parties, States or regional fisheries management organizations that particular vessels be inspected, particularly where such requests are supported by evidence of illegal, unreported or unregulated fishing by the vessel in question; and
> (c) other vessels for which there are clear grounds for suspecting that they have engaged in or supported illegal, unreported or unregulated fishing.

It is likely that greater operational detail will be agreed on regional or subregional bases and within RFMOs or RFBs. However, it is useful to highlight the level of detail contained in the Paris MoU. The Paris MoU gives priority of inspection to:[117]

- Ships visiting a port of a [member] State... for the first time or after an absence of 12 months or more;

---

[113] Section 1.2. In 2007, member authorities conducted 22,877 inspections on 14,182 ships registered to 113 different flags. Paris MoU. 2007. *Annual Report.* p.20. It should be noted that different MoUs have different inspection targets. As seen above, the Paris MoU has a target of inspecting 25% of vessels per member country. The Acuerdo de Viña del Mar's target is 15%, the Tokyo MoU has a 75% annual regional inspection rate target. The Caribbean MoU, Mediterranean MoU and Indian Ocean MoU have targets of 15% annual inspection rate per country within 3 years, 15% annual inspection rate per country within 3 years and 10% annual inspection rate per country within
3 years, respectively. The West and Central African MoU Black Sea MoU The Cooperation Council for the Arab States of the Gulf (GCC) Riyadh MoU have targets of 15% annual inspection rate per country within 3 years, 15% annual inspection rate per country within 3 years and 10% annual inspection rate per country within 3 years, respectively, according to a 2005 IMO progress report. International Maritime Organization. Sub-Committee on Flag State Implementation. 13 February 2005. 13th Session. Agenda item 6. "Progress report on regional PSC agreements: Note by the Secretariat." *Regional co-operation on Port State Control.* FSI 13/6.

[114] See also: the Malaysian 16 September 2008 submission to the draft Port State Measures Agreement Technical Consultation.

[115] Løbach observes that random checks are also an important component of a port State regime for fisheries. Løbach. 2006. Above, n.100. p.3.

[116] In the April 2008 draft text, the provision only referred to a vessel being denied the *use* of a port not *entry*.

[117] It is easy to see in the following how the establishment and use of a comprehensive information system (such as possible with the combined resources of RFMOs and states exchanging information through the draft Port State Measures Agreement as well as input from the proposed Global Record of fishing vessels) is a crucial support for port States in carrying out their obligations.

- Ships flying the flag of a State appearing in the three-year rolling average table of above-average detentions and delays published in the annual report of the Memorandum;
- Ships which have been permitted to leave the port of a State, the Authority of which is a signatory to the Memorandum, on the condition that the deficiencies noted must be rectified within a specified period, upon expiry of such period;
- Ships which have been reported by pilots or port authorities as having deficiencies which may prejudice their safe navigation;
- Ships whose statutory certificates on the ship's construction and equipment, issued in accordance with the relevant instruments and the classification certificates, have been issued by an organization which is not recognized by the Authority;
- Ships carrying dangerous or polluting goods, which have failed to report all relevant information concerning the ship's particulars, the ship's movements and concerning the dangerous or polluting goods being carried to the competent authority of the port and coastal State;
- Ships which are in a category for which expanded inspection has been decided.
- Ships which have been suspended from their class for safety reasons in the course of the preceding six months.[118]

In addition to this, in 2011 the Paris MoU will introduce a new inspection regime, which contains incentives for vessels to flag to a responsible flag State and raise their standards. Under the new regime, "low-risk ships will be rewarded with a 24 to 36 month inspection interval" while "high-risk ships will be subject to a more rigorous inspection regime with an inspection every 6 months."[119]

As the draft Port State Measures Agreement is not yet in force, it remains to be seen whether vessels (or their flag State) that are targeted for inspections will argue that they are being discriminated against.[120] Practice in other contexts suggests that they will not. CCAMLR parties prohibit the landing and transshipment of Patagonian toothfish that has been caught by vessels whose flag States do not participate in the CCAMLR catch documentation scheme.[121] Indeed this is one of the key ways that CCAMLR has dramatically reduced IUU fishing in its Convention area. Under the IMO system, vessel targeting is also based, in part, on the flag a vessel flies. However, it goes further than that. According to Sage, under the Paris MoU the "target factor"[122] is calculated by:

> rating elements of the ship's profile (generic factor) and of the history of the ship within the Paris MoU organisation (history factor). The generic factor rates the risks attached to the ship's flag, the ship type and age combined, classification with a non-EU society, age above 12 years old, non-ratification of all main conventions by the flag State and finally a class deficiency ratio above average. The history factor takes into account results of inspections carried out under Paris MoU, and thus reflects the condition of the ship... The overall factor is calculated by adding the generic factor to the history factor.[123]

---

[118] http://www.parismou.org/ParisMoU/Organisation/About+Us/Targeting/default.aspx. Accessed 19 September 2008. In addition, Ships that have undergone inspection are generally not re-inspected within 6 months unless there are clear grounds to do so. See also: Hoppe. 2000. Above, n.8.

[119] Paris MoU. 2007. *Annual Report.* p.4. A more sophisticated database will be developed for this and integrated into the broader EU information system. The proposed Global Record may be a factor here.

[120] For example, the FAO Code of Conduct and the UN Fish Stocks Agreement provide that port States must not discriminate in form or in fact against the vessels of any state. Also: LOSC, Article 218. Article 3(2) of the draft Port State Measures Agreement mirrors this: "This Agreement shall be applied in a fair, transparent and non-discriminatory manner, consistent with international law."

[121] CCAMLR Conservation Measure 10-05.

[122] The Paris MoU uses a web-based calculator plus a series of questions to determine the target factor. See: http://www.parismou.org/ParisMoU/Target+Factor/xp/menu.3980/default.aspx. Accessed 17 September 2008.

[123] Sage. 2005. Above, n.12. p.351. See also: Bloor, Michael, Datta, Ramesh, Gilinskiy, Yakov, Horlick-Jones, Tom. 2006. "Unicorn among the Cedars: On the Possibility of Effective 'Smart Regulation' of the

The 2008 EU IUU Regulation[124] provides for the compilation of a black list of non-compliant vessels. It also provides for the inspection of vessels that, through "sightings, notification under the Community Alert System, or identification for IUU fishing", makes them suspect.[125] It provides for the inspection of:

> at least 5% of all landings and transshipments by third country vessels each year, in accordance with risk management benchmarks... vessels will systematically be inspected in cases of suspicion or findings of non compliance with conservation and management rules...[126]

Thus, it appears from current and emerging practice that fishing vessels can probably be targeted for the application of port State measures without fear of discrimination claims. This would be especially so if domestic vessels were treated the same way.[127] It is therefore submitted that the draft Port State Measures Agreement provides a sufficient framework for the elaboration of more precise, non-discriminatory target vessel identification measures at the regional, subregional or international level.

One last important issue which requires discussion under this heading is the part that the identification of beneficial owners will play in targeting vessels for inspection. The need to identify beneficial owners of vessels is consistently raised by academics and practitioners in both the merchant shipping and fishing sectors.[128] However, it does not appear to be gaining much traction with States. Under the Paris MoU, neither vessel history nor vessel ownership is particularly well emphasized. This appears to be repeated in the draft Port State Measures Agreement: In the April 2008 draft, information to be provided to a port authority by an incoming vessel included:

- vessel owner(s);
- vessel beneficial owner(s);
- vessel operator(s);
- master;
- fishing master.

In the February 2009 draft, this has been reduced to:

- vessel owner(s);
- vessel master's name and nationality.

Globalized Shipping Industry." *Social & Legal Studies*. London. December. Vol. 15. Iss. 4. p.537, regarding the use of smart regulation to govern the shipping sector. They note that: "...since the methodology of the computation of the TF [target factor] is transparent, and since ships' inspection records are publicized... the Paris MoU targeting system seeks to encourage ship operators to take active steps to reduce their TF (and improve ship and labour standards) in order to improve their commercial standing."

[124] Council Regulation (EC) No. 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999.

[125] See: *Information Note – IUU Regulation* and Council Regulation (EC) No. 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999.

[126] *Ibid.*

[127] Indeed, this would probably be required to avoid WTO concerns, which will be explored in the following chapter.

[128] See generally: Griggs, L. and Lugten, G. 2007. "Veil Over The Nets: Unravelling Corporate Liability For IUU Fishing Offences." Vol. 31. *Marine Policy*. pp.159-168.

This suggests that a port authority will not necessarily be privy to the identity of the true beneficiary of a fishing vessel's operations prior to making a decision about a foreign fishing vessel's request to enter its port. The effect of this may be partially mitigated by the report that is filled out during the vessel's examination by the port authority inspector. This contains at line twenty: "Vessel beneficial owner(s), if known and different from vessel owner."[129] While the qualifier "if known" can clearly be exploited, the Agreement nevertheless enshrines some sort of obligation to supply information about beneficial ownership as part of a minimum standard in international fisheries law. This is a substantial stride forward in lifting the corporate veil.

Inspections and training

The successful introduction of enhanced port State controls will require an inspection regime based on universal, reliable minimum standards. These must be applied consistently from State to State.[130] In 2002 the IMO/FAO *ad hoc* Working Group drew up a set of criteria for inspections of a foreign-flagged fishing vessel by a port State.[131] These have been substantially replicated and expanded by the draft Port State Measures Agreement. Such standard-setting reflects the view that consistency of treatment – from quality and frequency of inspections to consequences in the event of non-compliance – will be crucial to the success of port State activities in combatting IUU fishing.[132]

---

[129] Annex C.

[130] There will remain scope for ports to do more. One suggestion, from the High Seas Task Force, is for states to request a 'declaration of non-engagement in IUU fishing' as part of a vessel's application to enter a port. Fabra *et al.* Above, n.23, footnote 36. Such a declaration could be actionable in a domestic forum – i.e. making a false statement with an intention to defraud. Such a mechanism may already be filtering down to the private sector: The Southern Africa FAO Regional Workshop on port State measures heard that a "reefer company" in South Africa required the owners of shipments of fish cargo to declare that it did not include IUU-caught fish before it would transport it. FAO. 2008. Above, n.104. p.15. This type of industry involvement is a positive sign. RFMOs are also establishing requirements for declarations: NEAFC's port State control scheme provides that, among its members at least, the vessel master must declare what catch it has on board as part of its advance notice of entry into port. While this particular provision is an attempt to eradicate unreported catches among NEAFC parties (not vessels outside the scheme), it highlights an enhanced reliance on cooperation between flag and port State: "Before the landings can be authorised by the port state, the flag state must confirm that the fishing vessel had sufficient quota to allow for the catch. The flag state must also confirm that the vessel was authorized to fish and that the area of catch has been verified by a Vessel Monitoring System. Without the confirmation, no authorization can be given by the port state." NEAFC Press Release. 30 April 2007. www.nafo.int/about/media/oth-news/2007/other/neafc2.pdf. Molenaar notes that domestic laws against furnishing false information could allow the administrative or criminal law codes within port States to come into play. Above, n.19. p.242. While State implementation of CCAMLR Conservation Measure 10-03 (2002) provides a requirement for such a statement, Molenaar observes that it "is silent on what should happen in the event that statements turn out to be false." p.242.

[131] In short, this criteria include: verification that the certificate of registry is valid, that the vessel markings are correct; confirmation that logbooks (include those regarding garbage) are up to date; verification that the reported catch or transshipped cargo and the origins of the catch/cargo are as per the conditions attached to the authorization to fish; confirmation that the fish on board corresponds to what is on the manifest; verification that the reported or transshipped catch and its origins are as per the authorization to fish; "formulation of a general impression of the state of the vessel including accommodation should be made and any obvious defects or doubts"; any detainable deficiencies; verification that position instrumentation is operational and has not been tampered with; verification that the vessel's fishing gear conforms with the conditions of the authorization to fish and is in conformity with the type of fishing vessel being inspected.

[132] It should be noted that both Japan and South Korea want these two Annexes to be considered 'guidelines' rather than an obligatory minimum standard. See: the 15 September 2008 submission by

Success will depend, in part, on the training received by inspectors and port authority personnel. In other fora it has been seen that inspectors, and the authorities that coordinate them, may find the legal rules unclear. Their application may be imprecise or performed with a lack of confidence.[133] Uniform treatment for vessels in ports will rely on a uniform understanding of the rules among participants. Annex E of the Draft Port State Measures Agreement, which is detailed above, contains a comprehensive set of guidelines for the training of inspectors. In addition, FAO has been heavily involved in regional capacity and coordination building. Workshops took place in the Pacific Islands region in September 2006, in the Indian Ocean region in June 2007, in the Mediterranean region in December 2007 and in the Southern African and South East Asian regions in 2008.[134] Workshops have also been held in Mauritania, Senegal and South Asia.[135] FAO will, in all likelihood, be similarly involved in regional training for inspectors and other port State personnel. National efforts will need to improve the sometimes poor coordination between the administrative wings of the port State, as well as between them and the operational efforts on the ground in ports.[136] While FAO found, in 2004, that the use of a limited set of port State measures was "well established and standardized on a global scale," it emerged that, on the ground, harbour control authorities and national fisheries agencies did not necessarily coordinate their functions effectively.[137] The advance notice provisions within the draft Port State Measures Agreement will go some way to fulfilling these important operational needs by giving port authorities and administrators time to coordinate. It should be noted that the development of domestic integration and coordination should have been undertaken by States in the wake of the 2001 IPOA-IUU's port State provisions and the 2005 FAO Model Scheme. If this process has stalled in individual countries (or regions), then the adoption of the draft Port State Measures Agreement may help re-start it.

Information collection and exchange

One of this dissertation's recurring themes is the importance of information collection and exchange in the fight against IUU fishing. Given its importance, the draft Port State Measures Agreement is remarkably brief on the subject. Article 6 provides that:

> 1. In order to promote the effective implementation of this Agreement and with due regard to appropriate confidentiality requirements, Parties shall cooperate and exchange information with relevant States, FAO, other international organizations and regional fisheries management

---

Japan and the January 2009 submission by South Korea to the draft Port State Measures Agreement Technical Consultation.

[133] EU Fisheries Commissioner Joe Borg. Presentation to 11th North Atlantic Fisheries Ministers Conference, Norway. 9 June 2006. http://ec.europa.eu/fisheries/press_corner/speeches/speech06_05_en.htm. Accessed 25 September 2008.

[134] IOC/FAO/IOTC symposium and workshop to strengthen port State measures in the Indian Ocean. Port Louis, Mauritius. 18-22 June 2007; FAO/GFCM Regional workshop on port State measures to combat illegal, unreported and unregulated fishing. Rome, Italy. 10-12 December 2007; FAO regional workshop on port State measures to combat IUU fishing. Cape Town, South Africa. 28-31 January 2008; FAO regional workshop on port State measures to combat IUU fishing. Cape Town, South Africa. 28-31 January 2008; FAO/APFIC/SEAFDEC regional workshop on port State measures to combat IUU fishing. Bangkok, Thailand. 31 March-4 April 2008.

[135] At the time of writing these reports are not yet posted to the FAO website.

[136] EU Fisheries Commissioner Joe Borg said it is known that "vessels have entered ports and received the services they needed without the knowledge of fisheries control authorities, even though the provision of services is forbidden." Borg. 2006. Above, n.133.

[137] FAO Conference. 2003. Above, n.35.

> organizations, including the measures adopted by such regional fisheries management organizations in relation to the objectives of this Agreement.
> 2. To the greatest extent possible, each Party shall take measures in support of conservation and management measures adopted by other States and other relevant international organizations.
> 3. Parties shall cooperate, at the subregional, regional and global levels, in the effective implementation of this Agreement including, where appropriate, through FAO or regional fisheries management organizations and arrangements.

It is submitted that success will depend on a high level of such exchange between States, international organizations and RFMOs. This exchange will perhaps even include NGOs and broader civil society. It is clear from the trajectory of discussions within COFI that the Agreement will be implemented by regional and subregional bilateral and multilateral agreements. This will occur both within existing RFMOs and regional fisheries bodies and outside of them, in areas where no effective body exists or where some important port States are non-members of the RFMO.[138] In such a highly atomized setting, FAO and the regional fisheries management organizations may become repositories, of sorts, facilitating the exchange of port State data. A late addition to the draft Port State Measures Agreement may address this author's concern that data may not be usefully exchanged: Article 15(1*bis*) provides that "...Parties should seek to establish a centralized database or to facilitate the exchange of information with existing databases relevant to this Agreement."[139] While this indicates that some COFI members want a centralized database and the free-flowing information it would provide, it is not at all clear whether one will be established. The provision is still in square brackets in the draft treaty. The IMO port State regimes are an instructive model here. Each MoU has a secretariat and a centralized database. These "Information Centres" are located in the MoUs' respective regions.[140] Details from each ship inspection are recorded on the MoU database, "whether or not deficiencies are found." [141] These databases can be accessed by all port authorities under each Agreement to consult inspection files and add new inspection reports.[142] It is unknown to this author how much information is shared *between* MoUs in the IMO system. However, it is understood that a forum exists where ideas are exchanged and the experiences of personnel can be shared. The third (and latest) workshop for Secretaries and Directors of the regional port State MoU Information Centres was held in June 2004. The workshops aim to:

> provide support to regional port State control regimes by establishing a platform for co-operation and also providing a forum for the people involved to meet... they also aim to encourage harmonization and co-ordination of PSC activities and the development of practical recommendations which can be forwarded to IMO for further examination by the Organization's relevant Committees and Sub-Committees.[143]

---

[138] In Southeast Asia, where no cohesive RFMO exists, a formalized agreement implementing the draft Port State Measures Agreement may eventuate. Personal communication with Judith Swan, FAO. 17 March 2009.

[139] This author has unverified information that the addition of language that refers to the Global Record (though not by name) was added to this clause in May 2009. This addition, which remains in square brackets, mentions "other systems" and perhaps an "information sharing system."

[140] Note that the information centres are not always the same place as the secretariat. "Information Centres" are located at, for example: Saint Malo, France for the Paris MoU and Vancouver, Canada for the Tokyo MoU.

[141] http://www.parismou.org/ParisMoU/Organisation/About+Us/Database/default.aspx. Accessed 19 September 2008.

[142] *Ibid.*

[143] "Port State Control" page on the IMO website. http://www.imo.org/Facilitation/mainframe.asp?topic_id=159. Accessed 17 September 2008.

It is acknowledged that certain information about vessels, their activities and operational control can be tracked via the notification procedure within the draft Port State Measures Agreement itself.[144] In addition, RFMOs have well-established information exchange procedures. However, it is submitted that the instrument explored in the previous chapter, the proposed Global Record, could play a crucial role here. Indeed, Article 15 (above) seems to clearly allow it. The Global Record could make a wide variety of information immediately accessible to a port State authority. With it, a variety of assessments could be quickly made, for example, that a vessel seeking access to port, or already in port, has an operational, ownership or flag history which makes it suspect. A Global Record is thus needed. As well, a centralized port State information system is required, which makes accessible the results of global inspections and those actions that are taken by flag States. Without both these measures this author is concerned that international fisheries will continue to be plagued by the now chronic, long-term lack of accessible information on fishing vessels and their activities.

It is unclear how much of the information that is collected during the operation of a port State's responsibilities under the draft Port State Measures Agreement will be exchanged by States. One important development outside of the draft treaty, but related to it, is the FAO Database on Port State Measures ("Port-Lex"). Its establishment was endorsed by COFI at the same time as the FAO Model Scheme in 2005. It became operational in June 2008.[145] Port-Lex is a web-based database detailing national port State measures that have been adopted to combat IUU fishing.[146] At the time of writing Port-Lex holds details of the port State measures adopted by 22 member States.[147] These States have voluntarily sent information to FAO for this purpose. Its objective is to make "best practice" in port State measures available to government policy makers, legal practitioners and civil society members. It aims to "help countries and RFMOs coordinate their efforts when adopting and implementing PSM."[148] It does not contain *regional* port State measures and has no formal or informal linkages to the MCS Network.[149] There are no plans to expand the scope of the database to add inspection reports from ports or include any information about suspect vessels.[150]

---

[144] FAO. 2008. Above, n.104. p.8.

[145] Personal communication by email, Anniken Skonhoft, FAO Development Law Service. 24 March 2009. See also: http://www.fao.org/fishery/psm/search/en. Accessed 27 February 2009.

[146] The development of the database had been recommended by the FAO Technical Consultation on port State measures in 2004, then endorsed by COFI in 2005. Port-Lex is available in English, French and Spanish. It is free and searchable. Details of the control requirements of a particular port can be found by searching Port-Lex: by port State; by type of measure; by year of adoption; by fish species; by flag of vessel; and by competence area or coastal state.

[147] According to the website, as at 27 February 2009 these member states are: Australia, Bangladesh, Belgium, Benin, Cameroon, Canada, Cote d'Ivoire, European Union, Gabon, Gambia, Ghana, Guinea, Ireland, Monaco, Morocco, New Zealand, Pakistan, Seychelles, Slovenia, Togo, Turkey, USA. The FAO is reportedly working to increase the number of countries represented in the database.

[148] http://www.fao.org/fishery/psm/collection/en. Accessed 2 March 2009.

[149] Personal communication by email, Anniken Skonhoft, FAO Development Law Service. 24 March 2009. This dissertation discussed briefly in chapter five the International Network for the Cooperation and Coordination of Fisheries-Related Monitoring, Control and Surveillance Activities (MCS Network), the goal of which is to "improve the efficiency and effectiveness of fisheries-related MCS activities through enhanced cooperation, coordination, information collection and exchange among national organizations and institutions responsible for fisheries-related MCS." As part of its Technical Terms of Reference, unanimously adopted in Key Largo, Florida, in 2001, the MCS Network agreed on etiquette regarding the security of information. The Protocol for Information Exchange provides that: 4.1 Organizations and institutions should cooperate in the collection, exchange and transmission of information within the constraints of laws and conventions of each State relating to the confidentiality and protection of private,

Other information strategies will thus be required to ensure the success of the port State regimes implemented in the wake of an adopted Port State Measures Agreement. MCS Network linkages will be important here. Its Vessel Monitoring System data and other information collection activities already directly support port State controls.[151] (It should be noted that flag States are the holders of VMS information and will need to willingly provide this information to the MCS Network or port States directly.) Information gained from other sources will also be important, including information held or analyzed by NGO and intergovernmental organizations.[152] In the context of vessel targeting under the IMO regimes, Sage reports findings that show that "professional judgment" and other information sources are drawn upon, in addition to the Paris MoU's criteria. These include reports by pilots, vessel traffic services and port authorities.[153] Useful information can come from myriad other places: Hoppe reports that information regarding certain ships can be "provided by a member of the crew, a professional body, an association, a trade union or any other individual with an interest in the safety of the ship, its crew and passengers, or the protection of the marine environment."[154] It is submitted that the proposed Global Record could play a crucial role here – making a wide variety of information immediately accessible to stakeholders or other users. It could enrich the otherwise *ad hoc* or sporadic information gathered under the Agreement, through regional fisheries organizations, under bilateral and multilateral agreements and within States, specialist research institutes and non-governmental organizations. It is submitted that the draft Port State Measures Agreement will work more effectively if the proposed Global Record is established, fully implemented and made widely and publicly accessible.

Assistance to developing States

The draft Port State Measures Agreement requires port States to act against foreign IUU fishing. Many hundreds of these ports will be situated in developing States. Enhancing port State activities will use precious human and financial resources. It is acknowledged that "not all States are currently prepared to implement port State measures."[155] This is

---

restricted and privileged information. 4.2 To the greatest extent practicable, the information identified in "Information Requirements" should be made available through access to the International MCS Network. 4.3 For information that cannot be accessed through the International MCS Network Website, requests should be made of the contact person(s) or designated person(s) identified on the International MCS Network Website. The contact person or designees should ensure that inquiries are responded to promptly. 4.4 Subject to the operation of freedom of information and privacy laws applicable to each participant, information which can be supplied in response to requests shall be treated as being supplied in confidence and held in a secure manner unless otherwise permitted by the participant providing the information. ftp://ftp.fao.org/FI/DOCUMENT/cwp/Cwp-int_2006/MCS_Network.pdf. Accessed 24 September 2008.

[150] Personal communication by email, Anniken Skonhoft, FAO Development Law Service. 24 March 2009.

[151] The information MCS Network members collect, maintain and exchange are expected to "include at a minimum, that information required under the Compliance Agreement and, to the extent possible, as proposed under the International Plan of Action to combat IUU fishing." It should be noted that full access to information is generally made available only to governments. http://www.imcsnet.org/imcs/members/docs/terms_of_reference.pdf. Accessed 24 September 2008.

[152] For example, the Greenpeace IUU Vessel List. http://blacklist.greenpeace.org/.

[153] Sage. 2005. Above, n.12. p.353.

[154] Hoppe. 2000. Above, n.8.

[155] Swan, Judith. "Port State Measures to Combat Illegal, Unreported and Unregulated Fishing: International and Regional Developments." *Sustainable Development Law & Policy*. Vol. VII. Issue 1. Fall 2006. p.39.

either because they keep 'ports of convenience' or because they lack the capacity to implement enhanced port State measures. Many developing countries not only have porous ports, but supply much of the crew for IUU fishing vessels. Many have inadequate domestic monitoring, control and surveillance capabilities and are oftentimes struggling with corrupt or ineffective government. For all of these reasons it is generally agreed that assisting developing countries is a key element in combatting IUU fishing. Some regions face significant impediments to the successful implementation of national and regional port State controls. A FAO Regional Workshop on port State measures held in Cape Town, South Africa, heard that challenges for that particular region included:

- too few and poorly trained fishery inspectors who did not have any training in port state measures procedures;
- an inability to track foreign fishing vessel activity once authorized to enter a [South African Development Community] port state's EEZ;
- poor or no coordination between government departments including those responsible for fisheries, port authorities and trade, and;
- a lack of financial resources.[156]

Because coordination, harmonization and monitoring, control and surveillance information exchange will help create strong regional port State control, providing adequate assistance to developing countries will be important to the success of the draft Port State Measures Agreement.[157] This will be especially important in developing or mixed developed/developing regions like southern Africa and Asia.[158] The Agreement recognizes the special needs of developing States. Technical assistance, legal assistance to develop domestic laws, and help to more fully participate in regional or subregional organizations is provided for under Article 22. Also provided for is a framework for the establishment of a 'trust fund', although it is not called as such. This is designed to provide financial assistance to developing countries. Assistance is to be directed towards:

(a) developing national and international port State measures;
(b) developing and enhancing capacity, including for monitoring, control and surveillance and for training at the national and regional levels of port managers, inspectors, and enforcement and legal personnel;
(c) monitoring, control, surveillance and compliance activities relevant to port State measures, including access to technology and equipment; and
(d) assisting developing States Parties with the costs involved in any proceedings for the settlement of disputes that result from action they have taken pursuant to this Agreement.[159]

Thus, it is submitted that the Agreement does provide an adequate framework for assisting developing States in their new duties. This will make comprehensive global

[156] FAO. 2008. Above, n.104. p.15.
[157] Indeed, within the draft treaty itself (new to the February 2009 draft, and still in square brackets) it is noted, almost threateningly, that: [6. The extent to which developing port States Parties will effectively implement their commitments under this Agreement will depend on the effective implementation of paragraphs 4 and 5 of this Article related to financial resources.]" Article 22(6).
[158] Personal communication with Judith Swan, FAO. 17 March 2009.
[159] The so-called trust fund would presumably be broader than the one provided under the UN Fish Stocks Agreement as that agreement was limited to assisting those countries involved with high seas and straddling and highly migratory fish stocks. The draft Port State Measures Agreement – and therefore its trust fund – would be global in character, effectively covering fishing in all sea and ocean areas.

coverage possible.[160] While the draft Port State Measures Agreement provides funds and fora for capacity building, it does nothing to provide *incentives* to join and fully participate. It is self-evident that those countries whose authorities participate in the Agreement, conduct rigorous inspections and deny IUU fishing vessels the use of their ports may be disadvantaged in comparison to neighbours that do not. Port services are a source of income to many States on the margins of the international community. To lose this income, by participating in a port State regime, would constitute a grave disincentive to join. That is, unless that country's 'good name' in combatting IUU fishing is more rewarding than the immediate fiscal advantages of providing port services to vessels, no matter how suspect.

To avoid this rather crude cost-benefit analysis, encouraging as many countries as possible inside the scheme and finding incentives for them to stay there is clearly desirable. It is strongly believed that market-related measures will provide these incentives, supporting port State measures by regulating access to the market. The level of consumer knowledge about IUU fishing in North America, Europe and Australasia, at least, is high. In Europe, fierce competition exists between retailers to assure consumers of the integrity of the seafood they are purchasing. These retail and wholesale seafood buyers go to great lengths to avoid buying unverified product coming from vessels that are flagged to flags of convenience or which have landed or transshipped catch at ports of convenience. This does not come close to covering the entire seafood-purchasing market, but it is nevertheless a beginning. However, trade and market-related measures have not been integrated into the draft Port State Measures Agreement, as it is, for example, in CCAMLR's catch documentation scheme. It is, rather, left to chance, by signatories taking advantage of Article 17(3)(a). This provides that additional measures may be taken if appropriate national laws and regulations exist. It may open the door for States to enact trade-related measures such as the US Lacey Act. This domestic law criminalizes the importation into the United States of wildlife caught in violation of foreign laws.[161] This has come to include fish and fish products that have been illegally harvested.

Compensation and dispute settlement

Two thorny issues remain unsettled in the draft Port State Measures Agreement. One is compensation for damages, the other is dispute settlement. This section will briefly examine both issues.

Under Article 19 of the Agreement, the owner or operator of a vessel is entitled to seek compensation in the event that "loss or damage" is suffered "as a consequence of undue delay."[162] The owner or operator of the vessel must therefore show that loss or damage was suffered, that this was a direct result of the delay and that the delay was "undue." Despite the burden of proof clearly lying with the connections of the vessel, the provision for compensation for damages may still prove to be counter-productive. It may result in port State authorities being reluctant to thoroughly inspect vessels, or target certain vessels, or make allegations of engagement in IUU fishing. This may particularly be the case if the vessel's owner or master intimidates the inspector on the ground with threats of legal action. Under the terms of the 'capacity building trust fund'

[160] In an indication, in its 15 September 2008 submission to the draft Port State Measures Agreement Technical Consultation, the Marshall Islands (an FFA member) approved of the provisions under Article 22.

[161] The US *Lacey Act Amendments of 1981.*

[162] This section is in square brackets.

set up under the draft Port State Measures Agreement, the fund cannot be used to pay such compensation claims. It is highly unlikely that a special fund would be set up to deal with claims. Compensation will therefore, in the event, be provided by the port State. This is an issue that is so contentious (and so likely to affect the acceptance of the Agreement) that it may be dropped altogether when the draft is finalized.[163] It is indicative that the proposal caused great consternation to the Malaysian delegation and was rejected in totality by Canada.[164] The provision remains in square brackets in the draft treaty.

The nature of dispute settlement under the draft Port State Measures Agreement has not been finalized. COFI members have not yet decided to make participation in dispute settlement procedures mandatory under the Agreement, nor whether the resulting decisions will be binding. Article 23 ("Peaceful settlement of disputes") currently indicates that dispute settlement will not be mandatory, because it provides that disputes can only be referred to arbitration "with the consent of all Parties to the dispute."[165] States that want to see strong global port State measures enacted want dispute settlement to be mandatory.[166] They also want it to be binding between parties.[167] While it should be noted that the language is not settled, this is currently provided by Article 23(3) of the draft Port State Measures Agreement. This allows for disputes to be referred to the "International Court of Justice, to the International Tribunal for the Law of the Sea or to arbitration". These fora make decisions that are binding on the parties to the dispute.

Deterence, enforcement and the market

Practice in other contexts shows that enhanced port State control measures have scope for both deterence and enforcement activities. One of the most dramatic deterence outcomes is available under the IMO regimes described above. Here, poor quality or dangerous ships can be banned from a region. Three types of ship are banned from the ports of parties to the Paris MoU:[168]

- gas and chemical tankers, bulk carriers, oil tankers and passenger ships that fly a black listed flag and have been detained twice over a period of 24 months;
- those that "fly a flag classified as 'very high' risk or 'high risk' by the Paris MoU organisation and that have been detained more than once over the preceding 36 months"; and

[163] Personal communication with Judith Swan, FAO. 17 March 2009.
[164] See: Malaysia's 16 September 2008 submission to the draft Port State Measures Agreement Technical Consultation. The 1 October 2008 submission by Canada to the draft Port State Measures Agreement Technical Consultation notes that this constitutes encroachment on port State sovereignty by creating "new private rights... against a sovereign state" and is not supported at customary international law.
[165] Article 23(3), currently in square brackets.
[166] Personal communication with Judith Swan, FAO. 17 March 2009.
[167] Personal communication with Judith Swan, FAO. 17 March 2009.
[168] At the time of writing there are 69 ships banned under the Paris MoU, as at 18 September 2008. See: http://www.parismou.org/ParisMoU/Banned+Ships/xp/menu.3971/default.aspx. Accessed 18 September 2008. Interestingly, while the "banning state" is listed next to the banned ship, the banned ship's flag state is not. In all cases, the ships were banned for one reason out of a possible four: they either "failed to call at indicated repair yard" (38 vessels), had "multiple detentions" (17 vessels), had "jumped detention" (11 vessels) or had "no valid ISM certificate" (three vessels). (As at 18 September 2008.) Panama was the worst performing flag state for ships in the Paris MoU region by these measures, being the only flag state with violations under each of the four categories and the most ships (six) being banned for "multiple detentions." Paris MoU. 2007. *Annual Report.* p.47.

- those that despite being detained have "proceeded to sea without authorisation from the [port] authorities."[169]

Sage observes that the Paris MoU effectively passes judgement on the performance of ships as well as their flag States. Indeed, the first question on the Paris MoU's web-based Target Factor Calculator asks whether the vessel carries a flag that is represented on the Paris MoU black list. If it does, the Target Factor Calculator asks which category of risk it represents – medium, medium to high, high or very high.[170] Assessments of flag State performance are based, in part, on the detention rate of flagged ships. The MoU's white, grey and black lists of flag States reflect their degree of risk.[171] Publication on either the grey or black lists under the Paris MoU signals to a flag State that its vessels pose an unacceptable risk and will be targeted for inspection.[172]

In another forum, the European Union Agriculture and Fisheries Council adopted Council Regulation (EC) No. 1005/2008 (EU-IUU Regulation) in 2008. It holds significant deterrent potential.[173] Chapter II of the EU-IUU Regulation significantly strengthens the EU's port controls. It includes, as the draft Port State Measures Agreement does, an inspection regime, a system of designated ports, prior notice, the requirement for authorization to land or transship and the submission to the port authority of documentation prior to landing or transshipping catch.[174] EC member States are to inspect 5% of the landings and transshipments by third-country fishing vessels each year.[175] Vessels are to be targeted on the basis of risk management, which, like the Paris MoU system, involves making an assessment of the flag State.[176]

It is the profits of IUU fishing operations that must be targeted by regulatory efforts. Both the IMO port regimes and the EU-IUU Regulation tie flag State performance to flagged vessels, and vice versa, on the criterion of performance. This should begin deterring the practice of illegal operators searching for flags with the least restrictions

---

[169] Sage. 2005. Above, n.12. p.352.

[170] See: http://www.parismou.org/ParisMoU/Target+Factor/xp/menu.3980/default.aspx. Accessed 18 September 2008.

[171] Sage. 2005. Above, n.12. p.352. It should be noted that the Paris MoU black list is topped by Democratic People's Republic of Korea (North Korea), Bolivia and Albania and contains nineteen flags at the time of writing.

[172] This is in part an appreciation that domestic controls have been inadequate for some states, something borne out by statistical analyses undertaken by Knapp and Franses: When it came to maritime accidents "Flag states that are normally exposed to inspections under the port State control regime seem to perform better than if they are only exposed to their own flag state inspections". Knapp, Sabine and Franses, Philip Hans. 2007. "Econometric analysis on the effect of port State control inspections on the probability of casualty: Can targeting of substandard ships for inspections be improved?" *Marine Policy*. Vol. 31. p.560. It should be noted that of the 14,765 inspections of ships flying black listed flags, 1,716 were subsequently detained by Paris MoU authorities – a detention rate of just under 12%. The detention rate for ships flying grey listed flags was 6.5%. Interestingly, of "white listed" flags, the detention rate was not 0, as might have been hoped, given its status as a "quality flag", but 2.9%. Equally interestingly China, along with France and Bermuda (UK), top the "quality flag" list. Paris MoU. 2007. *Annual Report*. pp.4, 20-21.

[173] EC Council Regulation. 2008. Above, n.124.

[174] Articles 4 and 9, Article 5, Article 6, Article 7 and Article 8, respectively.

[175] Article 9(1).

[176] Under the Regulation: "...access to Community ports is only authorised for fishing vessels flying the flag of a third country which are able to provide accurate information on the legality of their catches and to have this information validated by their flag State." Paragraph 10. EC Council Regulation. 2008. Above, n.124.

on their fishing activities.[177] Being turned away from port after port, and enduring high inspection rates when they are accepted, should force IUU fishing vessel owners to recalculate their operations' profit structures. Under the IMO and EU-IUU regimes – and possibly those struck under an eventual Port State Measures Agreement – vessels will be made to reconsider the financial and opportunity costs of flying flags of convenience, acting outside management regimes, and thus having their operations targeted.

Deterence of the kind described above may prove to be far more important to the control of IUU fishing operations than any enforcement actions the port State may want to take against a foreign vessel. In any case, enforcement opportunities are limited by traditional international norms. As mentioned, under the Draft Port State Measures Agreement "enforcement" is the word applied to those actions taken by flag State signatories.[178] These actions would generally be carried out on a domestic level, in the national courts of flag States. Enforcement – in the sense of legal action – is still very much the province of the flag State.

The draft Port State Measures Agreement provides a framework for cooperation and the exchange of information between flag and port States. In addition, under Article 17 flag States have a duty to cooperate in the application of port State measures against their flagged vessels.[179] However, this dissertation has highlighted a number of times the continuing deficiencies in flag State control over fishing vessels, and the shield that poorly performing flag States have provided IUU fishing operations. Flag of convenience States and those which keep ports of convenience may not be expected to participate in the future port State control regime at all. There has been, for some time, a focus on what can be done without the assistance of the flag State.[180] It is possible that detaining vessels, seizing catch or gear, or taking crew members into custody is available under Article 17(3)(a). This would be the case if a port State has enacted national laws and regulations that allow it to take these sort of actions against foreign fishing vessels that have engaged in IUU fishing outside the port State's territory.

However, Wolfrum has noted that regulating foreign access to ports and applying a port State's laws and regulations to foreign vessels are two entirely different things.[181] In the wake of this ambiguity, deterence will therefore remain a key component. Vessels must ask for permission to enter a port.[182] They can be targeted for inspection on the basis that they had previously been denied access or use or another party's port.[183] They can be denied access if they appear on any RFMO black list.[184]

---

[177] It is noted that the draft Port State Measures Agreement does not attempt to do this, however, once more operational detail is agreed, and the practice within states, regional and subregional organizations has evolved, there will likely be made more formally linkages between vessels and poorly-performing flags.

[178] Article 21(3*bis*).

[179] Flag states are also obliged to encourage (it was "ensure" in the June 2008 draft) their vessels to use only ports of states that are parties to the Agreement (or acting consistently with it) (Article 21(3)) and report to port States and other relevant states, as well as RFMOs and the FAO, what actions they have taken regarding flagged vessels that have been found, through port State measures, to have engaged in, or supported, IUU fishing (Article 21(4)).

[180] It should be noted that there is some evidence that states can change from flag of convenience States to participants relatively quickly – Belize, Namibia, Mauritius and the Maldives are cases in point.

[181] Wolfrum, Rüdiger. 2006. "Review." *The American Journal of International Law.* Vol. 100. No. 1. January. p.271, citing Franckx, 2004.

[182] Article 8.

[183] Article 11(3)(a).

They can be denied services if the belief exists that they have engaged in IUU fishing activities.[185] They can be allowed entry to port purely for the purpose of having an inspection performed.[186] All these interventions hold significant deterrent value for an IUU fishing industry that exists to reap maximum profit by, in part, enduring minimum interference. Port State practices such as these could – and should, according to the success of the IMO regimes – shut non-compliant vessels and their flags out of a great many ports across the world.

Alongside this significant deterrent ability, the great power of internationally-applied port State measures comes from their collective ability to block the catch of non-compliant vessels from reaching markets. IUU fishing operations have compelling incentive and reward systems: One way or another they get their catch to market. This means that only disruption, interruption, financial penalty or fiscal sacrifice will stop them. Ports that are known to be unfriendly to IUU fishing have already become part of the wider consumer-directed efforts at a solution as retailers avoid them.[187] In addition, port State measures provide critical links in establishing the traceability of fisheries products, and evidence of their provenance and legality. Some markets now demand this information.[188] With crucial assistance provided by the Global Record, the draft Port State Measures Agreement offers a framework for cooperation and coordination that will greatly assist the 'sea to plate' tracking which is required under the model of enforcement offered by consumer-driven, market-related measures.[189]

Implementation and administration

A key question that will need to be decided in the wake of the expected adoption of the draft Port State Measures Agreement is which implementation strategy the international community should pursue. One possibility is for a multidisciplinary approach to be taken, involving FAO as well as the IMO and the ILO. While the IMO and the ILO are not significantly involved in fisheries, a major part of the IMO's contemporary remit is maritime security. This includes such issues as energy security (of tankers and port installations), piracy, safety at sea, vessel seaworthiness and port security.[190] IUU fishing operations have emerged as being grossly detrimental to maritime security, especially those operations that are controlled by criminal syndicates. The IMO is also concerned about the use of fishing vessels for other forms of illegal activity.[191] The ILO is concerned about the labour law and crew safety violations that reportedly routinely

---

[184] Article 8*tris*(2).
[185] Article 9(1).
[186] Article 8*tris*(2*bis*).
[187] For example, while strategically well-placed for illegal Patagonian toothfish laundering, the ports of (non-CCAMLR party) Mozambique have traditionally been, and continue to be, so unfriendly to IUU activity that they are avoided by such operators. Personal communication with Natasha Slicer, CCAMLR. 5 March 2009.
[188] See: Turner, Jeremy. "IUU discussions at the Committee on Fisheries (COFI) 5 – 9 March 2007." 3rd Chatham House IUU Fishing Update and Stakeholder Consultation. Royal Institute of International Affairs. Chatham House. London 8 – 9 May 2007. http://www.illegal-fishing.info/uploads/Turner_session3.pdf. Accessed 8 July 2008.
[189] It should be noted that while enforcement by the market will help underpin the draft Port State Measures Agreement, these trade-related linkages are not made explicit in the Agreement. It does not mention them at all.
[190] Open Sources Information. "IMO to tackle coastal piracy." 2 October 2007. http://www.illegal-fishing.info/ Accessed 4 March 2009.
[191] Such as the transportation of drugs, and people or wildlife smuggling.

occur on board both legal and IUU fishing vessels.[192] FAO can probably rely on support from these other UN agencies (and some of the States active within them) when regimes based on the draft Port State Measures Agreement are implemented. Broader, more coordinated efforts between these three UN organs will be appropriate during the facilitation and capacity building phase of implementation. But implementation of the draft Port State Measures Agreement itself will, in all likelihood, take place within existing RFMOs, RFBs and new regional and subregional organizations. Since at least 2002, FAO has looked to the "adoption and implementation of port State measures at the national level and a harmonized system of port State measures at the regional or sub-regional level."[193] Some will be based on geographical proximity. Some may be organized around particular fisheries (such as the CCAMLR Patagonian toothfish system) or species (such as Southern blue-fin tuna under the CCSBT). Thus, it is now appropriate to briefly look at the role of regional bodies in the future implementation of the draft Port State Measures Agreement.

Since 1995, when the Fish Stocks Agreement placed regional fisheries management organisations at the core of international fisheries management,[194] RFMOs have been charged with improving their performance. Swan has observed that there has been an "unprecedented and rapid increase in the establishment of RFBs and efforts to strengthen governance in existing bodies."[195] Innovative legal and technical activities within these bodies in dealing with IUU fishing, along with their rising credibility as stock and ecosystem managers, has placed RFMOs and RFBs in the best position to create effective region-wide port State controls. Indeed, their increasingly coordinated approach to identifying and fighting IUU fishing means that port State control schemes are already underway in most RFMOs. For example, the CCAMLR catch documentation scheme is a formal agreement that bring States into the organization for the sole purpose of their port or market controls. Under the North East Atlantic Fisheries Commission, a limited number of ports have been designated by parties as available for foreign fishing vessels to land fish. It links its IUU black list with the Northwest Atlantic Fisheries Organization. Doing so effectively bans black listed vessels from entering any port in Europe, and, via other cooperative arrangements, ports

---

[192] See, for example, the 2006 Maritime Labour Convention and the 2007 Work in Fishing Convention. The latter provides minimum labour standards for around 30 million fishers. Politakis, George P. 2008. "From Tankers to Trawlers: The International Labour Organization's New Work in Fishing Convention." *Ocean Development & International Law*. Vol. 39. pp.119–128. According to Politakis, under the Work in Fishing Convention significant compliance pressure will come through port State control schemes. p.125.

[193] FAO. 2004. "Programmes of assistance to facilitate human resource development and institutional strengthening in developing countries so as to promote the full and effective implementation of port state measures to combat illegal, unreported and unregulated fishing." *Technical consultation to review port state measures to combat illegal, unreported and unregulated fishing*. Rome, Italy. 31 August–2 September 2004. TC PSM/2004/3. Food and Agriculture Organization of the United Nations. Rome, Italy. p.2, reporting on the 4-6 November 2002 Expert Consultation to Review Port State Measures to Combat Illegal, Unreported and Unregulated Fishing. The 2006 UN Fish Stocks Agreement Review Conference called for a "more coordinated approach among States and RFMOs." Paragraph 40. Swan notes that the international community has, through its evolving fisheries instruments, focused on port State controls being implemented either on a domestic level or through RFMOs, "rather than through the mechanism of specific regional MoUs such as those developed for merchant ships." Swan. 2006. Above, n.155. p.38.

[194] At least for straddling and highly migratory fish stocks. The UN Fish Stocks Agreement provided that where an RFMO existed and managed fish stocks in which a state had an interest, that state should join it, or agree to apply its measures as a cooperating non-member.

[195] Swan. 2006. Above, n.155. p.39.

in North Africa, North America, Japan and South Korea.[196] In 2008, the General Fisheries Commission for the Mediterranean introduced a region-wide port State control scheme to combat IUU fishing whereby vessels that appear on any RFMO IUU black list will be denied entry to the scheme's ports. Further, 15% of foreign vessels will be inspected. Vessels that are found to have conducted IUU fishing are black listed across the scheme.[197]

These types of activities indicate that increasingly effective decision making, more formalized cooperation and better coordination between regional fisheries organizations and arrangements will allow the minimum standard contained in the draft Port State Measures Agreement to be atomized into regional and subregional regimes.[198] The standard for port State action will be set by the draft Port State Measures Agreement.[199] Then, with information exchange coordinated through COFI and, perhaps, decision making harmonized through an enhanced and expanded Regional Fishery Body Secretariats Network, regional fisheries bodies and RFMOs would set local inspection targets that would be sufficient to meet the *global* objectives of the Agreement.[200] Many IUU operations are global in nature and can shift the geographic area of their activities in the face of tightening enforcement pressure. So the forging of greater linkages between regional fisheries bodies, RFMOs and newly-created subregional arrangements will be necessary. It is confidently submitted that if successfully implemented through these multilateral arrangements, a global network of regional and subregional controls will leave nowhere for IUU fishing vessels to profitably operate.[201]

Two cautions need to be raised before this chapter concludes: Firstly, it should be noted that the mere presence of a regional regime on port state measures is no guarantee of eradicating IUU fishing. The Paris MoU scheme has not eradicated the blight of sub-

---

[196] NEAFC Press Release. 30 April 2007.

[197] "Tougher port controls to target illegal fishing in the Mediterranean." 10/3/08. www.illegal-fishing.info. Accessed 11 June 2008.

[198] See: Southern African Development Community Ministerial Declaration of Commitment from July 2008 (at www.stopillegalfishing.com) where countries are cooperating to combat IUU fishing but do not all belong to an RFMO, or the same RFMO.

[199] The Agreement contains a globally-agreed minimum that states *as states* – rather than members of RFMOs – commit to upholding in their ports. The *multilateral* activities of those states (through RFMOs) can subsequently be stronger and more flexible, depending on the particular circumstances and predominant features of the IUU activities that are taking place in each region, but the draft Port State Measures Agreement is a minimum.

[200] It is unclear to this author that regional fisheries bodies without management mandate will be able to set targets – it may be that COFI would set inspection targets by agreement.

[201] The High Seas Task Force has suggested that regional port State control schemes could be organized "around existing global movements of trade, thereby aligning common interests and stock management and ensuring cohesion between existing trade and catch documentation schemes." (High Seas Task Force. 2006. Above, n.9. p.79. This would not only be regional, but cross-regional, and would require closer linkages and harmonization between RFMOs. Løbach has said, "co-operation between regional fisheries management organizations [is] essential in areas where IUU fishing is the concern of two or more regional bodies. For example, the conservation and management of fish resources in the Atlantic Ocean is the responsibility of several fisheries management organizations. A comprehensive system on port State control would require that IUU fishing within the area of responsibility of one specific organization should have consequences for port States which have agreed on mandatory measures in another region." Løbach. 2000. Above, n.22. p.iv. It is appreciated, as FAO has noted, that "approaches and action to address IUU fishing will be as strong only as the weakest link in the regional chain." FAO. 2008. "Trade related measures for sustainability: progress on a binding instrument on port state measures." COFI. Sub-Committee on Fish Trade. Eleventh Session. Bremen, Germany. 2–6 June 2008. COFI:FT/XI/2008/6. Food and Agriculture Organization of the United Nations. Rome, Italy. p.3.

standard shipping. In its latest annual report it noted that "some have expected that port State control would not be necessary anymore." In fact, some 26 years after its establishment detentions following port State inspections are on the rise:[202]

Year	Inspections	Detentions	%
2005	21,302	944	4.43
2006	21,566	1,174	5.44
2007	22,877	1,250	5.46

Adapted from: Paris MoU *Annual Report 2007* Statistical Annexes.

This is partly explained by the rapidly ageing nature of the world's shipping fleet. However, it does suggest that full implementation and ongoing vigilance are going to be crucially important if the draft Port State Measures Agreement is to achieve widespread and meaningful disruption of IUU fishing operations. Secondly, even if the draft Port State Measures Agreement (and its atomized national, regional and subregional implementation regimes) succeeds in preventing and deterring IUU fishing, the treaty does nothing to address grossly unsustainable, but still legal, fishing. This must be dealt with on three other currently underperforming fronts: by flag States more stringently regulating the licencing and fishing activities of vessels flying their flag; by national governments better regulating their fishers; and by wholesalers and consumers more carefully calibrating the environmental and sustainability issues behind their insatiable demand for seafood.

Regardless of how the treaty is implemented regionally after its adoption, it is submitted that there are tremendous disadvantages to adopting the draft Port State Measures Agreement under the auspices of FAO. While FAO has coordinated, organized funding for, and generally spearheaded the legally-binding port State treaty project, its main skill is in information analysis and regional training. It is not in administering treaties. The Compliance Agreement has not been a success and implementation of the four FAO International Plans of Action is relatively poor.[203] In addition, FAO's constitution makes full implementation close to impossible to achieve. The first reason for this is that the treaty-adoption process within FAO is time and labour-intensive. After the fine-tuning on the Agreement's draft clauses produces a final text (probably in 2009) it must wait until the 2011 COFI session for endorsement. After this, it goes to the FAO Governing Bodies – which have a right of veto – for approval.[204] Only then can adoption and ratification begin. Later reviews of the treaty will be similarly cumbersome.

Aside from these process-oriented issues, a tremendously important political problem is that of Chinese Taipei. The 1995 Fish Stocks Agreement introduced the concept of "fishing entities" with Chinese Taipei in mind.[205] However, Chinese Taipei remains outside of the UN system. It is invited to FAO meetings but it is not a member of FAO. FAO is a body under the UN, which does not recognize Chinese Taipei. It may

[202] Paris MoU. 2007. *Annual Report*. p.4. Reasons include the increased demand for tonnage and the difficulties of finding quality seafarers are factors in this – factors well outside the control of the regime and, thanks to globalization's rapid and constant seagoing distribution of the world's goods, only bound to increase. The collective ageing of the global fleet will also be a factor here.

[203] The International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries, the International Plan of Action for the Management of Fishing Capacity and the International Plan of Action for the Conservation and Management of Sharks were adopted under the auspices of the FAO in 1999.

[204] FAO. 2008. Above, n.104. p.19.

[205] Hu, Nien-Tsu Alfred. 2006. "Introduction to the Special Issue." *Ocean Development and International Law*. Vol. 37. p.113.

not be able to become a signatory to the Port State Measures Agreement if and when that Agreement is adopted because at this stage the treaty is being negotiated under FAO auspices. Under Article 1(f) of the February 2009 draft of the draft Port State Measures Agreement, "Party" means "a State or regional economic integration organization that has consented to be bound by this Agreement and for which this Agreement is in force." The only mention of "fishing entities" is found within the definition of IUU fishing. Tsamenyi has argued that "fishing entities" are new subjects in international law and, as such, share the same rights and responsibilities of States.[206] As one of the world's chief fishing fleets and a major port State in itself, Chinese Taipei must be a part of any global port State control regime. Thus, the drafting of the Port State Measures Agreement furnishes a timely reminder that the United Nations' "one China" policy continues to hinder the achievement of global coverage of fisheries agreements that are connected to the United Nations system.

Conclusion

Despite the challenges outlined in this paper, it is submitted that the draft Port State Measures Agreement should be adopted by the international community, and in a way that is not too great a downward compromise from its current draft form. Attempting to create a legitimate global port State regime and universal, cooperative and harmonized inspection procedures among 130+ individual States through soft law (the FAO Model Scheme and the IPOA-IUU) and biennial meetings of COFI was fraught by the multitude of ways it had to fail.

The hard law represented by the draft Port State Measures Agreement therefore remains a decisive step in the continuing development of international deterrents to engage in IUU fishing. The Agreement supplies minimum standards in legally-binding Convention form. It obliges flag States to participate in port State actions. It further legitimatizes the proposed FAO Comprehensive Global Record of Fishing Vessels project. It raises the cost to operators of engaging in IUU fishing. It enhances the enforcement value of market-related measures. It will also raise awareness and impact the development of State practice and customary international law. It will underlie the formulation of stronger domestic laws, encourage adherence to a universal minimum by States and assist the process of challenging States which fail to comply. In these many ways, it is submitted that the draft Port State Measures Agreement will significantly contribute to global efforts to combat IUU fishing if it is not subjected to major substantive compromises during this year's drafting efforts.

[206] Tsamenyi, Martin. 2006. "The legal substance and status of fishing entities in international law: A note." *Ocean Development and International Law*. Vol. 37. p.130.

Chapter 8 – Supporting Fisheries Laws with Trade and Market-related Measures

Introduction

It has been seen in the previous two chapters that, if adopted, the draft Port State Measures Agreement and the Global Record could significantly enhance efforts to eliminate IUU fishing. They could support the enhanced management of fisheries in general, and bolster the effectiveness of conservation and management measures that are agreed regionally and internationally. It will be recalled, however, that in order for these instruments to do so the most powerful factor in the equation – the market – will need to be more effectively exploited.

Two broad categories of market-related tools exist: a) those implemented by States in the form of trade restrictions and border controls; and b) those private schemes that certify fish as having been caught legally. Both categories have as their primary purpose the prevention of illegal fisheries products being sold. It is self-evident that to deny access to the market-place and consumers is to deny profit. It is believed that doing so will force those operators who engage in IUU fishing to abandon what would become a loss-making trade. As the Australian delegate to the 2008 meeting of the CCAMLR Commission said, "we need to send IUU fishers broke."[1] The market approach cannot assume governance over fisheries, nor is it able to act alone without the monitoring, control and surveillance tools described throughout this dissertation. But it is believed to be a vital adjunct factor that brings a unique set of tools to the suite currently employed by the international community to combat IUU fishing. It is also believed to be an effective and cost-efficient way of enforcing international fisheries rules. This chapter will therefore explore public and private market-related instruments. It will look at States' use of such measures to try and protect the environment and enforce their own national standards in an international setting. It will also examine various private initiatives. This discussion will focus on the Marine Stewardship Council, the most advanced of these initiatives. This chapter will evaluate whether these market-related measures can be effectively deployed to arrest the profits of IUU fishers and support the draft Port State Measures Agreement and the Global Record.

Trade and market-related measures in fisheries

It has been noted that traditional lines of control in fisheries, like flag State jurisdiction and international agreements, have been routinely ignored and circumvented.[2] The subsequent continued deterioration of world fisheries has led to consistent calls for the implementation of "market-based instruments" or "trade-related measures."[3] Such measures are, to a large extent, reliant on information drawn from other sources. These include port State inspection and monitoring, control and surveillance data as well as information available within the RFMO system.

---

[1] CCAMLR. 21 November 2008. *Draft Report of the Twenty-Seventh Meeting of the Commission.* Hobart, Australia, 27 October to 7 November 2008. It should be noted this information is taken from *a preliminary version* of the CCAMLR-XXVII Report, which was adopted on Friday 7 November 2008. p.73.

[2] Agnew, David J. 2000. "The Illegal and Unregulated Fishery for Toothfish in the Southern Ocean and the CCAMLR catch documentation scheme." *Marine Policy.* Vol. 24. p.368.

[3] It should be noted that these terms are not used consistently in the literature and are often conflated. This definitional flexibility does not seem to have affected their use or promise.

Using the broadest definition, trade and market-related measures available in fisheries (and typically enacted through RFMOs) include:

- Vessel monitoring systems;
- Vessel lists;
- Restricting access to goods and services at port and in the home territory (e.g. insurance, logistics and supply);
- Requiring specified documentation on catches from all vessels, as a condition of landing or transshipments (trade and catch documentation systems);
- Prohibiting landings and transshipments (to RFMO parties) from particular vessels;
- Enacting trade-restricting measures and import bans.[4]

Focused discussions encouraging the wider use market-related measures to support fisheries instruments have occurred in virtually all high-level meetings regarding IUU fishing for the better part of a decade. One of the principle objectives of the Code of Conduct was to "promote the trade of fish and fishery products in conformity with relevant international rules and avoid the use of measures that constitute hidden barriers to such trade."[5] More comprehensively, the 2001 IPOA-IUU calls on States to "cooperate, including through relevant global and regional fisheries management organizations, to adopt appropriate multilaterally agreed market-related measures, consistent with the WTO, that may be necessary to prevent, deter and eliminate IUU fishing for specific fish stocks or species."[6] Under the IPOA-IUU, trade and market-related measures are to be agreed multilaterally and used cautiously; that is, only in "exceptional circumstances, where other measures have proven unsuccessful to prevent, deter and eliminate IUU fishing, and only after prior consultation with interested States."[7] All States are encouraged to prevent fish that has been caught by RFMO IUU-listed vessels from being traded or imported into their territories.[8] The IPOA-IUU highlights making "importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers, other services suppliers and the public" aware of the effects of IUU fishing. When individuals and businesses deal with IUU fishing operations, they are supporting and encouraging them. The IPOA-IUU envisages that stock or species-specific measures may be necessary in order to eliminate the economic incentive that exists for IUU fishers in those fisheries.[9] It calls for the adoption of multilateral catch documentation and certification requirements, as well as import and export controls.[10] Increased information exchange is clearly important for the effective and widespread

---

[4] Roheim, Cathy A., and Sutinen, Jon G. March 8, 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices.* Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force. p.10.

[5] Article 2(h). The Code of Conduct encourages states to develop international standards for trade in fish that are in accordance with WTO provisions regarding non-discrimination between States (Articles 6.14, 11.2); cooperate in the development and implementation of such measures (Article 11.2.11); improve traceability (Article 11.1.11); adhere to international standards regarding trade in fish (Article 11.2.11); and harmonize with internationally recognized standards (Article 11.3.6).

[6] Paragraph 68. IPOA-IUU.

[7] Paragraph 66. IPOA-IUU.

[8] Paragraph 66. IPOA-IUU.

[9] Paragraph 70. IPOA-IUU.

[10] Paragraph 69. IPOA-IUU. In addition and to the extent possible, the requirements under the envisaged catch documentation and trade documentation schemes (broadly modeled on the existing CCAMLR and ICCAT ones) should be standardized, "and electronic schemes developed where possible, to ensure their effectiveness, reduce opportunities for fraud, and avoid unnecessary burdens on trade." Paragraph 76. IPOA-IUU.

use of market-related measures. This is further reflected in the IPOA-IUU's encouragement for States to improve the transparency of their domestic markets to allow for the better traceability of fish or fish products.[11]

In 2005, the UN General Assembly first urged the implementation by States and RFMOs of the "internationally agreed market-related measures" that had been agreed in the IPOA-IUU.[12] It did so again in 2006, 2007 and 2008.[13] In June 2008 in Bremen, Germany, COFI's Sub-Committee on Responsible Fish Trade supported the adoption of trade-related measures as part of its draft guidelines for responsible fish trade. There is clear momentum among States for the greater use of trade and market-related measures. Many of these tools are already used in fisheries, especially in those managed by RFMOs. Getting States to implement trade and market-related measures on a national basis has been more difficult, in part because some are still worried about provoking a dispute that might play out within the World Trade Organisation. The next section explores these issues.

Trade-related measures and the WTO

Sand has described trade-related measures as the "second-generation" of environmental law.[14] They are imposed by States. In the context of trade policy, they have been defined by Dale as instruments that create requirements, conditions or restrictions on either imported or exported products or the *process* of their importation or exportation.[15] Measures include trade bans, notification procedures, product standards and labelling requirements.[16] They can also include the range of tariffs and duties that might be applied to imported products.[17] These may be countervailing and anti-dumping duties, or safeguard duties which attempt to correct against surges in imports that might bring with them detriment to a domestic industry.[18]

Most importantly for this dissertation, States can impose restrictions on imports. Such actions are generally circumscribed by international trade agreements, but there are exceptions to these restrictions. Charnovitz notes that "the first multilateral trade treaty", the 1927 International Convention for the Abolition of Import and Export Prohibitions and Restrictions, prohibited most trade bans under Article 4. However, it

[11] Paragraph 71. IPOA-IUU.
[12] A/RES/60/31.
[13] A/RES/61/105, A/RES/62/177, A/RES/63/112, respectively.
[14] Sand, Peter H. 2006. "Labelling Genetically Modified Food: The Right to Know." *Review of European Community & International Environmental Law*. Vol. 15. No. 2. p.185. Environmental labelling and eco-labelling comprise the "third generation" of international law. This n. p.185.
[15] Dale, Andrew. 1998. *Trade Measures in Multilateral Environmental Agreements: Synthesis Report of Three Case Studies*. Paris, France. OECD document COM/ENV/TD(98)127. Joint Session of Trade and Environment Experts. 12 November 1998. p.10. Cited in Schwartz, Risa. 2000. "Trade Measures Pursuant to Multilateral Environmental Agreements: Developments from Singapore to Seattle." *Review of European Community & International Environmental Law*. Vol. 9. No. 1. p.64.
[16] Dale. 1998. Above, n.15. p.10.
[17] Gallic and Cox have noted that: "Applying higher tariffs to fish products originating from countries supporting IUU fishing would increase the final price of IUU fish catches to a level considered as unattractive by consumers." Gallic, Bertrand and Cox, Anthony. 2006. "An economic analysis of illegal, unreported and unregulated (IUU) fishing: key drivers and possible solutions." *Marine Policy*. Vol. 30. p.692.
[18] In Australia we have only applied safeguard duty once, and this was regarding pork products. Personal communication with Amanda Gorely, DFAT. 22 May 2007.

did permit them in the cause of protecting endangered species.[19] The 1929 Baltic Sea Agreement[20] restricted "the landing of plaice during the annual closed season."[21] Since then, the multilateral deployment of trade restrictions has expanded to prohibit trade in certain hazardous wastes, chemicals that deplete the ozone layer, the sale and transshipment of fish caught using driftnets, and endangered species or their body parts.[22] [23]

At the same time, the General Agreement on Tariffs and Trade (GATT) and the subsequent WTO Agreement have greatly expanded free trade. The objective of doing so has been to increase the competitiveness and efficiency of trade in goods between nations. To that end, actions restricting the freest possible forms of international trade have been discouraged. Some of the more controversial cases that have come to GATT and WTO dispute settlement have involved trade measures employed to protect the environment. It is important that trade-related measures supporting international fisheries instruments be compatible with WTO rules. This sentiment is expressed every time the increased use of trade and market-related measures is called for at the international level.[24] Thus, this chapter now turns to the GATT/WTO case law in order

---

[19] Geneva, 1927. League of Nations Treaty Series 97 (1927). Charnovitz, Steve. 1995. "Regional trade agreements and the environment." *Environment*. July. Vol. 37. Iss. 6. Washington, footnote 14.

[20] Agreement Regarding The Regulation Of Plaice ('Pleuronectes Platessa') And Flounder ('Pleuronectes Flesus') Fishing In The Baltic Sea. Treaty text available at: International Environmental Agreements Database Project. Copyright Ronald B. Mitchell, University of Oregon. IEA Database Project. 2002-2007. http://iea.uoregon.edu. Accessed 1 June 2008.

[21] Charnovitz. 1995. Above, n.19. p.42.

[22] Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, The Vienna Convention and Montreal Protocol on Substances that Deplete the Ozone Layer, The Wellington Driftnet Convention of 1989 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, respectively.

[23] Australia (a member of the WTO-CTE) has identified six MEAs that contain "specific trade obligations" or trade measures: CITES; the Montreal Protocol; the Basel Convention; Cartegena Protocol on Biosafety Protocol to the Convention on Biological Diversity; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; Stockholm Convention on Persistent Organic Pollutants. See: TN/TE/W/72. 3 May 2007. Committee on Trade and Environment, Special Session. "Proposal for an Outcome on Trade and Environment Concerning Paragraph 31(i) of The Doha Ministerial Declaration - Submission from Australia." The WTO's 2007 matrix of MEAs containing trade measures contains fourteen international instruments: International Plant Protection Convention; International Convention for the Conservation of Atlantic Tunas; Convention on International Trade in Endangered Species of Wild Fauna and Flora; Convention on the Conservation of Antarctic Marine Living Resources; Montreal Protocol on Substances that Deplete the Ozone Layer; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal Convention on Biological Diversity; Cartagena Protocol on Biosafety; United Nations Framework Convention on Climate Change; Kyoto Protocol; International Tropical Timber Agreement; UN Fish Stocks Agreement; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; Stockholm Convention on Persistent Organic Pollutants. See: WTO. WT/CTE/W/160/Rev.4. TN/TE/S/5/Rev.2. 14 March 2007. http://www.wto.org/english/tratop_e/envir_e/envir_neg_mea_e.htm. Roheim and Sutinen make the point that the MEAs matrix does not more broadly contain RFMOs which "contain what are considered trade measures by the WTO" – namely the IOTC and the CCSBT. The authors were "unable to find any documents that specific why there exists this distinction between the RFMOs." Roheim and Sutinen. 2006. Above, n.4. p.25.

[24] The statements are usually expressed in roughly the following way. This paragraph is from the 2008 UN General Assembly Resolution A/RES/63/112: "The General Assembly... urges States, individually and through regional fisheries management organizations and arrangements, to adopt and implement internationally agreed market-related measures in accordance with international law, including principles, rights and obligations established in World Trade Organization agreements, as called for in the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing."

to determine what freedoms States have to restrict imports in the face of environmental harm, such as that posed by IUU fishing.

When a case comes before a WTO dispute settlement panel, it must be ascertained whether market access has been eroded by a State's environmental protection measure. It must then be determined whether violating the core non-discrimination principles of the WTO system can be justified. The first of these two non-discrimination principles is the Most Favoured Nation principle, which says that States cannot discriminate between goods that come from different countries. This principle holds that all countries must receive the same tariff or treatment for the same good.[25] The second principle is the requirement for National Treatment. This says that a country cannot discriminate between products that are produced domestically and those that are imported.[26] Relevant jurisprudence comes via the GATT cases: United States – Canadian tuna (1982); Canada – Salmon and Herring (1988); Thailand – Cigarettes (1990); United States – Tuna (Mexico) (1991); United States – Tuna (EEC) (1994); United States – Automobiles (1994); and the WTO cases: United States – Gasoline (1996); United States – Shrimp; European Communities – Asbestos; United States – Shrimp (Article 21.5); Brazil – Retreaded Tires (2007).[27]

When a WTO member violates the rule of non-discrimination by discriminating between products on the basis of the way they are produced or processed,[28] it should, in general terms, be 'necessary.'[29] It should also fall under one or more of the so-called

---

[25] All parties to the WTO have Most Favoured Nation status. See: Speech by former Director-General Renato Ruggiero. 26 February 1998. "From Vision To Reality: The Multilateral Trading System At Fifty." Address to the Brookings Institution and the World Affairs Council Forum – *The Global Trading System – A GATT 50th Anniversary Forum.* San Jose, California.
http://www.wto.org/english/news_e/sprr_e/sanjos_e.htm. Accessed 24 May 2008.

[26] The WTO Agreement does explicitly allow violation of the two core non-discrimination principles on one very specific ground: Article XX(e) allows extrajurisdictional trade measures to be applied against goods made using prison labour. Brack, Duncan. 1995. "Balancing trade and the environment." *International Affairs.* Vol. 71. No. 3. Ethics, the Environment and the Changing International Legal Order. July 1995. p.506.

[27] It should be noted that under the WTO Agreement, cases brought to dispute settlement must be accepted (adopted) by the parties to the dispute. This compares with the GATT, where adoption was not mandatory, indeed, three GATT cases involving the United States (United States – Tuna (Mexico); United States – Tuna (EEC) and; United States – Automobiles) were not adopted.

[28] These are known as 'process and production methods', often referred to as 'PPMs.'

[29] Brack notes that other GATT agreements *do* allow importing states to discriminate against products on the basis of how they are produced – if they are produced using excessive subsidies (the Agreement on Subsidies and Countervailing Measures) or misappropriated intellectual property (the TRIPS Agreement). Brack. 1995. Above, n.26. p.506. It should also be noted that Article XX(g) cases have been interpreted (since US – Salmon and Herring 1988) to favour the specific targetting of a policy goal. The WTO Committee on Trade and Environment Secretariat notes that instead of strictly being 'necessary', a trade measure must "be *primarily aimed at* the conservation of an exhaustible natural resource to be considered as "relating to" conservation within the meaning of Article XX(g)." (Emphasis added). In the US – EEC tuna dispute, the panel decided that "measures taken so as to force other countries to change their policies, and that were effective only if such changes occurred, could not be primarily aimed at either the conservation of an exhaustible natural resource, or at rendering effective restrictions on domestic production or consumption..." The US – Gasoline Appellate Body clarified it further, noting that a "substantial relationship" must exist between the measure and the intended conservation outcome. It should be noted that the phrase "primarily aimed at" was not the language in the actual Agreement, and therefore, the CTE notes, should not be seen as a "simple litmus test", that is, "[i]t does not seem reasonable to suppose that the WTO Members intended to require, in respect of each and every category, the same kind or degree of connection or relationship between the measure... and the state interest or policy..." Thus, in the US – Shrimp case the panel had to "examine the relationship between the general structure and design of the measure... and the policy goal [of conserving] sea turtles" by looking at the

"exceptions" to the principles of Most Favoured Nation and National Treatment.[30] These exist within Article XX of the GATT, and are known as "General Exceptions." As Thomas observes, they allow States "to take trade-restrictive measures that would otherwise violate GATT/WTO rules, when those measures fulfill specified social objectives".[31] While the word "environment" is not used in Article XX,[32] actions can be taken by States to protect human, animal or plant health and to protect natural resources.[33] Because of their importance to this discussion, the relevant portions of Article XX are as follows. The Article begins with the headnote or chapeau:

> Article XX. Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures:
>
> (b) necessary to protect human, animal or plant life or health;
>
> (g) relating to the conservation of exhaustible natural resources[34] if such measures are made effective in conjunction with restrictions on domestic production or consumption.[35]

---

scope of the measure and its ability to achieve the protection of the marine mammals. WTO-CTE. *GATT/WTO Dispute Settlement Practice Relating to GATT Article XX, Paragraphs (b), (d) and (g): Note by the Secretariat.* WT/CTE/W/203. 8 March 2002 revision. p.16-18.

[30] The necessity test relates to Article XX(b) and (d). Under Article XX(g) the pertinent tests are formed by the phrase "relating to" and also "in conjunction with restrictions on domestic production or consumption" – the 'even-handedness' test.

[31] Thomas, Chantal. 2002. "Trade-related Labour and Environmental Agreements?" *Journal of International Economic Law.* Vol. 5. No. 4. p.813.

[32] It should be noted that the text of Article XX of the GATT was written in 1947 – although its chapeau was written for the WTO Agreement's adoption in 1994.

[33] Article XX(b) and Article XX(g) respectively. While Article XX(d) is also important, it will not be explored in any great detail in this chapter. This subsection relates to those measures that are "necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices."

[34] While it is well established in GATT law that fish are an 'exhaustible natural resource' (in the earliest GATT Article XX cases, US – Canadian Tuna and Canada – Salmon and Herring, 1982 and 1988 respectively both parties to the disputes agreed that fish constituted an 'exhaustible natural resource.'), it has been suggested that Article XX(g) can possibly only be used by a country to protect *its own* natural resources. In US – Tuna (Mexico) the panel found that Article XX(b) did *not* cover "human, animal or plant life outside of the jurisdiction of the country taking the measure." This situation is clearly problematic in fisheries, many of the highest value and most important of which target shared, highly migratory or high seas stocks. In three GATT cases (US – Tuna (Mexico), US – Tuna (EEC) and US – Shrimp) the environmental values to be protected by US trade measures were international, highly migratory species – eastern tropical Pacific dolphins and five species of sea turtle, all of which were listed as threatened or endangered under the 1973 US Endangered Species Act (in fact *all* sea-turtle species are listed on CITES' Appendix I, indicating their universally threatened status). Reasoning in GATT panels subsequent to US – Tuna (Mexico) has indicated that there is no basis for the belief that Article XX applies only within a country's jurisdiction or territory. This was seen specifically in the US – Tuna (EEC) case. This further suggests that matters relating to the extra-territorial application of Article XX's exceptions should not be viewed as outside the GATT's jurisdiction. See the lengthy assessment at p.13 in WTO-CTE. 2002. Above, n.29. If other central issues regarding a trade measure which seeks to protect international environmental values are decided in the positive, to this author it seems highly unlikely that extra-territoriality will be problematic.

[35] It appears now to be set practice within WTO Dispute Settlement Body reports to identify and assess the case for the exception and then assess whether the chapeau's conditions are met. See: EC – Asbestos, Panel Report, as noted in WTO-CTE. 2002. Above, n.29. p.7. Further, it was decided in the US – Gasoline case that if the exception is Article XX(b) (human, plant or animal health) the *policy* which the measure was created to achieve must also be examined – generally first – after which the measure will be looked at to see if it was *necessary* to achieve that policy objective. After that the measure is examined

Fisheries disputes have provided the WTO dispute panels with much to consider. Two 1990s tuna disputes are particularly relevant to discussions about the Article XX exceptions, as are the 1998 decisions involving shrimp.[36] The former are known as the 'tuna-dolphin' disputes. As mentioned briefly in chapter seven, in 1972 the US passed the Marine Mammal Protection Act of 1972 to address the incidental deaths of dolphins by US commercial fishers in the eastern tropical Pacific yellowfin tuna fishery.[37] In this fishery, tuna was routinely caught by setting tuna purse-seine nets on dolphins. Public outrage had been growing for some time around this issue.[38] The US law prohibited this method of catching tuna and provided for embargoes on imports from countries that did not have in place comparable regulations.[39] Mexico (in 1990) and the EEC and the Netherlands (in 1992) brought cases to GATT dispute settlement.[40] In both cases it was

---

regarding the chapeau. If the exception is Article XX(g) (conservation of exhaustible natural resources – broadly considered the 'environmental' exception) the practice, as laid out in US – Shrimp (1998), is an assessment of whether the measure is "concerned with the conservation of 'exhaustible natural resources' and also whether the measure applies equally to "restrictions on domestic production or consumption" – i.e. that imported product is not treated less favourably than like domestic product.

[36] Roheim and Sutinen call both tuna-dolphin cases "landmark" cases. Roheim and Sutinen. 2006. Above, n.4. p.20.

[37] According to former US Secretary of the Interior, Bruce Babbitt, the Act "mandated the Department of Commerce to close American markets to any tuna caught by any fishing country in the world by the use of purse-seine nets..." Babbitt, Bruce. 1993. "Lecture: The future environmental agenda for the United States." *University of Colorado Law Review.* Vol. 64. No. 2. pp.520-521. The objective of the MMPA was to reduce dolphin deaths to "levels approaching zero mortality and serious injury rate." In Cheyne, I. 2000. "Law and ethics in the trade and environment debate: tuna, dolphins and turtles." *Journal of Environmental Law.* Vol. 12. No. 3. p.294. Babbitt noted that the (first) Bush Administration "stonewalled and refused to impose the embargo" until the courts forced it to. p.521.

[38] Cheyne writes: "Schools of dolphin are chased for long periods by motorboats and helicopters, and explosives are used to herd the dolphins together until they are exhausted. The dolphins and tuna are encircled by a purse seine net, and the cable at the bottom of the net is pulled together in order to form a 'purse' before the whole net is winched up." Indeed, Cheyne reports on Congressional testimony which revealed that "[i]t is probable that the same group of dolphins can be subject to high speed chasing with explosives several times in the same day. Mothers can become separated from their calves, while exhaustion and stress may cause injury, death or reduction of the ability to reproduce." (Citing testimony given by A.C. Myrick Jr., Hearing before the Subcommittee on Fisheries, Wildlife, and Oceans of the House Committee on Resources, 2nd Session, 3 June 1996). Cheyne. 2000. Above, n.37. p.294.

[39] In 1990 the US instituted an import ban against Mexico and a year later against Costa Rica, France, Italy, Japan and Panama. A year later again it placed import bans on 15 more countries. The embargo included imports of yellowfin tuna from countries which had, in turn, imported the tuna from the primary harvesters which were Mexico, Venezuela and Vanuatu. These import/exporters were Costa Rica, France, Italy, Japan and Panama. The WTO-CTE Secretariat noted that the US Act's provisions were as follows: "the importation of yellowfin tuna harvested with purse seine nets in the ETP was prohibited unless the competent US authorities established that i) the government of the harvesting country had a programme regulating takings of marine mammals that was comparable to that of the United States, and ii) the average rate of incidental taking of marine mammals by vessels of the harvesting nation was comparable [no more than 1.25 times greater dolphin mortality] to the average rate of such takings by US vessels." WTO-CTE. 2002. Above, n.29. p.34.

[40] The complaints were decided in 1991 and 1994, respectively. The "Third Parties" to the two eastern tropical Pacific tuna dispute were numerous: In the US – Mexico case Australia, Canada, Chile, Columbia, Costa Rica, the EC, India, Indonesia, Japan, South Korea, New Zealand, Nicaragua, Norway, Peru, the Philippines, Senegal, Singapore, Tanzania, Thailand, Tunisia, Venezuela were third parties. In the US – EEC case Australia, Canada, Columbia, Costa Rica, El Salvador, Japan, New Zealand, Thailand and Venezuela were third parties. For a discussion about formal participation in WTO dispute settlement, either as third/interested parties or co-complainant, see: Bown, Chad P. 2005. "Participation in WTO dispute settlement: Complainants, interested parties and free riders." *The World Bank Economic Review.* Vol 19. No. 2. pp.287-310.

found that the American import ban violated GATT non-discrimination principles.[41] The panels essentially decided that the US could not treat a can of tuna differently just because it came from a country that did not fish in a way that protected dolphins.[42] It did not pass the 'necessity' test. The panel believed that "measures less trade-restrictive than a trade embargo were available to the US to pursue its objectives."[43] The unilateralism of the measure was also very much at issue.[44] Brack observes that:

> to accept the US case would be to agree that each GATT member 'could unilaterally determine the life or health protection policies from which other contracting parties could not deviate without jeopardizing their rights under the [GATT].' Countries could always find a production method in the exporting nation to which they could choose to object, and protectionist interests would be impossible to restrain.[45]

In the 1996 US – Gasoline case, environmental protection sensibilities within the WTO inched forward, even as the US again lost the case. Brazil and Venezuela, both major gasoline exporting States, challenged the US EPA's Gasoline Rule. The Gasoline Rule was an implementing regulation for the US Clean Air Act. Its purpose was the stabilization of the level of air pollution in the United States.[46] It did this by permitting:

> only gasoline of a specified cleanliness ("reformulated gasoline") to be sold to consumers in the most polluted areas of the country. In the rest of the country, only gasoline no dirtier than that sold in the base year of 1990 ("conventional gasoline") could be sold.[47]

The case turned on whether or not the US measure discriminated against imported gasoline, favouring domestic refineries.[48] Brazil and Venezuela argued it violated the

---

[41] Because the case was decided under GATT rules, not WTO rules, the US could block adoption of the decision.

[42] Brack notes that "a country cannot discriminate against imports on the basis of the way in which they are produced in other countries" that is, on the basis of PPMs. Brack. 1995. Above, n.26. p.505.

[43] Brack. 1995. Above, n.26. p.502. This (and the later tuna-dolphin decision brought by the EEC) led the US to pursue a more sophisticated response to the problem. This is, in all likelihood, the result that the GATT panel would have hoped for. Cheyne observes that US tuna fishers worked to improve their techniques such that dolphin mortality in those fleets dropped from 368,600 in 1972 to 5,083 in 1990 and were close to zero by 1995-96. Cheyne. 2000. Above, n.37. p.295-296, citing Buck. 1997. Cheyne does note that the alternative methods used in place of dolphin setting, namely setting on logs and debris floating above the tuna or setting on the schooling tuna itself also created enormous by-catch problems – including sharks, sea turtles and immature tuna. Some of the species of by-catch were already endangered. Harvesting large numbers of immature tuna meant that the tuna stocks themselves were also threatened. Seeking multilateral application of more targetted fishing techniques, an Agreement for the Reduction of Dolphin Mortality in the Eastern Pacific Ocean was struck at La Jolla, California, in 1992. This created the International Dolphin Conservation Programme, a voluntary international regime with Colombia, Costa Rica, Ecuador, Mexico, Nicaragua, Panama, Spain, US, Vanuatu and Venezuela as members. Cheyne p.295. In order to allow foreign tuna fishers to meet the dolphin-safe standard that was created as market-based enforcement of the new rules, it was (rather controversially) watered down. It allowed tuna setting on dolphins so long as it did not entail any observed dolphin deaths *in that set*. Cheyne notes that there were concerns that countries would withdraw from the agreement without this change. Cheyne p.295. In 1997 the US passed the International Dolphin Conservation Program Act of 1997 which removed the import bans against those states that were now in compliance with the new methods.

[44] Brack notes that the GATT panel "seemed unaware that the US had been attempting to negotiate an international agreement on the protection of dolphins from unsafe fishing practices since 1972." Brack. 1995. Above, n.26. p.504.

[45] Brack. 1995. Above, n.26. p.502.

[46] *US – Gasoline*, Appellate Body Report, *DSR 1996*, p.18.

[47] See: WTO. Venezuela, Brazil vs. US: Gasoline. http://www.wto.org/english/tratop_e/envir_e/edis07_e.htm. Accessed 6 May 2009.

core non-discrimination clause of National Treatment. The appellate panel declared the US policy goal of clean air legitimate. But the measure itself was considered poorly designed: It found that the method of calculation for the Gasoline Rule effectively favoured domestic US gasoline suppliers.[49] Restrictions on *domestic consumption* as well as on the importation of gasoline would have provided the "even-handedness" the dispute panel sought.[50]

The 1998 US – Shrimp case positively affirmed the ability of States to enact trade-restricting measures on environmental grounds. However, the WTO panel again disagreed with the way the US had gone about achieving its policy goal of protecting marine creatures. In 1989, the US had placed import bans on shrimp from countries in which turtle excluding devices (TEDs) were not used by commercial harvesters of shrimp operating within the range of migrating sea-turtles.[51] Embargoes were to begin in 1991.[52] This was to be followed by a three year phase-in during which those countries were to refit their boats with TEDs.[53] India, Malaysia, Pakistan and Thailand took the case to dispute settlement under the WTO.[54] Although the US lost the case again, the panel decided that, in principle, the US *could* justify the unilateral import restriction.[55] The US measure was also considered even-handed: The US had also enacted "restrictions on domestic harvesting of shrimp" which were both aimed at, and able to achieve, the Stated policy aim of sea-turtle conservation.[56] However, *the application* of the US trade measure had not included a serious effort to negotiate with other States regarding the achievement of the policy goal of protecting sea-turtles.[57] In

---

[48] See: WTO. Venezuela, Brazil vs. US: Gasoline. http://www.wto.org/english/tratop_e/envir_e/edis07_e.htm. Accessed 6 May 2009.

[49] WTO-CTE. 2002. Above, n.29. p.39.

[50] At p.19, Appellate Body Report.

[51] All species of sea turtles are threatened or endangered. In 1989 the US government passed US Public Law 101-162, Section 609. As Stewart notes, this law was an amendment to the US Endangered Species Act of 1987, which was itself an amendment to the Endangered Species Act of 1973 – the law that implements the US's obligations under 1973's CITES. Stewart, Taimoon. 1998. "The United States embargo on shrimp imports: Legal and economic considerations." Policy Options. *Environment and Development Economics*. Vol. 3. Cambridge University Press. p.198. US Public Law 101-162, Section 609, *inter alia*, "prohibited the US from importing shrimp from any country which lacked a domestic turtle protection programme comparable to the programme existing in the US. The intent of the legislation was to prevent the death of sea turtles caught in shrimp trawl nets." Stewart, p.198, citing US Embassy, 1996.

[52] The US ban affected more than 30 countries; China and India the most, according to Stewart, as they supplied 70-80% of wild harvested shrimp. Stewart. 1998. Above, n.51. p.199.

[53] According to Stewart, the three year phase-in was to begin in 1991. Commitment to the phase-in of TEDs had to be demonstrated by 1992. Evidence of significant usage in shrimping vessels had to be shown the following year and all vessels were to have TEDs by 1 May 1994. Stewart. 1998. Above, n.51. p.199.

[54] Third party participants for the panel case were: Australia, Colombia, Costa Rica, El Salvador, the EC, Guatemala, Hong Kong, Japan, Mexico, Nigeria, the Philippines, Senegal, Singapore, Sri Lanka and Venezuela. Third participants for the Appellate body were: Australia, Ecuador, the EC, Hong Kong, Mexico and Nigeria.

[55] Under Article XX(g).

[56] Paragraph 143, Appellate Body Report.

[57] The Appellate Body concluded that while it had sought engagement of the issue with some states, it had not with other relevant states (including the two countries bringing the case before the WTO). A later US – Shrimp case (referred to as US – Shrimp (Article 21.5), with Malaysia as the complainant) references Article 21.5 of the Understanding on Rules and Procedures Governing the Settlement of Disputes, which covers the measures or procedures taken to comply with an earlier ruling. Under this decision, the US was required to negotiate "with the appellees, having already negotiated with other harvesting countries (Caribbean and West Atlantic countries)" and with "all interested parties... aimed at establishing

addition, the certification process did not pay sufficient heed to "the different situations in different [exporting] countries."[58] Still, as Weinstein and Charnovitz note, the United States had only to change "its procedures, not its law, to bring itself into compliance."[59]

The US revised its procedures to be more flexible. They contained negotiated criteria for shrimp imports. When, in 2000, Malaysia challenged the revised US procedures the WTO panel accepted the United States' case.[60] The dispute panel members even took pains to note that "sustainable development is one of the objectives of the WTO agreement."[61]

The embrace of environmental exceptions was further progressed by the EC – Brazil dispute over retreaded tyres. In January 2006 the European Commission launched a WTO challenge to a ban by Brazil on the import of retreaded tyres. This ban was based on environmental and human health grounds: Firstly, the disposal of used tyres is exceptionally difficult, and Brazil already had significant tyre-disposal problems. Secondly, improperly disposed tyres hold water in which disease-carrying insects lay their eggs. This raised health risks and their associated costs to the Brazilian population.[62] The Panel and the Appellate Body found that the import ban was "necessary" within the meaning of Article XX(b). In addition, Brazil had:

> "weighed and balanced" the contribution of the Import Ban to its stated objective, against its trade restrictiveness, taking into account the importance of the underlying interests or values. The Panel correctly held that none of the less trade-restrictive alternatives suggested by the European Communities constituted "reasonably available" alternatives to the Import Ban.[63]

---

consensual means of protection and conservation of endangered sea turtles." See: WTO-CTE. 2002. Above, n.29. p.24.

[58] According to the US – Shrimp (Article 21.5), Panel Report, the US law had "imposed a single, rigid and unbending requirement that countries applying for certification adopt a comprehensive regulatory programme that is essentially the same as the United States' programme." Further, this program did not sufficiently address the differing conditions within the exporting countries. WTO-CTE. 2002. Above, n.29. p.24-25. It should be noted that these latter two criteria relate to meeting the tests within the chapeau of Article XX, those charged with ensuring that the application of a measure is neither arbitrary or unjustifiable.

[59] Weinstein, Michael M., and Charnovitz, Steve. 2001. "The Greening of the WTO." *Foreign Affairs.* Nov/Dec. Vol. 80. No. 6. New York. p.152.

[60] The Revised Guidelines for the Implementation of Section 609 of Public Law 101-162 Relating to the Protection of Sea Turtles in Shrimp Trawl Fishing Operations. The new US procedures placed more emphasis on the *outcome* of the individual country's regulatory program, i.e. sea-turtle conservation, rather than the "certain methods or standards" it had earlier imposed as a condition of certification (namely the use of TEDs). See: US – Shrimp (Article 21.5) Panel Report, paragraphs 5.122-5.124. In part the decision turned on whether the US had an obligation to *negotiate* a bilateral or multilateral outcome or *negotiate and conclude* a bilateral or multilateral outcome.

[61] Weinstein and Charnovitz. 2001. Above, n.59. p.152. Weinstein and Charnovitz observe that "that stance is light-years ahead of the tuna-dolphin ruling" a decade earlier. While trade restrictions based on PPMs have certainly not been *endorsed* by the WTO, there is clearly some softness here.

[62] In a July 2006 statement to the WTO-CTE, Brazil argued that "any country lacking capacity to deal adequately with the environmental and health consequences of this kind of undesirable commerce shall have fully recognized their rights to impede it. In fact, Article XX of GATT 1994 already shelters WTO Members from certain trade practices which represent a menace to human, animal or plant life or health. Based on the exception provided for by Article XX of GATT 1994, many WTO Members – especially developing countries – have adopted restrictive measures as a way to prevent imports of shorter lifespan products, thus avoiding premature generation of wastes in their territories." Center for International Environmental Law. *The Brazil – Retreaded tires case.* Background paper – March 2006. http://www.ciel.org/Publications/Brazil_Tires_3Apr06.pdf. Accessed 24 November 2008.

[63] http://www.wto.org/english/tratop_e/dispu_e/cases_e/1pagesum_e/ds332sum_e.pdf. Accessed 24 November 2008.

When it came to the chapeau, however, the Appellate Body reversed part of the Panel's ruling. The chapeau held that, even if justifiable under the relevant subsections, trade-restrictive measures could not be "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade."[64] Brazil had instituted exemptions to the import ban which allowed retreaded tyres to be imported from Mercosur States, Argentina, Brazil, Paraguay and Uruguay.[65] The Appellate Body found that this violated the chapeau. The tyre imports from Mercosur States were held to result in volumes of import tyres that would undermine the achievement of the objective of the import ban. In this way, the chapeau has been considered by some to carry a heavier burden of proof than the exceptions themselves.[66] As far as the Appellate Body was concerned, Article XX's chapeau meant that "...Members have a *legal right* to invoke the exceptions of Article XX, [but] they should not be so *applied* as to lead to an abuse or misuse (emphasis in original).[67] The Brazilian import ban was struck down.[68] This, and the US – Gasoline case, made it clear that a ban that could be justified on human health and environmental grounds could still be unjustifiably discriminatory if the manner in which it was *instituted* was not even-handed.

This brief discussion of the GATT/WTO Article XX cases shows that the imposition of trade-related measures to achieve an environmental aim can be justified and legitimate under the WTO Agreement. The WTO's primary concern is that the measure be the least trade-restrictive option *available to achieve that end*, and that alternatives have

---

[64] Paragraph 149, US – Shrimp (1998), Appellate Body Report. The US – Shrimp case continued the development of the chapeau's meaning. It considered the chapeau an "expression of the principle of good faith" – that meeting it means the measure at issue was not designed as a protectionist measure in disguise ("avoiding abuse or illegitimate use of the exceptions" as interpreted in US – Gasoline) and does not reduce or distort other parties' rights under the WTO. See: Paragraph 158 and 159. WTO-CTE analysis (and dispute panel decisions, especially the US – Shrimp decision which helped delineate the standard) have identified the issues to be answered when assessing a measure's compliance with the Article XX chapeau: a) whether the *application* of the measure is a means of unjustifiable discrimination between countries where the same conditions prevail, b) whether the *application* of the measure it is a means of arbitrary discrimination between countries where the same conditions prevail and c) whether it is a *disguised* restriction on international trade. (emphasis added.) See: WTO-CTE. 2002. Above, n.29. p.22.

[65] This is the South American regional trading bloc/common market created by Argentina, Brazil, Paraguay and Uruguay in 1991 (in force from December 31, 1994). Mercosur is a shortening of the bloc's real name "Mercado Comun del Sur." Its Secretariat is accessible at: http://www.mercosur.int/msweb/portal%20intermediario/es/index.htm (in Spanish and Portuguese)

[66] In US-Gasoline (1996), the Appellate Body found that: "The burden of demonstrating that a measure provisionally justified as being within one of the exceptions set out in the individual paragraphs of Article XX does not, in its application, constitute abuse of such exception under the chapeau, rest on the party involving the exception. That is, of necessity, a heavier task than that involved in showing that an exception...encompasses the measure at issue." WTO-CTE. 2002. Above, n.29. p.21.

[67] WTO-CTE. 2002. Above, n.29. p.40, citing the Appellate Body in US – Gasoline (1996).

[68] On 29 August 2008 the arbitration report was circulated, regarding its implementation of the WTO dispute body's decision. Article 21.3(c) states that "the reasonable period of time to implement panel or Appellate Body recommendations should not exceed 15 months from the date of adoption of a panel or Appellate Body report" – Brazil was asking for 21 months. The arbitration report reveals the ways in which Brazil was seeking to implement the decision: "Brazil proposes to implement the DSB's recommendations and rulings in this dispute by taking the following steps. First, Brazil states that it would "halt imports of used tyres through court injunctions"... Secondly, Brazil argues that it was necessary to "establish new regulatory disciplines for used and retreaded tyres within MERCOSUR"... Thirdly, Brazil would "declare the unconstitutionality of state measures that purport to regulate imports of retreaded tyres". See: Brazil – Measures Affecting Imports of Retreaded Tyres. ARB-2008-2/23. Arbitration under Article 21.3(c) of the Understanding on Rules and Procedures Governing the Settlement of Disputes. http://www.wto.org/english/tratop_e/dispu_e/332_16_e.pdf. Accessed 24 November 2008.

been exhausted. Taken together, the foregoing discussion suggests that what must be assessed by policy makers when considering fisheries-related trade-related measures is whether the erosion of market access created by the measure is a) justified; b) necessary; c) *able* to achieve the policy and d) the least trade-restrictive option available to do so.[69] The WTO jurisprudence is not precedent-setting. Neither does it trace a neat line for States to follow when developing WTO-compliant trade-related environmental measures.[70] It is, like all case law, evolutionary, interpretive, and for the most part merely persuasive. However, it is submitted that the cases examined above indicate that the WTO is not hostile to the imposition of trade restrictions to protect the environment or natural resources.[71] This opens the door for the more aggressive use by States of their power to restrict trade. They can prohibit the importation of IUU fish. This process is already underway in some States and will shortly be in place across the whole EU region. This is one way that the international community can begin to "send IUU fishers broke."

Using trade controls to support international fisheries agreements

Trade sanctions are generally considered crude, blunt tools, poorly suited "to the subtleties of environmental policymaking."[72] It was seen above that the US import bans over shrimp were struck down by the WTO dispute settlement panel in the US – Shrimp case. This was in part because it was a blanket discrimination and individual boats were not able to show that they were fishing in a manner that did not undermine the protection of sea turtles. Trade sanctions create political problems and are not necessarily effective in persuading other countries – particularly developing countries – to "undertake environmentally sensitive policies."[73] States have since begun to develop smarter tools. States will still use trade restricting powers, but they will do it in a more targeted way. As part of its 2007 strategy to combat IUU fishing, in September 2008 the EU Agriculture and Fisheries Council adopted Council Regulation (EC) No 1005/2008 (EU IUU Regulation). Provisions for the use of trade-related measures targeting the *countries* that employ unsustainable measures are available under this EU IUU

---

[69] For example, in Thailand – Cigarettes (1990), Thailand blocked the importation of cigarettes on the ground that the effects on health of cigarettes imported from the West (mainly from the US) were worse than those of domestically-produced cigarettes. This was related to various chemical additives in the Western cigarettes. The panel decided that, *inter alia*, less trade-restrictive ways existed whereby Thailand could have achieved its health policy goals. These included banning cigarette advertising.

[70] Indeed, Marie-Isabelle Pellan, of the WTO-CTE notes that it is more of a "collage." Personal communication with Marie-Isabelle Pellan, WTO. 4 September 2007. The jurisprudence should be considered a broad picture of how Article XX should be applied. Patricia Holmes of the Geneva DFAT Mission notes that the "nitty-gritty has not been settled" and will continue to develop as the WTO, the actions of its members and, indeed, the state of the planet evolves. Personal communication with Patricia Holmes, DFAT Mission. 5 September 2007.

[71] Indeed, the US – Gasoline Appellate Body was at pains to state that it did not: "mean, or imply, that the ability of any WTO member to take measures to control air pollution, or, more generally, to protect the environment, is at issue. That would be to ignore the fact that Article XX of the *General Agreement* contains provisions designed to permit important state interests – including the protection of human health, as well as the conservation of exhaustible natural resources – to find expression the provisions of Article XX were not changes as a result of the Uruguay Round of Multilateral Trade Negotiations. Indeed, in the preamble to the *WTO agreement* and in the Decision on Trade and Environment... there is special acknowledgement to be found about the importance of coordinating policies on trade and the environment." As noted in WTO-CTE. 2002. Above, n.29. p.9.

[72] Weinstein and Charnovitz. 2001. Above, n.59. p.150.

[73] Weinstein and Charnovitz note that only in "a few unusual cases" will the imposition of trade sanctions ultimately play some role in creating change. Weinstein and Charnovitz. 2001. Above, n.59. p.150.

Regulation.[74] While not yet operational, it allows for the application of trade measures against non-cooperating third country States.[75] Their value is probably in the threat that they pose, more than the restrictions themselves, which may or may not be deployed in any meaningful way. But other measures target vessels, catch and operators, through the implementation of RFMO catch certification systems, port State measures and vessel lists. These are more likely to be utilized on a widespread scale than trade sanctions. They may work effectively without having to invoke trade sanctions at all. The EU's use of such measures would support the draft Port State Measures Agreement and the proposed Global Record in both their conceptual and implementation phases. The EU IUU Regulation, like the Global Record and the draft Port State Measures Agreement, would utilize the RFMO IUU vessel lists. While these have provoked heated discussions within the organizations themselves, they have been compiled for some years now without courting controversy outside the organizations.[76] Though more intricate to monitor than blanket trade restrictions (especially if the Global Record does not eventuate), this author believes such an approach would provide strong incentives for individual vessel owners operating in individual fisheries to transition from suspect practices to legal, sustainable ones. Such an approach would provide long-term security for fishers who do the right thing because they would retain their access to important markets such as the EU. The following section explores contemporary trade-related measures that employ targeted domestic trade controls.

The US Lacey Act Amendments of 1981

Under the IPOA-IUU, States are encouraged to implement domestic measures that deter individuals and companies doing business with IUU fishing operations. These measures may include domestic legislation making it unlawful to "conduct such business or to trade in fish or fish products derived from IUU fishing."[77]

Similarly, in 2005 the High Seas Task Force called on States to strengthen their domestic legislation to prevent IUU-caught fish from entering its market.[78] These are calls for States to adopt domestic laws which contain trade controls, such as the US Lacey Act Amendments of 1981 (Lacey Act).[79] The Lacey Act was discussed briefly in the previous chapter, as it has obvious synergies with the draft Port State Measures

[74] The complexity of flagging arrangements can mean that sometimes a flag state cannot control its vessels regardless of how hard it tries to. Measures which have the effect of spurring exoduses from moderately poorly performing flag states to ones with even worse standards would not be wise.

[75] Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No. 2847/93, (EC) No. 1936/2001 and (EC) No. 601/2004 and repealing Regulations (EC) No. 1093/94 and (EC) No. 1447/1999. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:286:0001:0032:EN:PDF. Accessed 1 December 2008.

[76] It remains to be seen whether this will continue once RFMO vessel lists start being the basis for trade restrictions.

[77] Paragraph 73. IPOA-IUU.

[78] High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. p.79.

[79] The original Act focused on interstate trafficking and commerce and was promulgated in 1900 "in order to supplement the laws of states within the United States which regulated the taking or possession of wildlife or birds." Ortiz, Paul A. 2005. *An overview of the US Lacey Act Amendments of 1981 and a proposal for a model port state fisheries enforcement Act.* Report prepared for the Ministerially Led Task Force on Illegal, Unreported and Unregulated Fishing on the high seas. November. p.2.

Agreement. This statute makes it a crime to import into the United States wildlife caught in violation of a foreign law or any State law.[80] This effectively criminalizes the trade in fish and fish products that were illegally harvested.[81] It applies whatever the origin of the product.[82] Sanctions available under the Lacey Act include civil law fines, forfeiture of fish and vessels, and criminal sanctions.[83] One of the Lacey Act's most high-profile cases so far involved the matter of Arnold Bengis and associates. On 6 August 2003 Arnold Bengis, a national and resident of South Africa and the United States, was indicted in New York. He was charged with trafficking and violations of the Lacey Act when importing into the US volumes of fish harvested illegally from South Africa between 1987 and 2001.[84] The violations involved the provisions of the Lacey Act which made it "unlawful for any person to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law."[85] According to the US Attorney's Office, Bengis and his associates had imported:

> harvested wildlife (rock lobster and Patagonian toothfish) into the United States in violation of foreign law. The Indictment alleges that the defendants' activities violated both South African law and international convention, including rules governing the harvesting of Patagonian toothfish (Chilean sea bass) issued by the international Commission for the Conservation of Antarctic Marine Living Resources ("CCAMLR").[86]

Bengis pleaded guilty and was sentenced to 46 months in a federal prison.[87] He forfeited USD5.9 million in fines.[88] Such a result demonstrates that national laws which make it a

---

[80] United States Attorney. 28 May 2004. Southern District of New York. US Attorney's Office. "Three seafood industry executives sentenced to federal prison in massive seafood poaching and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/May04/bengissentencingpr.pdf. Accessed 14 November 2008. Violation of a foreign or state law (or a treaty) *as well as the act of importation* are required in order for prosecutors to bring cases under the Lacey Act.

[81] This requirement – for "illegality" – means that the definitions of illegal, unreported and unregulated fishing are particularly important, a not uncontentious subject.

[82] High Seas Task Force. 2006. Above, n.78. p.30.

[83] Ortiz. 2005. Above, n.79. p.1.

[84] Ortiz notes that the Lacey Act's definitions are "exceptionally broad." One example is that of the word 'import': under 16 U.S.C. § 3371(b) of the Lacey Act, to "'import' means "to land on, bring into, or introduce into any place subject to the jurisdiction of the United States, whether or not such landing, bringing or introduction constitutes an importation within the meaning of the customs laws of the United States." This allows authorities to seize illegal catches in US ports during transshipments and allows seizures at the entry point to the US, "rather than waiting until quarantined or bonded wildlife is released and thus "imported" under customs law." Ortiz. 2005. Above, n.79. p.5.

[85] 16 U.S.C. § 3372(a)(2)(A). Another crucial provision of the Lacey Act provides that the underlying violation of a law can be a violation of a treaty or an international regulation. 16 U.S.C. § 3372(a)(1).

[86] United States Attorney. 6 August 2003. Southern District of New York. US Attorney's Office. "U.S. charges South African executive and others in massive seafood harvesting and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/August03/bengisrelease.pdf. Accessed 14 November 2008. It should be noted that RFMO measures may not be covered by the Lacey Act unless they are specifically implemented by a member state into domestic law. For example, the CCAMLR conservation measure violated by Bengis and associates (the catch documentation scheme) had been implemented into South African law, enabling the Lacey Act's use. Ortiz. 2005. Above, n.79. p.7.

[87] United States Attorney. 28 May 2004. Southern District of New York. US Attorney's Office. "Three seafood industry executives sentenced to federal prison in massive seafood poaching and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/May04/bengissentencingpr.pdf. Accessed 14 November 2008.

[88] The restitution sought by South Africa was in the order of USD39.7 – 90 million. See: Michigan State University College of Law. Animal Legal and Historical Center. "United States District Court, Southern

crime to trade in illegally-harvested fish can be effective against those that do business with – and create incentives for – IUU fishers. It is fair to say that it is now virtually impossible to import illegally-harvested toothfish into Japan and the United States. This is confirmed by the 2006 prosecution in the United States of a known trader in illegally-caught Patagonian toothfish, the Spanish national Antonio Vidal Pego. The case was United States v. Antonio Vidal Pego, *et al.* The circumstances of the crime were reported by the environmental organization Traffic, in its Bulletin Seizures and Prosecutions 1997-2008 report:

> In May 2004, Vidal and Fadilur [Vadilur], S.A., knowingly attempted to import approximately 24,000kg of toothfish from Singapore into Miami, for sale in the USA, knowing that the fish were taken and transported in violation of CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) and US law. The defendants made and submitted a false record and account for fish intended to be imported into the USA from Singapore. Finally, in July 2004, the defendants knowingly altered and made a false entry in a survey report purporting to reflect a toothfish cargo off-loaded at Singapore from the F/V CARRAN with the intent to obstruct and influence the investigation and proper administration of a matter within the jurisdiction of NOAA (National Oceanic and Atmospheric Administration).[89]

After Interpol circulated a warrant out for Vidal's arrest, he surrendered to authorities at Miami International Airport in April 2006.[90] Vidal and his Uruguayan company were charged with illegally importing Patagonian and Antarctic toothfish. Vidal pleaded guilty to obstruction of justice. He was sentenced to four years of probation and received a USD400,000 fine. The 53,000 pounds of toothfish in question were seized. It was valued at USD314,397. Vidal's Uruguayan company, Vadilur S.A., pleaded guilty to false labeling, importation of illegally possessed fish, and attempted sale of those fish – Lacey Act violations. The company received a USD100,000 fine and was ordered to dissolve its business.[91]

The US Lacey Act has also been used to prosecute operators of foreign fishing vessels that have conducted illegal fishing activities in the EEZs of other countries. It has been invoked when these vessels attempt to transship their illegally-harvested catch at US ports.[92] This so-called 'long arm jurisdiction' is exactly the sort of use of domestic controls that is envisaged by the draft Port State Measures Agreement. It will be recalled that Article 17(3)(a) of that Agreement provides that additional measures may be taken by port States if appropriate national laws and regulations exist. In the Western and Central Pacific Ocean cases, US prosecutions for violations of *international*

District of New York. United States v. Bengis." http://www.animallaw.info/cases/causfd2006wl3735654.htm. Accessed 14 November 2008.

[89] Traffic. *Bulletin Seizures and Prosecutions 1997-2008.* Vol. 16. No. 3. (March 1997) to Vol. 21 No. 3 (January 2008). pp.116-177. www.traffic.org/traffic-bulletin/traffic_bulletin_seizures_1997-2007.pdf. Accessed 13 May 2009.

[90] Bussey, Jane. Miami Herald. 25 June 2006. "Authorities concerned about Chilean sea bass reel in a fishing magnate on poaching charges." Available via the miamiherald.com Archive service.

[91] US Department of Justice. Environment & Natural Resources Division. *Financial Year 2009: Performance Budget.* Congressional Submission. www.usdoj.gov/jmd/2009justification/office/fy09-enrd-justification.doc. Accessed 13 May 2009.

[92] This is because, as seen above, "transshipping" can constitute "importation" under the Lacey Act. It has been applied to vessels landing in the Western and Central Pacific Ocean US ports of American Samoa and Guam. As Ortiz notes, the underlying violation that allows for the use of the Lacey Act is for "fishing within the exclusive economic zone (EEZ) of a foreign nation without holding a valid permit authorizing the fishing activity." Ortiz. 2005. Above, n.79. p.10. Ortiz also notes that NOAA policy is "to proceed with a Lacey Act prosecution only when the nation whose underlying law has been violated supports the prosecution." p.12.

fisheries regulations have had a "100% success rate."[93] There have been ten prosecutions in ten years. This has resulted in the collection of USD90,000 in fines and USD139,000 in forfeited catch.[94] While this number of cases and the sums of money surrendered is not remarkable, the application of domestic laws to foreign vessels in a port State setting certainly is.

It has been shown that WTO-compatibility is important when countries design trade restricting policies and measures. It is understood that Lacey-type laws should not run afoul of the WTO's core non-discrimination clauses for the following reasons. Ortiz explains:

> The Lacey Act is an internal regulation that is being applied at the border to certain prohibited items in a non-discriminatory fashion, while affording equitable treatment to the same products if taken and imported lawfully. The Lacey Act does not provide protection to any domestic product at the expense of foreign product, and in fact the law applies equally to illegally taken product imported by domestic or foreign entities.[95]

To support the draft Port State Measures Agreement and RFMO conservation and management measures, all port and market States should pass similar national laws. The US law is a useful template. US and FAO legal advisors would no doubt lend their support to any country, especially developing ones, that wished to enact such a law. Funding could be obtained under the draft Port State Measures Agreement's Article 22 'trust fund.' Such domestic laws would support each State's own fisheries law enforcement capabilities. They would increase the effectiveness of international legal strategies against IUU fishing. They would also have a solid basis in international law – the multilateral-agreed draft Port State Measures Agreement. This should allay any lingering concerns regarding the WTO. Lacey-style laws should be enacted in conjunction with the adoption of domestic regulations that implement the trade-related measures that have been developed in RFMOs. It is to these that this chapter now turns.

RFMO documentation schemes

So-called 'smart regulations' recognize that enforcement is costly. They use economic incentives to try and gain better policy outcomes.[96] However, they can be problematic on two levels: a) at persuading governments to act against their own economic interests (for example, closing ports to IUU traffic) and b) persuading free riders to bear some of the costs, not just reap the gains. Incentives are therefore important components of international fisheries policy. The axis on which economic instruments have helped promote sustainability has been that of *access* – "access to natural resources, access to markets, access to technology... access to funding."[97] Smart regulations have come to

---

[93] Ortiz. 2005. Above, n.79. p.23.

[94] Ortiz. 2005. Above, n.79. p.10. Catch often gets to market anyway, as NOAA will generally not seize the actual fish, but rather the proceeds from its sale at market. (Ortiz, p.13.) Ortiz notes that the forfeiture of foreign fishing vessels under the Lacey Act is impossible (p.24). It is unclear to this author whether these prosecutions and the US extra-jurisdictional legal presence has had any deterrent effect on IUU fishers in the area; a topic of some importance for further research.

[95] Ortiz. 2005. Above, n.79. p.23.

[96] Bloor, Michael, Datta, Ramesh, Gilinskiy, Yakov, Horlick-Jones, Tom. 2006. "Unicorn among the Cedars: On the Possibility of Effective 'Smart Regulation' of the Globalized Shipping Industry." *Social & Legal Studies*. London. December. Vol. 15. Iss. 4. p.534.

[97] Sand, Peter H. 1996. "International economic instruments for sustainable development: sticks, carrots, and games." *Indian Journal of International Law*. Vol. 36. No. 2. p.9. Through analysis of CITES trade

fisheries in the form of catch certification and documentation and the import prohibitions that can flow in the event of a vessel's arrival in port without them. The broad purpose of these schemes is to restrict market access to only those operators who act in compliance with the prevailing regulations.[98]

The CCAMLR catch documentation system for Patagonian and Antarctic toothfish is a combination port- and trade-related measure. Its aim is to shut out of the ports of CCAMLR contracting parties and cooperating non-parties[99] toothfish which do not have appropriate documentation. It was adopted in 1999 and has been binding on all Members since 7 May 2000. It has recently gone web-based to increase timeliness and reduce fraud.[100] Under the scheme, national port authorities deny toothfish landings and transshipments in the absence of the documents.[101] The scheme can be found under CCAMLR Conservation Measure 10-05.[102] Pertinent paragraphs include the following:

> 3. Each Contracting Party shall require that each master or authorised representative of its flag vessels authorised to engage in harvesting of Dissostichus eleginoides and/or Dissostichus mawsoni complete a Dissostichus catch document (DCD) for the catch landed or transhipped on each occasion that it lands or tranships Dissostichus spp.

---

bans, Sand has observed that the key incentive for compliance with its conservation measures is market access for participating states. These are described as "pay-offs to other countries to cooperate," that is, 'carrots'. pp.7-10, citing Charnovitz, 1994. Allocations of fishing quota within fisheries agreements are one obvious example of an incentive to participate, helping to foster what Sand calls "the widest possible participation in a regime." Marceil Yeater at CITES has said that suspending trade in certain products – even only temporarily – have proven to be extremely effective at "creating political will to improve management." Personal communication with Marceil Yeater, CITES. 5 September 2007. It could be argued that the carving out of the high seas of large Exclusive Economic Zones by the 1982 LOSC was another instance of creating incentives to participate. Doing so produced a clear incentive for a great number of countries to participate in the now universally-accepted oceans regime. The WTO, with its 153 members, is perhaps the epitome of this – expanding and liberalizing market access is arguably its entire reason for being.

[98] It should also be noted that the market-related measures aimed at reducing or eliminating IUU fishers have significant costs for the legitimate fisherman too. Agnew and Barnes note: "They have to structure their company activities so as to obtain all the relevant documentation and ensure that their fish are appropriately dealt with by landing and import authorities (including those in states which may not be party to a particular RFMO and/or the scheme operated by that RFMO)." They may have to carry on-board observers, endure regular inspections, install Vessel Monitoring Systems as well. Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. p.184.

[99] States that are not parties to CCAMLR were invited to participate in the catch documentation scheme. According to Lack and Sant CCAMLR "invited Belize, Bolivia, Canada, China, Guinea Bissau, Guyana, Honduras, Indonesia, Malaysia, Maldives, Mauritania, Mauritius, Panama, Portugal, Singapore, Taiwan, Thailand and Vanuatu to co-operate in the implementation of the Scheme" as either importing states, flag states for toothfish vessels, or those providing port facilities to toothfish vessels. Lack, M and Sant, G. 2001. "Patagonian toothfish: Are conservation and trade measures working?" *TRAFFIC Bulletin.* Vol. 19. No. 1. p.9.

[100] CCAMLR Resolution 21/XIII. The US, for example, does not accept toothfish landings without the electronic version of the CDS.

[101] Miller, Denzil G.M. 2004. "Patagonian toothfish: The storm gathers." In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD. Committee for Fisheries. OECD Publishing. 2004. pp.105-146. See also: Graham, Alistair. June 2003. "COLTO takes over from ISOFISH." *The Tasmanian Conservationist.* No. 288. http: //www.tct.org.au/N27g.htm. Accessed 28 August 2005.

[102] See: http://www.ccamlr.org/pu/e/cds/10-05-2008.pdf. All documents regarding the operation of the CCAMLR CDS can be found at http://www.ccamlr.org/pu/e/cds/cds-ops.htm.

4. Each Contracting Party shall require that each landing of Dissostichus spp. at its ports and each transhipment of Dissostichus spp. to its vessels be accompanied by a completed DCD. The landing of Dissostichus spp. without a catch document is prohibited.
8. The DCD shall include the following information:
(i) the name, address, telephone and fax numbers of the issuing authority;
(ii) the name, home port, national registry number and call sign of the vessel and, if issued, its IMO/Lloyd's registration number;
(iii) the reference number of the licence or permit, whichever is applicable, that is issued to the vessel;
(iv) the weight of each Dissostichus species landed or transhipped by product type, and
(a) by CCAMLR statistical subarea or division if caught in the Convention Area; and/or
(b) by FAO statistical area, subarea or division if caught outside the Convention Area;
(v) the dates within which the catch was taken;
(vi) the date and the port at which the catch was landed or the date and the vessel, its flag and national registry number, to which the catch was transhipped;
(vii) the name, address, telephone and fax numbers of the recipient(s) of the catch and the amount of each species and product type received.

All important toothfish port and market States are now members of the scheme – twenty CCAMLR Contracting Parties including the People's Republic of China, plus the EC and two non-member States – Republic of Seychelles and Republic of Singapore.[103] When IUU fishing operators find a buyer for their fish that does not insist on documentation, the fish generally attracts a discount. According to CCAMLR, the wholesale price for documented toothfish is USD7-15 and USD3-9 for undocumented toothfish (with usual factors such as cut and quality affecting the final price).[104] Getting Patagonian toothfish into the US and Japanese markets without a catch document is reportedly extremely difficult.[105] This is a significant achievement for the CCAMLR regime and the primary reason the number of IUU vessels operating in the region has reduced from 85 to five.[106]
For some, there is still concern that documentation schemes such as CCAMLR's could be challenged under the WTO, but this is unlikely.[107] This dissertation's brief Article XX analysis and that of other commentators suggest that the worry may be "overstated", as the High Seas Task Force has put it.[108] The CCAMLR catch documentation scheme is not 'protectionism in disguise' but a tool to use market access as a lever to influence better production and process methods.[109] The scheme is also the product of a multi-party agreement. It seeks to conserve an exhaustible natural resource by restrictions based not on country of origin or its method of production, but whether

[103] See: http://www.ccamlr.org/pu/e/cds/e-cds%20parties.pdf
[104] Personal communication with Natasha Slicer, CCAMLR. 2 June 2009.
[105] February 2000 brochure put out by the US National Marine Fisheries Service entitled *Toothfish import monitoring program.* http://www.nmfs.noaa.gov/sfa/sfweb/nsil/toothfish%20brochure.pdf. Getting undocumented toothfish into China and Hong Kong may be an entirely easier matter, however, and both import more toothfish than the EU.
[106] Personal communication with Natasha Slicer, CCAMLR. 4 April 2009.
[107] Most importantly, it is non-discriminatory because non-Consultative Parties can participate in the CDS, separately to CCAMLR more broadly.
[108] High Seas Task Force. 2006. Above, n.78. p.31.
[109] Bialek notes that in 1997 CCAMLR members accepted that a suite of measures, including trade-related measures, was going to be essential to combatting illegal, unreported and unregulated toothfish fishing. It was noted that these were to be consistent with the WTO. Bialek, Dean. 2003. "Sink or Swim: Measures Under International Law for the Conservation of the Patagonian Toothfish in the Southern Ocean." *Ocean Development & International Law.* Vol. 34. pp.105–137, footnote 139, citing Delegation of Australia. *The Implementation of an Action Plan to Ensure the Effectiveness of the Conservation Measures for Dissotichus Spp.* September 1998. Para. 15.

the product has documentation certifying its provenance.[110] Finally, CCAMLR's catch documentation scheme is non-discriminatory on two grounds: it applies to both domestic and foreign vessels and the scheme is open to any nation that wishes to join.[111] It may, however, be true that extending the reach of trade and market-related measures such as these may be *politically* problematic. If a reluctance to enact such implementing laws or a 'chill effect' exists, it may be less about WTO-compliance than participation.[112]

Only a few RFMOs have implemented comprehensive catch documentation schemes. These schemes are financially onerous for the RFMOs and their memberships and have been restricted to high-value fish species thus far (tuna species, swordfish, Patagonian toothfish). These species are relatively easy to track on account of their individual size and high market value. The schemes document movements of fish and the vessels and companies involved and are therefore a valuable source of information. It may be that, in the future, trade patterns and information on individual vessels are made available through enhanced and cooperating port and market states, RFMOs and – potentially – the publicly-available Global Record.

The expansion of these schemes is a necessary next step towards more effective global fisheries management. The EU IUU Regulation is essentially an enhanced version of the CCAMLR catch documentation scheme, expanded into a community-wide system.[113] It is designed to prevent, deter and eliminate IUU fishing by prohibiting the importation of the products of IUU fishing into the European Union.[114] The scheme includes all imported fishery products and purports to track trade flows through "the entire supply chain."[115] It incorporates vessel lists. It strengthens the role of EU port States.[116] It also creates an EU-wide IUU vessel list, which incorporates both white and

---

[110] Baird, Rachel J. 2006. *Aspects of illegal, unreported, and unregulated fishing in the Southern Ocean.* Springer. p.175.

[111] See also: Paragraph 5.17, CCAMLR XVII (1999) and Paragraph 2.38, CCAMLR XIX (2000).

[112] Brack wrote in 1995 that the lack of certainty regarding the relationship between WTO rules and MEA trade measures may have had a "chilling effect" on stronger action. He observed that: "the International Convention for the Conservation of Atlantic Tuna was reported as having backed away from adopting a trade-based enforcement mechanism because of potential GATT complications." Brack. 1995. Above, n.26. p.504. Chaves wondered in 2000, during negotiations of the IPOA-IUU, whether the incorporation of globally-agreed trade measures might affect participation in agreements and whether states with "systemic problems enforcing their fisheries management regimes, including problems with the monitoring, control and surveillance of their vessel and EEZs" would willingly participate. Chaves, Linda, A. 2000. "Illegal, Unreported and Unregulated Fishing: WTO-consistent trade related measures to address IUU fishing." *Expert consultation on Illegal, Unreported and Unregulated fishing organized by the Government of Australia in cooperation with FAO.* Sydney, Australia. 15-19 May 2000.

[113] EC Council Regulation. 2008. Above, n.75.

[114] Paragraph 13 of the EU IUU Regulation preamble: "Trade with the Community in fishery products stemming from IUU fishing should be prohibited. In order to make this prohibition effective and ensure that all traded fishery products imported into or exported from the Community have been harvested in compliance with international conservation and management measures and, where appropriate, other relevant rules applying to the fishing vessel concerned, a certification scheme applying to all trade in fishery products with the Community shall be put in place."

[115] Council of the European Union. 13522/08 (Presse 274) Press Release. 2892nd meeting of the Council. Agriculture and Fisheries. Brussels. 29-30 September 2008. http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/agricult/103161.pdf. Accessed 1 December 2008.

[116] Chapter II of the Regulation contains the enhanced port state control system. The regime includes an inspection regime (Article 4 and Article 9), a system of designated ports (Article 5), prior notice (Article 6), authorization to land or transship (Article 7) and the submission of (preferably electronic) documentation prior to landing or transshipping (Article 8). In addition, EC member states are to inspect

black RFMO vessel lists.[117] It conditions market and port access on the presentation of documentation and harmonizes sanctions across the EU. The scheme is global, covering high seas fishing, fishing in the territories of coastal States, and fishing in EU waters.[118] The EU IUU Regulation targets third country fishing vessels and their fishery imports into the Community.[119] It assesses a vessel's relative risk and, as it does under the Paris MoU regime, this involves making an assessment of the vessel's flag State.[120] The EU IUU Regulation restricts access to the EC markets partly "by the extent to which the country, area or region of origin of the exported fish product is completely free or increasingly free of IUU fishing."[121] Vessels[122] found to have engaged in IUU fishing and not subjected to an effective response by its flag State are placed on the EU IUU vessel list.[123] (The same applies to vessels flagged to European States.[124]) The EU IUU Regulation also allows for a list of non-cooperating third States to be drawn up and for the EU Council to implement trade measures against these countries:[125]

> in addition to its action at international and regional levels, the Community should be entitled to identify those non-cooperating States, on the basis of transparent, clear and objective criteria relying on international standards, and, after giving them adequate time and to respond to a prior notification, adopt nondiscriminatory, legitimate and proportionate measures with respect to those States, including trade measures.[126]

5% of the landings and transshipments by third country fishing vessels each year (Article 9(1)). Paragraph 11 of the IUU Regulation's preambular comments noted that "Transhipments at sea escape any proper control by flag or coastal States and constitute a usual way for operators carrying out IUU fishing to dissimulate the illegal nature of their catches. It is therefore justified for the Community to authorise transhipment operations only if they occur within the designated ports of Member States, in ports of third countries between Community fishing vessels, or outside Community waters between Community fishing vessels and fishing vessels registered as carrier vessels under the auspices of a regional fisheries management organisation."

[117] The EU IUU list automatically incorporates the RFMO IUU lists. It does not 're-test' the vessels. It accepts the criteria under which they were drawn up.

[118] Paragraph 7 of the IUU Regulation preamble.

[119] Paragraph 9 of the IUU Regulation preamble. The EC already has in place regulations that monitor the legality of catches from Community fishing vessels. These are contained in Regulations under Title II of Regulation (EEC) No 2847/93.

[120] Paragraph 12 of the IUU Regulation preamble. In addition, Paragraph 21 establishes a "Community alert system" which would "spread information, where appropriate, about well-founded doubts as to compliance by certain third Countries." Paragraph 23 establishes fact-finding collaborations between Member States, the Community Fisheries Control Agency, third States and other bodies regarding the identification of "fishing vessels suspected of carrying out IUU fishing" after which information will be sought from the flag state "as to the accuracy of the findings."

[121] Tsamenyi, Martin, Palma, Mary Ann, Milligan, Ben and Mfodwo, Kwame. 2008. *Report on the development impact of the EU IUU regulation on Commonwealth ACP Member Countries*. Prepared for the Commonwealth Secretariat. pp.vii and 45. Available at http://www.thecommonwealth.org.

[122] The IUU Regulation uses a broad definition of fishing vessel, similar in scope to that of the draft Port State Measures Agreement. It covers "any vessel of any size used or intended for use for the purposes of commercial exploitation of fishery resources, including support ships, fish processing vessels, vessels engaged in transhipment and carrier vessels equipped for the transportation of fishery products, except container vessels." Article 2(5).

[123] Paragraph 25 of the IUU Regulation preamble. It should be noted that RFMO vessel lists will automatically be incorporated into the EU IUU vessel list. The proposed Global Record is not mentioned.

[124] Paragraph 26 of the IUU Regulation preamble. It should be noted that de-listing criteria are established under the IUU Regulation, too.

[125] Significantly, the words "as a last resort" are not mentioned in the IUU Regulation regarding the application of trade-related measures. This is a departure from all other international fisheries and RFMO agreements and may signal a shift toward more aggressive use of trade-related measures – or at least the threat of them.

[126] Paragraph 31 of the IUU Regulation preamble.

It remains to be seen if the trade measures provided for in the EU IUU Regulation are applied against non-cooperating States. (A similar measure recently failed, for the third year running, in CCAMLR in 2008.[127]) However, it constitutes a potent system of sticks and carrots – the threat of sanctions and the incentives around access to Europe's ever-growing market for seafood. The IUU Regulation will enter into force on 1 January 2010 and could be a model for a global system of regional regimes, based on the draft Port State Measures Agreement. These would employ port State controls and vessel lists, both use and generate information for the Global Record, and be enforced by transparent, non-discriminatory trade measures based on multilaterally-agreed criteria.

With such instruments in place, States can better discriminate between fish harvested in accordance with RFMO rules and that which is potentially IUU.[128] They also assist industry-based efforts to ensure reliable traceability of fish products, at least for those species that fall under such a scheme. But these schemes are necessarily limited. They do nothing to help urgent management needs, such as the need for greater monitoring and reduction of global by-catch and other wasteful and unsustainable practices.[129] They are, so far, purely focused on preventing the importation of a small number of species which have been subject to harvesting through IUU fishing activities. The RFMO vessel lists by no means covers all vessels and fisheries. Only around 24,000 vessels are captured on the RFMO vessel white lists.[130] A relatively tiny number of those vessels have wound up on an RFMO IUU list. Yet by common agreement, IUU fishing is widespread, undertaken by vastly more vessels than those that reach RFMO IUU vessel lists. Further, it is likely that many more than the 24,000 vessels represented in RFMO vessel lists fish for the international market. Vessel listing should therefore be expanded, to capture information on those vessels that fish for international markets but do not operate in RFMO-managed fisheries. The Global Record should act as vessel record of choice. It is submitted that if it is a public, widely accessible information source, vessels that fish for one or more international markets would want to be placed on it. Port inspection information, NGO or MCS intelligence, RFMO data and market data would all be gathered, giving the vessel a 'profile' – good or bad – that most currently lack altogether. Vessels would *want* to be on the record, and maintain good standing, in order to ensure their access to the main seafood markets. In this way, the Global Record and the port State system of denials and inspections provided for by the draft Port State Measures Agreement are more closely linked to *private* market-based measures than to the State-based trade-related measures described above. It is to these tools that this chapter now turns.

---

[127] EU efforts within CCAMLR to adopt a measure that would allow action to be taken against non-cooperating third country *states* have failed three years running – 2006, 2007 and 2008. Thus the EU IUU Regulation trade-related measures already go further than those currently extant within RFMOs. For analysis of the new EU IUU Regulation's certification requirements and WTO-compatibility, see Tsamenyi *et al.* 2008. Above, n.121. p.61-64.

[128] As agreed by participants at the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving From Words to Action, held at St John's, Newfoundland and Labrador, Canada, from 1-5 May 2005.

[129] However, it could be argued that when IUU is reduced to negligible levels, in part through these schemes, RFMOs will have time and resources to deal with other pressing management tasks.

[130] Baird's 2008 study of RFMO vessel lists shows a combined total of 24,117 vessels from the FFA, IATTC, CCSBT, ICCAT, WCPFC and IOTC commissions. Baird, Rachel. 2008. "The development of a comprehensive Global Record for fishing vessels, refrigerated transport vessels and supply vessels: an analysis of the practice of regional fishery bodies." Appendix G. FAO. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. p.33.

Market-based measures and private standards

Some form of IUU fishing takes place in the majority fisheries. However, as seen, internationally traded IUU fish has generally been restricted to high value species such as Patagonian toothfish and tuna. These represent large profits and the traders in these species show a high degree of organisation, sophistication and access to legitimate markets. This dissertation has seen that the incentive and driver for IUU fishing is its eventual sale.[131] Fish that has been illegally harvested may have come from a boat that has changed flags or names or physically disguised itself with a new paint job, bought fuel, employed crew, evaded detection and perhaps engaged in a lengthy, fuel-burning, possibly publicized pursuit by local MCS authorities. Its catch must be sold, and at a good price, in order to justify its fishing activities. Great hope therefore lies in the ability of retailers and consumers to reject this fish and drive demand for greater sustainability in fisheries. IUU catch will thus be shut out of the market. The incentives to fish outside legitimate channels will disappear.

Consumers, retailers and civil society will be able to apply greater pressure on all governments to implement more effective measures and to better support clean markets. The potential of this is especially persuasive because 37% of world fishery production is now traded internationally, with fish and fishery products being the most internationally traded food commodity.[132] The certification of private fisheries, and the marketing of certified, eco-labelled fish will be interdependent with national and regional measures as well as international fisheries instruments such as draft Port State Measures Agreement and the Global Record, if they are adopted. Both will have a role to play in supporting measures implemented at the market level. In turn, both will be supported by the market.

FAO has noted the unprecedented development in standards set by the market.[133] Food safety and quality, environmental impact, labour conditions, animal health and welfare are now major concerns within the marketplace.[134] Retailers and wholesalers are making sourcing decisions that take account of these factors and individual companies have begun "scrutinizing their supply chains to check the legality of their seafood sources." Some have dropped "certain species from retail shelves due to their identification by some environmental groups as unsustainable".[135] These private initiatives can be limited in their impact by the small size of the market for which they cater.[136] Nonetheless, once retailers realized that: a) fish stocks were in peril; and b) that the reversal of this trend was a cause that could be supported by their customers, they sensed a lucrative niche. This instinct may come to serve the cause of fisheries management admirably.

---

[131] Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combatting IUU operations?" In OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD Environment and Sustainable Development. Vol. 11. p.22.

[132] FAO SOFIA. 2008. pp.8,4 and 95.

[133] FAO. COFI. March 2008. *Review of market access requirements.* Sub-Committee on Fish Trade. Eleventh Session. Bremen, Germany. June 2–6 2008. COFI:FT/XI/2008/8. Food and Agriculture Organization of the United Nations. Rome, Italy. p.4.

[134] FAO. 2008. Above, n.135. p.4.

[135] Roheim, Cathy A., and Sutinen, Jon G. May 2006. "Trade and Marketplace Measures to Promote Sustainable Fishing Practices." Natural Resources, International Trade and Sustainable Development. *ICTSD Natural Resources, International Trade and Sustainable Development. Series Issue Paper No. 3.* International Centre for Trade and Sustainable Development and the High Seas Task Force. Geneva, Switzerland. p.viii.

[136] Roheim and Sutinen. 2006. Above, n.135. p.viii.

In the past decade, retailers in the US and Europe began the implementation of two strategies more or less simultaneously: a) they acted to ensure ongoing seafood to stock their shelves, freezers and fridges;[137] and b) they began trying to 'out-green' their competitors.[138] Retailers, most strenuously in Europe, have been acting to establish their 'green' credentials by supporting fisheries that are sustainably managed. In this, retailers have been "light years ahead" of governments.[139] Unilever was the first major supplier to act, when the state of wild fish stocks threatened the viability of its future seafood retailing. Schmidt has said that "the fight for raw material" will increasingly become the predominant preoccupation of seafood retailers.[140] It announced in 1996 that 100% of its seafood would come from sustainable sources by 2005. It became a founding partner, with the Worldwide Fund for Nature, of the Marine Stewardship Council (MSC).[141] It also created a sophisticated internal sustainability criteria – the Fish Sustainability Initiative.[142] The 'greening process' soon took on a viral quality.[143] Roheim and Sutinen note that in 2005, the US retailer Wal-Mart announced "that it will only sell MSC-certified fresh and frozen seafood within three to five years."[144] When the Norwegian saithe fishery underwent MSC-certification it cited the newly announced sustainable sourcing policies of Unilever, Wal-Mart and German retailer METRO Group as the main reasons for doing so, according to Roheim and Sutinen.[145] METRO is the world's third largest retailer and the largest fish retailer in Europe. High-end UK

---

[137] For example, UK retailer J. Sainsbury plc announced on its website: "We are also concerned about the effects of fishing on the marine ecosystem, and we are working closely with our suppliers to eliminate the use of anti-foulants in the cleaning of fishing nets. All our tinned tuna is now pole and line caught, unlike any other brand of tinned tuna." http://www.jsainsburys.co.uk/cr/index.asp?pageid=98. Accessed 30 October 2008. The company announced in January 2008 that it "now sells more MSC fish products than any other UK supermarket" – over 45+ MSC eco-labeled products. http://www.jsainsburys.co.uk/index.asp?PageID=425&subsection=&Year=2008&NewsID=1010. Accessed 30 October 2008. Marks and Spencer has run two programs: a) naming the farmer/grower on some food labels as well as which UK county the food was produced in and b) it also ran a "Meet the Farmer" campaign, where consumers could literally meet the farmer – at Marks & Spencer stands at UK summer agricultural shows. Almaani, Mutaz. 2004. "Retailers' communication to promote sustainable consumption." In *Audit marketing project.* UNEP Division of Technology, Industry and Economics. HEC School of Management. p.14.

[138] Sometimes the 'greening' process occurs in response to pressure from environmental NGOs. Roheim and Sutinen relate Greenpeace's picketing of UK supermarket Asda stores and its rooftop demonstration at Asda headquarters. After this, "Asda released a detailed seafood sourcing policy which specifically removes several species from its shelves that have been determined by Greenpeace and other NGOs to be 'unsustainable', including skate, Dover sole, ling and dogfish." Roheim and Sutinen. 2006. Above, n.4. p.43.

[139] Personal communication with Anthony Cox, Fisheries Directorate, OECD. 25 October 2007.

[140] Personal communication with Carl-Christian Schmidt, Fisheries Directorate, OECD. 25 October 2007.

[141] Roheim and Sutinen call this a "risk management strategy" on Unilever's part. Roheim and Sutinen. 2006. Above, n.4. p.45.

[142] Roheim and Sutinen note this initiative's primary elements includes: selecting source fisheries by using five sustainability criteria, based on FAO's Code of Conduct for Responsible Fisheries; b) internally assessing fisheries using 'traffic lights' to "progressively shift purchases toward more sustainable sources"; c) encouraging fishing companies to adopt sustainability criteria and seek certification; and d) selling MSC-labeled seafood products for the European retail market. Roheim and Sutinen. 2006. Above, n.4. p.46.

[143] The MSC notes that seafood businesses are increasingly asking their suppliers to provide proof that their seafood purchases come from a sustainable source. "Being an international retailer, corporate social responsibility has always been integrated in the way we do business," says Hans-Jürgen Matern of METRO Group in the MSC's 2006/07 Annual Report. p.4.

[144] Roheim and Sutinen. 2006. Above, n.4. p.44.

[145] Roheim and Sutinen. 2006. Above, n.4. pp.44, 45.

retailer Marks & Spencer announced that all of its fish would be supplied by Marine Stewardship Council-certified sources or their equivalent by 2012.[146] UK supermarkets Waitrose and J. Sainsbury plc also announced sustainable fisheries procurement policies.[147] J. Sainsbury plc is Britain's biggest fish retailer.[148] In 2006 it announced a sustainability rating system for all the fish it sells. Like Unilever's, it is based on a traffic light system:

- Green – scientifically verified to be in plentiful supply
- Amber – concerns about sustainability, but action is being taken
- Red – major concerns about sustainability, so we will not sell it

The company claims it no longer sells any "red-rated fish" and was working with its suppliers "to move any amber-rated fish to green status."[149] Meanwhile giant Dutch company Royal Ahold with Tops Friendly Markets created the "ChoiceCatch" program, a partnership with the New England Aquarium which began in 2000.[150] To source its wild-caught seafood, ChoiceCatch uses the following criteria: stock health, catch of unwanted species, habitat impacts and fisheries management.[151] In May 2003 Whole Foods Market in the United States launched the "Fish for our Future" project.[152] This included a $225,000 grant over three years to the MSC.[153] It is earmarked to help the organization "increase the number of certified fisheries in the Americas."[154]

It should be noted that these private, market-based schemes rarely single out IUU fishing for special attention in the criteria they use to assess supply. When they do, it is seen as but one factor that affects the sustainability of fish stocks. This is a major reason why this author supports these industry efforts. At some point governments are going to have to tackle all the issues that have been neglected while fisheries managers

---

[146] Marine Stewardship Council. Annual Report 2006/07. p.7.

[147] *The Guardian* reported J. Sainsbury plc's fish buyer saying: "Our aim is to offer as wide a range of seafood as possible across all stores and months of the year and, by careful selection, to make sure no species are threatened." Tran, Mark. "Sainsbury's to stop selling threatened fish species." 23 February 2006. *The Guardian*. http://www.guardian.co.uk/environment/2006/feb/23/food.business. Accessed 30 October 2008.

[148] Tran. 2006. Above, n.147.

[149] http://www.jsainsburys.co.uk/cr/index.asp?pageid=98. Accessed 30 October 2008. This is not an insignificant commitment – Business in the Community (a trade organization promoting "responsibility" among its members) notes that Sainsbury's five top selling species – cod, haddock, tuna, prawns and salmon, representing 80% of its sales – came in as 'amber.' The report noted that Sainsbury had a target of "moving these best selling species to the category of 'green' by 2010." http://www.bitc.org.uk/resources/case_studies/sainsburys_fish.html. Accessed 3 June 2009.

[150] See: http://csr2007.ahold.com/case_sustainable_catch.html. Accessed 30 October 2008; http://www.topsmarkets.com/SharedDev/sharedcontent/EcoSound/index.cfm. Accessed 30 October 2008.

[151] http://www.topsmarkets.com/SharedDev/sharedcontent/EcoSound/index.cfm. Accessed 30 October 2008. In addition, the New England Aquarium claims it completes "extensive reviews of our most important fishery products. This information is then used to direct purchasing away from problematic areas and shift buying towards healthier fisheries." http://www.topsmarkets.com/SharedDev/sharedcontent/EcoSound/EcoSoundProject/sourcing.cfm. Accessed 30 October 2008.

[152] Whole Foods Market was founded with one store in Texas in 1980. At the time of writing it has 270 stores in North America and the United Kingdom and 54,000 employees. It is a significant market participant and a major seafood retailer. Arguably it has spearheaded sustainable seafood sourcing by retail outlets in the United States. http://www.wholefoodsmarket.com/company/index.php. Accessed 30 October 2008.

[153] Part of this grant was to go towards hiring a Fisheries Outreach Officer. http://www.msc.org/newsroom/press_releases/archive-2003/whole-foods-markets-supports-msc-fishery-outreach. Accessed 30 October 2008.

[154] This will be developed under the "Whole Foods Market Americas Fisheries Initiative." *Ibid.*

and fisheries Ministers have focused on IUU fishing. These issues include the many factors that industry is already taking into account in its sourcing policies.

It has been believed by governments for some time that private, market-based incentives could support and contribute to global fisheries management. The 1992 United Nations Conference on Environment and Development Agenda 21 called for the "expansion of environmental labelling and other environmentally related product information programmes designed to assist consumers to make informed choices."[155] The 2000 Nordic Technical Working Group on Eco-labelling Criteria found that market-based incentives operate on various levels:

- The fishing community is provided with a market incentive to request that authorities manage fish stocks in a responsible precautionary way.
- Governments are given an incentive to upgrade their fisheries management practices to improve the market situation for national fisheries products.
- FAO is given a further incentive to continue work on adapting the precautionary approach to different situations.
- Management authorities are given an incentive to improve research and the monitoring of their fish stocks and fisheries.[156]

When retailers began to shift towards sustainable sourcing, governments began to introduce labelling requirements for fish products. These included Spain's labelling of origin program, the 2001 guidelines adopted by the Nordic Ministers of Fisheries and the EC's 2002 minimum rules regarding consumer information for Community fishery products.[157] High-level discussions at the WTO, OECD, FAO and elsewhere led, in 2005, to the adoption of voluntary guidelines for the use of eco-labelling in fisheries by the FAO-COFI.[158] These activities – by industry and States – reflect the belief that the eco-label is the best emergent tool for allowing consumers to make educated purchasing decisions and sort competing claims. According to FAO:

> Eco-labelling programmes aim at marshalling the force of consumer demand in order to effect environmentally beneficial changes in the way firms produce, package and distribute goods. The eco-label conveys information to consumers indicating that among goods of the same category, the eco-labelled ones cause less environmental harm in production, consumption and/or disposal... The desired change in consumer demand as a result of the eco-label is expected to be economically rewarding for those firms which have fulfilled the requirements or standard based on which the label has been awarded.[159]

The appeal of the eco-label to fishers, retailers and consumers lies in its sheer positiveness – in being able to say "yes" to a particular product on the ground that it is certified as having been harvested sustainably. Consumers can say "yes" to accredited

---

[155] Paragraph 4.21, Agenda 21.

[156] See: Nordic Technical Working Group on Eco-labelling Criteria, 2000. In FAO. 2001. *Product certification and ecolabelling for fisheries sustainability.* FAO Fisheries Technical Paper No. 422. Rome, Italy. p.3.

[157] Council Regulation No. 104/2000 of 17 December 1999 on the common organization of the markets in fishery and aquaculture products. *Official Journal of the European Communities.* No. L 17, 21.1.2000.

[158] These contained 14 principles for ecolabelling and certification schemes for marine capture fisheries. See: FAO. 2005. *Guidelines for the ecolabelling of fish and fishery products from marine capture fisheries.* Twenty-sixth session of COFI. Rome, 7-11 March 2005. Food and Agriculture Organization of the United Nations. Rome, Italy.

[159] FAO. 1998. "Experience in Eco-labelling of Food and Forest Products." *Technical Consultation On The Feasibility Of Developing Non-Discriminatory Technical Guidelines For Eco-Labelling Of Products From Marine Capture Fisheries.* FI:EMF/98/Inf.5. Rome, Italy, 21-23 October 1998.

West Australian Rock Lobster. They can say "yes" to accredited New Zealand hoki. They can even say "yes" to Patagonian toothfish – so long as it is the Marine Stewardship Council-accredited South Georgia Patagonian toothfish. Eco-labelled products claim to have fewer impacts on the environment than similar, unlabeled products. In many cases the claim is certified by a third party. Eco-labelling involves assessing the environmental risk posed by a particular product.[160] Nelson has identified two types of "good" which help illustrate both the practical and theoretical appeal of eco-labels.[161] There are "search goods", where the attributes of quality are discernable by *examination*, such as price or colour. And there are "experience goods", where the attributes of quality are discernable by *experience*, such as taste and durability. Sustainability can be identified by neither of these categories. To those, then, Nelson, Caswell and Majduszka in 1996 added "credence goods", where attributes of quality cannot be discerned by either examination or by taking it home and trying it out (Roheim Wessells gives the examples of nutritional information or food safety). Aside from the clear indication a consumer would get by becoming ill, for example, these things are hard to see or test. But a trusted label "can transform credence attributes to search attributes, which allows the consumer to judge the quality of the goods before they purchase."[162] This flattens out what Roheim Wessells identifies as 'information asymmetry' and allows the consumer to make a more informed choice.[163] Assessment by a third-party certifier further ensures the truthfulness of the claim.[164] Not only is there an incentive to try and gain a market advantage, but certification can help a producer to not suffer a market *disadvantage*. This is, Grossman notes, because "producers who can make a quality claim will do so and consumers will assume that any firm not making a claim has low-quality products."[165]

---

[160] As mentioned earlier, Sand calls eco-labels the "third-generation" of environmental law, after command-and-control and trade and market-related measures instruments (citing T.H. Tietenberg (1998), C.H. Schroeder (2000) and R.B. Stewart (2001)). He observes that "Legal obligations to disclose environment-related risk information exist at four distinct levels: a) disclosure to *governments*, by environmental impact statements for the planning or licensing of specified projects, environmentally hazardous activities, risk-prone industries, or 'dangerous goods'; b) disclosure to *citizens*, under 'right-to-know' schemes for specified workplace environments or for the benefits of communities adjoining industrial facilities; c) disclosure to *investors*, as part of corporate financial accounting schemes; and d) disclosure to *consumers*, through a variety of labelling schemes ranging from hazard warnings to product-related or process-related certifications of contents or origin. Sand. 2006. Above, n.14. pp.185, 186.

[161] These were identified by Nelson (1970, 1974) and further discussed by Roheim Wessells, Cathy, Cochrane, Kevern, Deere, Carolyn, Wallis, Paul and Willmann, Rolf. 2001. Product Certification and Ecolabelling for Fisheries Sustainability. FAO Fisheries Technical Paper 422. FAO. Rome, Italy.

[162] Roheim Wessells *et al.* 2001, citing Caswell, 1998. Above, n.161. p.13

[163] Roheim Wessells *et al.* 2001. Above, n.161. p.16.

[164] Roheim Wessells *et al.* 2001. Above, n.161. p.13. For Mark Nijhof, project manager for a Dutch shrimp processing plant, the Marine Stewardship Council eco-label provides this extra layer of "quality": "It does not relate to quality as we used to know it... Quality as we used to know it is how it smells, tastes and if it's free of pesticides, heavy metal or dioxins... This time, it's not quality that you can measure in a laboratory. It's about the integrity behind the process..." *BBC News.* 1 February 2008. "Fishermen 'greening' their catch." http://news.bbc.co.uk/2/hi/science/nature/7213875.stm. Accessed 3 June 2009.

[165] Grossman (1981) cited by Roheim Wessells *et al.* 2001. Above, n.161. p.13. It is reasonable to inquire whether the public can trust the claims made by some eco-labels. Jacquet and Pauly cite Kangun *et al* who found that "more than 50% of environmental advertising is deceptive or misleading." Jacquet, Jennifer L., and Pauly, D. 2007. "The rise of seafood awareness campaigns in an era of collapsing fisheries." *Marine Policy.* Vol. 31. p.310. Increased attention on the role of consumers and the power of eco-labels to confer an advantage has created what Jacquet and Pauly see as the "unforeseen effect of inspiring fishers and seafood companies to misrepresent their seafood product. Although the Food and Agriculture Organization (FAO) of the United Nations has no official label, Nile perch fillets from Lake

Cashore *et al* suggest that the eco-label/certification systems that have emerged in the "forestry, mining, tourism, coffee, fisheries and food production sectors" represent one of the most innovative institutional designs to be found within the broader trend toward market-based, private regulatory schemes.[166] They identified its five key characteristics: a) the State does not enforce compliance, as rules are developed by a private organization; b) stakeholders are diverse, and decide voluntarily whether or not they will comply; c) firms undertake costly reforms they may not do otherwise; d) the authority to govern is granted through the supply chain; and (e) a verification process validates the certification.[167] Eco-labels offer a way for consumers to reward good environmental practice. Fishers can respond to that market signal by working towards sustainability in wild-capture fisheries in the knowledge that reward is awaiting them.[168] They can only be assisted by the heightened transparency in fisheries that will be provided by the Global Record if it is adopted. They are already given significant assistance by the efforts of NGOs and regional fisheries management organizations.[169]

The Marine Stewardship Council

By far the most important eco-label in fisheries is the blue fish logo of the Marine Stewardship Council, and it is to this organization that this chapter now turns. The MSC is a London-based charity.[170] As mentioned, it was set up in 1997 as a joint venture between the Worldwide Fund for Nature and Unilever.[171] It utilizes an accreditation system to certify sustainably-harvested products and uses its blue fish logo to draw retail consumers to them. The blue fish logo and the Marine Stewardship Council name arguably comprise a 'brand' and in fact the Marine Stewardship Council has such an ambition.[172] It is probably crucial to its long-term viability and capacity to promote sustainable fisheries.[173] The MSC seeks to "contribute to the health of the world's

---

Victoria are sold with a self-attributed eco-label claiming the fish were caught under the FAO's code of conduct for responsible fisheries." p.310.

[166] Cashore, Benjamin, Auld, Graeme and Newsom, Deanna. 2004. *Governing Through Markets: Regulating Forestry through Non-State Environmental Governance.* Yale University Press. p.219. Cashore has noted that the thing being regulated is "demanded by purchasers further down the supply chain." Cashore, 2002, cited in Cashore, Benjamin, Egan, Elizabeth, Auld, Graeme and Newsom, Deanna. 2007. "Revising Theories of Nonstate Market-Driven (NSMD) Governance: Lessons from the Finnish Forest Certification Experience." *Global Environmental Politics.* Vol. 7. No. 1. February. Massachusetts Institute of Technology. p.9.

[167] Cashore *et al.* 2007. Above, n.166. pp.8,9.

[168] The writer Eric Schlosser, best known for his account of the American fast food industry in *Fast food nation: The dark side of the all-American meal* (2001), has noted that fast food executives are simply businessmen. "They will sell free-range, organic, grass-fed hamburgers if you demand it... The usefulness of the market, its effectiveness as a tool, cuts both ways. In Book Review by Meek, James. 24 May 2001. "We Do Ron Ron Ron, We Do Ron Ron." *London Review of Books.* Vol. 23. No. 10.

[169] See: the Greenpeace IUU Vessel List. Schmidt has said, "In the market place, information on origin has increasingly been asked for by industry and commerce and the implementation of such schemes offer the additional advantage that data and information can be collected by RFMOs." Schmidt, Carl-Christian. 2004. *Addressing Illegal, Unreported and Unregulated (IUU) Fishing.* Directorate for Food Agriculture and Fisheries. OECD. Paris, France. p.7.

[170] 79% of the MSC's ongoing funding comes from charitable grants, 8% from logo licencing, 6% from government agencies, 4% from companies, 1% from individual donations/other, 2% from investment. MSC Annual Report 2006/07. p.20.

[171] The MSC is now a trust supported by the Packard Foundation.

[172] "Building a Global Brand." MSC Annual Report 2006/07. p.16.

[173] Renowned environmentalist Prince Charles has endorsed the MSC, saying: "In addition to good science and good regulation we need a system that harnesses the power of the consumer and provides economic incentives to well-managed fisheries. This is exactly what MSC does." In Kirby, Alex.

oceans by recognising and rewarding sustainable fishing practises, influencing the choices people make when buying seafood, and working with our partners to transform the seafood market to a sustainable basis."[174] The MSC claims that for some fisheries, "third-party assurance of sustainability is now a market requirement, demanded by major buyers around the world."[175] In other cases the driver comes from participants in the fishery, where "better prices" are sought.[176] Along with its head office in London, the MSC now has three regional offices[177] and five local offices[178] based in important seafood production or market countries. Its governance system is provided by a Stakeholder Council and its core principles are "independence, transparency, impartiality and stakeholder consultation."[179]

The Marine Stewardship Council standard

The Marine Stewardship Council's Principles and Criteria for Sustainable Fishing were developed through stakeholder consultations between 1997 and 1999. They are, in turn, based on the Code of Conduct.[180] Its science-based standard for sustainable fishing comprises of three principles (and thirty-one performance indicators). It is this standard which must be met in order for a fishery to be certified and able to use the blue fish logo:[181]

> Principle 1: Sustainable fish stocks. The fishing activity must be at a level which is sustainable for the fish population. Any certified fishery must operate so that fishing can continue indefinitely and is not overexploiting the resources. For example, it has reliable data on the age and gender patterns of fish populations to prevent too many young fish being caught and that other factors that affect the health of the stock – such as illegal fishing – have been considered.
>
> Principle 2: Minimising environmental impact. Fishing operations should be managed to maintain the structure, productivity, function and diversity of the ecosystem on which the fishery depends. For example, measures are in place to limit by-catch (living creatures caught unintentionally, including other fish species and marine animals such as turtles and dolphins). This could mean changing how fish trimmings are discarded so that seabirds are not drawn towards hazardous fishing gear.
>
> Principle 3: Effective management. The fishery must meet all local, national and international laws and must have a management system in place to respond to changing circumstances and maintain sustainability. For example, vessel owners have signed a Code of Conduct, shared GPS data, or undertaken research to ensure their fishery is well managed. Effective management also ensures

---

"Charles warns on vanishing fish." 4 March 2004. *BBC News Online.* http://news.bbc.co.uk/2/hi/science/nature/3530111.stm. Accessed 28 August 2005.

[174] http://www.msc.org/about-us/vision-mission. Accessed 20 October 2008.

[175] MSC. Annual Report 2006/07. p.5.

[176] *Ibid.* The report quotes David Muirhead of the South West handline mackerel fishery, an MSC-certified fishery: "MSC certainly led to higher prices as some buyers will only source products with the MSC label."

[177] The MSC Regional office for Europe, the Middle East and Africa is in London, its Regional office for the Americas is in Seattle, US, and its Regional office for Asia-Pacific is just outside of Sydney, in Australia. http://www.msc.org/about-us/offices-staff. Accessed 20 October 2008.

[178] Local offices are in Japan, the Netherlands, Scotland, Southern Africa and Berlin houses the Germany, Switzerland and Austrian Local office. http://www.msc.org/about-us/offices-staff. Accessed 20 October 2008.

[179] MSC. Annual Report 2006/07. p.15.

[180] MSC. Annual Report. 2006/07. p.10.

[181] http://www.msc.org/about-us/standards/msc-environmental-standard. Accessed 23 October 2008.

> that all vessels will, for example, change their fishing gear or respect closed zones, when required.[182]

The MSC has said there is "no such thing as a perfect fishery"[183] and has certified at least two controversial fisheries as sustainable. These include a NZ hoki fishery[184] and a Patagonian toothfish fishery in CCAMLR sub-area 48.3. This is the sovereign territory of South Georgia.[185] The South Georgia toothfish fishery is the only one certified by the MSC and there were objections to its certification from some international NGOs.[186] They were asking some version of the question Paul Greenberg asked of toothfish in general, in *The New York Times* in 2005: "Is this fish managed well enough to eat?"[187] The South Georgia Patagonian toothfish certification process took nearly three years (with a two and a half year review). According to the Marine Stewardship Council, the fishery:

> uses cutting-edge technology to exclude illegal vessels from its waters. All vessels have an independent observer on board who monitors catches and reports back to local authorities. A strict vessel licensing system is rigorously enforced and no trans-shipment is allowed. Landing points are limited and are closely controlled. Every pound of fish landed is recorded through tamper-proof satellite surveillance using on-board weighing scales and GPS location of vessels. On landing, boxes of fish are given a barcode label to ensure illegal fish cannot enter the supply chain.[188]

This combination of the private MSC standard and the CCAMLR catch documentation scheme measures for Patagonian toothfish is striking. It is a private/public interplay that may be a model for future certification efforts. For the Government of South Georgia and the South Sandwich Islands, Marine Stewardship Council certification – over and above the stringent CCAMLR-mandated measures – was crucial to the creation of what Greenberg called an "environmentally friendly brand of toothfish." This species was

---

[182] Compiled from information found at: http://www.msc.org/about-us/standards/msc-environmental-standard. Accessed 23 October 2008. According to Leadbitter *et al*, "The fishery needs to obtain a score of 80 or above for each individual Principle and a score of 60 or above for each Criterion and Indicator Sub-Criterion. If the fishery
scores less than 60, it fails the assessment. If it scores greater than 60 but less than 80, the certification body places a condition... on the fishery which mandates action to remedy the deficiency." Leadbitter, Duncan, Gomez, Guillermo, McGilvray, Frazer. 2006. "Sustainable fisheries and the East Asian seas: Can the private sector play a role?" *Ocean & Coastal Management.* Vol. 49. p.670.

[183] Chief executive of the MSC, Brendan May, as quoted in Kirby. 2005. Above, n.171.

[184] This fishery is a trawl fishery and, as a result, by-catch of fur seals and seabirds is reportedly a significant problem. Bob Burton reports: "One estimate was that in the first four years the fishery had been certified, approximately 3300 seals out of a total population of roughly 80 000 had been killed. In the same period, hundreds, possibly even thousands, of seabirds such as petrels and albatross were killed in the huge trawl nets, including some globally threatened species." Burton, Bob. 2008. *Inside Spin: The Dark Underbelly of the PR Industry.* Allen & Unwin Academic. Australia. p.167.

[185] CCAMLR fisheries measures that apply in CCAMLR sub-area 48.3 are implemented by the Government of South Georgia and the South Sandwich Islands for the Government of the UK.

[186] The National Environmental Trust and The Antarctica Project (a consortium of organisations). MSC. 16 March 2004. "Objections Panel Concludes Review of South Georgia Patagonian Toothfish Assessment." Press Release. http://www.msc.org/newsroom/press_releases/archive-2004/objections-panel-concludes-review-of-south-georgia. Accessed 27 October 2008.

[187] Greenberg, Paul. "The Catch." *The New York Times Magazine.* 23 October 2005. http://www.nytimes.com/2005/10/23/magazine/23bass.html?pagewanted=all.

[188] http://www.msc.org/healthy-oceans/the-oceans-today/environmental-impact#-a2-illegal-fishing. Accessed 23 October 2008.

subjected to a boycott by top US white table restaurant chefs in 2002.[189] It is strongly believed that a lucrative market exists for provably *sustainable* Patagonian toothfish.[190] By definition this requires that the fishery must have IUU fishing under control.

In the wake of the controversial South Georgia toothfish certification process, and after consultations as part of the MSC's Quality and Consistency Project, in July 2008 the Marine Stewardship Council released the Fishery Assessment Methodology. This new process aims to provide "an operational interpretation of the standard."[191] It is designed to give less leeway to individual third-party certifiers and, as a result, a more consistent interpretation of the MSC standard. It was described by MSC's Deputy Chief Executive Chris Ninnes as "the biggest change in the MSC programme since the standard was created."[192]

> When the Fishery Certification Methodology was established, along with the MSC Standard, the certifiers were allowed some leeway in the content of the Assessment Trees in order to allow for variation in the characteristics of different types of fisheries. Previous experience of over 40 fishery assessments has shown that this approach allowed too much leeway in the interpretation of the standard. With different Assessment Trees being developed by different certifiers for essentially similar fisheries, we had the potential for a problem.

To be phased in over two years, the Fishery Assessment Methodology is designed to support the MSC standard – which has not changed – by more clearly defining how to score a fishery against it. It is expected that the Fishery Assessment Methodology will assist those considering MSC certification to know by what operational criteria the fishery will be judged. The MSC also visits its certified fisheries "at least once a year to check that it continues to meet the MSC standard."[193] Each certified fishery must be reassessed, at considerable cost, every 5 years.[194]

Chain of Custody

The early efforts of the big retail buyers has brought increased transparency to fisheries and invaluable support to private certification. Hard work by FAO, NGOs and RFMOs in shining a light on fishing activities laid some of the groundwork for the retail success of private certification efforts. The draft Port State Measures Agreement and the Global Record will assist this evolution by providing even more layers of information to assist industry's seafood tracing systems. "Traceability" can be defined as "the ability to trace, follow and uniquely identify a product unit or batch through all stages of production, processing and distribution. It shows the path of that unit or batch through all the intermediate steps of the product flow and the supply chain."[195] Roheim and Sutinen

---

[189] The fish had been popular with US chefs' "because its succulence makes it almost impossible to overcook." In "Chilean sea bass: More than an identity problem." Fabricant, Florence. *The New York Times*. May 29, 2002. The newspaper had gushed in 2002: "On the menu it is called Chilean sea bass, and it is prized for its mild flavor and firm, milk-white flesh. In the Antarctic waters where it swims, its name is Patagonian toothfish. It has a natural antifreeze in its blood, and it can live 50 years and grow to the size of a linebacker." In Revkin, Andrew C. "Chefs joining boycott in effort to save imperiled sea bass." *The New York Times*. May 21, 2002.

[190] Revkin. 2002. Above, n.189.

[191] http://www.msc.org/about-us/standards/msc-fishery-assessment-methodology-1. Accessed 23 October 2008.

[192] http://www.msc.org/newsroom/press_releases/archive-2008/2018simpler-faster-and-more-consistent2019. Accessed 23 October 2008.

[193] http://www.msc.org/about-us/standards/msc-environmental-standard. Accessed 23 October 2008.

[194] *Ibid.*

[195] Roheim and Sutinen. 2006. Above, n.4. Footnote 2.

note Unilever's longstanding traceability policy, one element of which includes never 'spot buying' fish. Instead it has "30 regular suppliers who use traceability systems that can trace raw material back to the captain for almost everything."[196]

Consumer confidence is so fundamental to success that industry has devoted significant resources to ensuring the traceability of fishery products. Without traceability, industry initiatives such as the Marine Stewardship Council – and the claims of eco-labels in general – would have been rendered meaningless. The Marine Stewardship Council knows that trust is important.[197] It acknowledges the problem of mislabeling and the complex and convoluted international seafood supply chain. These challenges are behind the MSC's development of its Chain of Custody program.[198] Thus, at each point in the supply chain, a Chain of Custody audit takes place. Once a fishery has been certified to the MSC standard, all points within the supply chain are required to have MSC Chain of Custody certification. The components that make up the MSC Chain of Custody system are: an adequate control system kept by each organization in the supply chain; confirmation of inputs; physical or temporal separation of certified and non-certified products; secure product labelling; identification of certified outputs; and adequate record keeping.[199] According to Stokke, attention is paid to the processing leg, where "plants must document satisfactory control systems for keeping MSC produce apart from other inputs."[200] This program is designed to instill confidence in buyers and consumers that the MSC-labelled fish can be definitively traced back to an MSC-certified fishery.[201] The program seeks to minimize the risk of public confusion regarding which fish products have and have not originated from an MSC-certified fishery.[202] Only when the supply chain is secured can their products, derived from that fishery, carry the MSC eco-label.[203]

> We require all fisheries taking part in our certification program to demonstrate that they meet all relevant local, national and international laws. Even legally-operating fisheries cannot be certified if other vessels are operating illegally in the same fishery and causing the fish stock to be overfished. In addition, all companies packaging or processing MSC-labelled seafood are audited to make sure the fish can be traced back to an MSC certified fishery. The MSC Chain of Custody

---

[196] Roheim and Sutinen. 2006. Above, n.4. p.30.

[197] "All buyers of MSC-labelled seafood need to trust that it has indeed come from an MSC-certified fishery." MSC. Annual Report 2006/07. p.14.

[198] This was launched in late 1999 and revised in 2005.

[199] MSC Chain of Custody Standard. August 2005. Version 2. pp.3-4. The confirmation of inputs includes the "name of the supplier, their MSC [Chain of Custody] certificate number, evidence of certificate validity and sufficient other details to allow the tracing of those inputs back to their supplier."

[200] Stokke, Olav Schram. "Labelling, Legalisation and Sustainable Management of Forestry and Fisheries." Paper delivered at the Fifth Pan-European International Relations Conference ((SGIR/ECPR) *Constructing World Orders*. 9-11 September 2004. The Hague. The Netherlands. p.8, citing Scott, 2003.

[201] MSC. "MSC chain of custody standard for seafood traceability." http://www.msc.org/about-us/standards/msc-chain-of-custody-standard. Accessed 23 October 2008.

[202] MSC Chain of Custody Standard. August 2005. Version 2. p.2. Accessible at http://www.msc.org/documents/msc-standards/MSC_Chain_of_Custody_Standard.doc

[203] For the MSC, rigorous traceability was the solution in the South Georgia Patagonian toothfish certification – not denying certification. At the time of the MSC's South Georgia Patagonian toothfish review, then-Chief Executive Brendan May emphasized the "paramount importance of guaranteeing proper traceability of this small certified stock to ensure the MSC logo is applied only to certified, legally caught fish." MSC. Press Release. 16 March 2004. "Objections Panel Concludes Review of South Georgia Patagonian Toothfish Assessment." http://www.msc.org/newsroom/press_releases/archive-2004/objections-panel-concludes-review-of-south-georgia. Accessed 27 October 2008.

standard for seafood traceability helps to keep illegally caught fish out of the seafood supply chain.[204]

Growth

At the time of writing, Marine Stewardship Council-labelled products are available in 36 countries, with 1,600 products so labelled, making up more than 250 million individual MSC-labelled seafood items sold in the fiscal year to March 2008.[205] Growth in key markets has reportedly been significant.[206] The number of fisheries certified by the MSC is thirty-five.[207] A further seventy fisheries are currently undergoing assessment.[208] The MSC reports that over 5 million tonnes of fish are either certified or in assessment.[209] To emphasize how these have concentrated on high value fish, MSC-certified fisheries include 42% of the global catch of wild salmon, 40% of global "prime whitefish" catch, and 18% of global lobster catches for human consumption.[210] In the MSC's latest annual report the combined global retail value of MSC-labelled seafood was USD509,885,254.[211] (This figure was closer to USD1bn by mid-2008.[212]) For the small number of fisheries in which it is involved, the MSC eco-labelling and certification program constitutes a crucial private effort. It is assisted by RFMO information and industry validation. In time it may herald a widespread market-related movement towards sustainability in fisheries. In the short term, a fishery will not be certified if it has major problems with IUU fishing. This constitutes a significant incentive for industry to work with governments and international organizations to ensure that IUU fishing is controlled. Their cooperation is vital to the success of State-based developments, such as the draft Port State Measures Agreement, and will be key to the successful establishment of a Global Record.

---

[204] http://www.msc.org/healthy-oceans/the-oceans-today/environmental-impact#-a2-illegal-fishing. Accessed 23 October 2008.

[205] MSC. 31 July 2008. "Reaching new heights: Global market for MSC labelled products close to $1 billion." Press Release. http://www.msc.org/newsroom/msc-news/archive-2008/reaching-new-heights-global-market-for-msc/?searchterm=iseal. Accessed 29 November 2008.

[206] This includes Germany, which has "retail sales of MSC labelled products of over USD 270 million; the USA with retail sales of more than USD 220 million; and the UK with a retail sales value of approximately USD 140 million." *Ibid.*

[207] This is up from thirty-one in the MSC's 2006/07 Annual Report. http://www.msc.org/track-a-fishery/certified. Accessed 23 October 2008. These 35 fisheries represent "18 different species from nine countries and four oceans." MSC. Annual Report 2006/07. p.5. It should be noted that certification lasts 5 years; The WA Rock Lobster fishery has just recently undergone its 5 year reassessment.

[208] The figure was 71 in the 2006/07 Annual Report, but some of them have since been certified. Another 20 to 30 fisheries were in confidential pre-assessment, according to a 31 July 2008 MSC Press Release. "Reaching new heights..." Above, n.205.

[209] The MSC's 2006/07 Annual Report (the latest available at the time of writing) notes that "Close to four million tonnes of fish were either certified or in assessment [in the 2006/2007 period], representing seven per cent of the world's edible seafood catch." p.1. The tonnage figure had increased to "over 5 million tonnes" by July 2008. http://www.msc.org/newsroom/press_releases/archive-2008/2018simpler-faster-and-more-consistent2019. Accessed 23 October 2008.

[210] MSC. 31 July 2008. "Reaching new heights: Global market for MSC labelled products close to $1 billion." Press Release. www.msc.org.

[211] MSC. Annual Report 2006/07. p.8.

[212] MSC. 31 July 2008. "Reaching new heights: Global market for MSC labelled products close to $1 billion." Press Release. www.msc.org. No actual figure was given in the release and in fact the retail value is just an estimate, calculated by adding a standard 40% markup to sale statements received by the MSC "from its non retail logo licence holders."

An evaluation of private market-based measures in fisheries

The market approach in fisheries is currently represented by the Marine Stewardship Council and the activities of the major European retailers (which also have 'own brands' of eco-labelled fish as well as MSC-labelled fish). Whether this approach can increase the effectiveness of current fisheries management and support the draft Port State Measures Agreement and a Global Record will depend in part on whether it can expand beyond its current small number of certified fisheries.[213] It remains to be seen how deeply it can penetrate the global market for seafood. This needs to eventually include emerging markets, which may be resistant to such an approach, and markets which are traditionally secretive, such as those for shark fins.[214]

Despite its growth and popularity within government circles, the Marine Stewardship Council program has still had only small and piecemeal overall penetration into the market for fishery products. The latest international estimation of the size of the IUU fish catch alone (quite apart from fisheries that are unsustainably managed) is somewhere between 11 and 25 million tonnes of fish annually.[215] Yet after ten years the MSC program certifies only around 5 million annual tonnes of fish. It acknowledges that the MSC "cannot have meaningful impact on the world's ocean as a niche player. We ultimately need to account for a substantial (if not total) share of global wild catch output."[216] Thus, the MSC has ambitions, outlined in February 2007, to achieve a 30-40% market penetration of certified product in the UK and Germany (its two most mature markets). It seeks to secure "a strong position with at least 5 of the top 10" US supermarket chains within the next three or four years, alongside the development of a Japanese market. By 2020 the MSC wants to have achieved 30-40% market penetration of certified product in "most major developed markets" with a particular focus on the European "big 3" – France, Spain and Italy.[217] Beyond 2020 it wants to secure "a meaningful presence in all major producing and consuming countries."[218]

Far from being supported by the royalties charged for the use of its blue fish logo, the MSC is still largely dependent on grant funding and other donations from public and private sources, but as an organization it must still compete to attract the best people and ideas.[219] It is also tested by how long a process it has already been for the MSC to achieve its goals for greater market share. Challenges are foreseeable:

- Other certification systems may enter the marketplace, perhaps with diluted standards and lower costs associated with joining;

---

[213] In April 2007 it was reported that "five to six percent of the world's seafood supply is MSC-certified." Seafood Choices Alliance. April 2007. *The European Marketplace for Sustainable Seafood.* p.1. http://www.seafoodchoices.org/resources/documents/SCAEuroMPReport.pdf. Accessed 28 November 2008.

[214] Clarke estimates that the shark kill for the fin market may be as much as 73 million individuals annually, three times higher than originally reported by FAO and a "notoriously secretive" trade. Pew Institute For Ocean Science. 25 September 2006. In "Triple Threat: World Fin Trade May Harvest Up To 73 Million Sharks Per Year." *ScienceDaily.* http://www.sciencedaily.com-/releases/2006/09/060922131811.htm. Accessed 5 June 2009.

[215] The exact estimate was 11.06—25.91 million tonnes. MRAG and Fisheries Ecosystems Restoration Research, Fisheries Centre, University of British Columbia. April 2008. *The Global Extent of Illegal Fishing: Final report.* p.1.

[216] MSC. *Developing an Integrated Strategic Plan for the MSC.* February 2007. p.7.

[217] These three countries account for 50% of seafood consumption in Western Europe.

[218] MSC. 2007. *"Strategic Plan..."* Above, n.216. pp.3,10-16.

[219] For example, in the 2007 Strategic Plan financials, the CEO alone is allocated £407,000 p.a.

- tests of its credibility may be encountered – there will be those who doubt the "quality, consistency and environmental benefits or impact" of the program;[220]
- the major seafood retailers that have committed to supplying sustainably-caught seafood may source it overwhelmingly using their internal systems, rather than through the MSC[221]; and
- countries may begin product labelling in a more globally meaningful way, diluting the impact of the MSC program.[222]

One potential problem receiving scant attention is whether it status as a non-domestic labelling scheme will weaken its impact in certain markets. Consumers may have less trust in the London-based MSC than in agencies closer to home.[223] The MSC acknowledges that in France, for example, it is "unclear" what support this will have on uptake.[224] As a European-based scheme, its impact may undergo dilution the further away from the EU it is introduced; in some markets its very European-ness may see the blue fish logo perceived as denoting a niche, elite luxury product. In January 2008 when Sainsbury's announced it would be "the first retailer in the UK and Europe" to sell products derived from the first MSC-certified tuna fishery (the Pacific Albacore tuna fishery) it came both with a niche-oriented price and sales-pitch: "The tuna loins are hand-selected, cooked to perfection and hand filled into jars."[225] This is a far cry from the everyday canned tuna eaten by most Americans during the dolphin-tuna turmoil of the 1980s and 90s and what most still eat today.

Certification's environmental effectiveness is also difficult to gauge: Di Leva notes there is "relatively little data demonstrating the precise correlation between the protection of natural resources and eco-labelling."[226] Indeed, it was noted by Sutton that MSC certification of the Rock Lobster fishery in Western Australia became a means to prevent the government implementing other important fisheries management measures – a marine reserve.[227] Jacquet and Pauly have questioned the effectiveness of consumer education tools in general.[228] Jacquet and Pauly note that the Marine Stewardship Council does not even address the question of effectiveness. They note that MSC annual reports "declare the number, value and location of certified products but altogether ignore the certifications' effectiveness (quantifiable or otherwise)."[229] There are systemic, external challenges too. Global over-capacity continues to undermine all

---

[220] MSC. 2007. *"Strategic Plan..."* Above, n.216. p.7.
[221] *Ibid.*
[222] For example, states may begin marketing their own versions. There might be some international cache to a "Caught in Australia" label; or "From Australian vessels" for high seas catches, given that Australian vessels are widely believed to be well-managed.
[223] Empirical work done in 2002 by Wessells showed that US consumers gave the highest trust rating (49%) to the US National Marine Fisheries Service to certify seafood products as sustainable. The World Wildlife Fund coming second at 23%. Only 5% of US respondents gave that trust rating to the MSC. Roheim Wessells, Cathy. 2002. "The economics of information: Markets for seafood attributes." *Marine Resource Economics*. Vol. 17. Marine Resources Foundation. p.160.
[224] MSC. 2007. *"Strategic Plan..."* Above, n.216. p.14.
[225] The two products are 'Taste the difference Albacore in olive oil' and 'Taste the difference Albacore in spring water'. Each retails at £2.98 a can.
[226] Di Leva, Charles E. 2002. "The Conservation of Nature and Natural Resources through Legal and Market-Based Instruments." *Review of European Community & International Environmental Law*. Vol. 11. No. 1. p.93.
[227] Sutton, 2003 in Gulbrandsen. 2009. "The emergence and effectiveness of the Marine Stewardship Council." *Marine Policy*. Vol. 33. p.659.
[228] Jacquet and Pauly. 2007. Above, n.165. p.310.
[229] *Ibid.*

efforts at sustainability.[230] Another problem with the market-oriented approach to 'greening' fisheries via consumer mobilization efforts is that they are purely optional. Despite the speed at which market segments can be tweaked and small groups of keen consumers can be marshalled, in general that means the efforts will be niche-oriented.[231] Roheim and Sutinen, among others, note that evidence of consumer demand for these products is not clear.[232] It is the *corporate* appetite for sustainably-sourced seafood that has been well-established, at least in Europe. In the United Kingdom some 90% of seafood is purchased in supermarkets, giving retailers enormous power to influence consumer decisions; indeed almost cartel-like powers. As Almaani *et al* note for UNEP, retailers "are able to specify standards of environmental performance with a greater degree of expertise and market clout than individual consumers who have relatively little scope for collective action."[233]

It is unclear how long term the movement toward this kind of certification will be because many important questions have no clear answers yet: Do eco-labeling schemes effect changes in consumer behaviour or just supplier behaviour? Do they truly affect fishing pressure? Do they unfairly reduce market access and, therefore, are they targets for challenges under the WTO? At what point do certified fisheries become models for non-certified fisheries? Other problems exist: Many fishers are involved in fisheries with endemic IUU fishing, such as many of the international fisheries managed by RFMOs. These fishers could be forced to leave that fishery for better climes (i.e., a fishery that is certified and has niche-market access). This would deprive troubled fisheries of the uncorrupted forces necessary for their recovery.

In addition, there is little information about how much eco-labeling programs are going to *cost,* both for consumers – in higher prices – and to industry. It is industry that, in general, pays for certification in order to ensure continued market access.[234] Even if certification was free of charge, the vast majority of world fisheries would currently not make the grade, and those fishers all face a potential loss of market access. This risks creating a two- or even three-tier market – the certified sustainable market, the uncertified (potentially and/or probably unsustainable) market, and the IUU market. According to Gulbrandsen, only three of MSC's certified fisheries are in developing countries.[235] Because of the expense of gaining certification, it has been sought

---

[230] Roheim and Sutinen note that "As big buyers shift their purchases away from one source to another for sustainability reasons – such as away from Russian pollock towards Alaska pollock – there is no evidence that suggests that there is less fishing pressure in the Russian pollock fisheries as a result. Presumably the Russian pollock is simply finding an alternative market." Roheim and Sutinen. 2006. Above, n.4. p.49. They apply further caution, reporting that "It remains unclear to what extent such measures have actually been effective in encouraging sustainable fisheries management and providing a sufficient market advantage and price premium for sustainably harvested fish products." Roheim and Sutinent. 2006. Above, n.135. p.v.

[231] It has been reported, for example, that "Fish sold at supermarkets that compete most ferociously on price is not as sustainable as that available in smaller, upmarket chains." Lawrence, Felicity. "The fish list: how your supermarket rates." *The Guardian.* 1 March 2006.

[232] Roheim and Sutinen. 2006. Above, n.135. p.viii.

[233] Almaani. 2004. Above, n.137. p.27.

[234] While MSC certification costs are generally confidential, Austral's Martin Exel has said the initial MSC-accreditation for its Western Australian Rock Lobster fishery was approximately AUD100,000 – a figure which does not include the hidden costs of accreditation such as research, senior staffers' time spent away from other tasks, correspondence, among other things, which Austral estimated to be in the order of another AUD100,000. Personal communication with Martin Exel, Austral Fisheries. 10 June 2009. Roheim and Sutinen report that the MSC certification cost for the Alaskan Pollock fishery was USD500,000 – also paid for by industry. Roheim and Sutinen. 2006. Above, n.135. p.22.

[235] Gulbrandsen. 2009. Above, n.227. p.658.

primarily by the well-endowed – both companies and States.[236] The very nature of market-based schemes mean that, at least in this early phase, "only fisheries that stand to benefit financially from adopting a product certification and label are likely to do so."[237] Unilever and the other big processors/retailers are in a curious position here: by supporting the establishment of the MSC, it supports those "industrial fishing companies directly associated with the decline of fish" populations.[238] Jacquet and Pauly wisely ask how eco-labelling can be considered a key to the improvement of global fisheries management if the vast majority of fishers – small-scale fishers – are left out of the system.[239] It may have no effect at all in those countries where the vast majority of fish is consumed locally.[240] Eco-labels thus require a certain kind of industry – generally, export-focused and with a high degree of control over the fishery (i.e. not subject to open access regimes.[241]

Eco-labels also require a certain kind of consumer, the so-called 'green consumer'. Blake *et al* have found that the behaviour of green consumers is largely determined by local context and local concerns.[242] The remoteness of much of the world's fishing may prove to be an obstacle here. In addition, Stokke and Vidas write that green consumerism is "largely restricted to certain parts of the world."[243] These markets are North America, Australasia and Northern Europe.[244] Certainly, Europe is the largest importer of seafood in the world, representing 38% of all fish trade in 2004.[245] North America represents 16% of all fish traded.[246] While 195 nations export fish to these markets, around 180 *import* fish,[247] and the global economic momentum is not with Europe and North America. It is with China, South Korea, the rest of Asia and the oil-

---

[236] Roheim and Sutinen note that certification for the Alaska salmon fishery was paid for by the State government of Alaska (through the Alaska Department of Fish and Game). Roheim and Sutinen. 2006. Above, n.135. p.22.

[237] Jacquet and Pauly. 2007. Above, n.165. p.309.

[238] Jacquet and Pauly. 2007. Above, n.165. p.309.

[239] *Ibid.* The MSC is well aware of this problem, and is addressing cost issues, "especially for small-scale fisheries and fisheries in developing countries." Further, it has employed a developing nation fisheries officer for an expanded outreach program. Leadbitter *et al.* Above, n.182. pp.667-668. According to the authors, ways to further assist these countries include: a) access to funding via the WWF – "Community-Based Certification Program"; b) "sponsorship offers from corporate entities which could be used by small-scale fisheries to subsidize/pay for the certification process"; c) accessing the Sustainable Fisheries Fund, administered by the Resources Legacy Fund. This provides funding assistance to fisheries seeking assistance in the certification process.

[240] Gulbrandsen. 2009. Above, n.227. p.658.

[241] Kaiser, MJ and Dwards-Jones, G. 2006. "The role of ecolabeling in fisheries management and conservation." *Conservation Biology*. Vol. 20. No. 2. p.392. For this reason, the authors notes that having definite property rights within the fishery seems "to be an essential prerequisite for engagement in MSC..." p.392.

[242] Blake, Donald, Guppy, Neil and Urmetzer, Peter. 1997. "Canadian Public Opinion and Environmental Actions: Evidence from British Columbia." Canadian Journal of Political Science. Vol. 30. Iss. 3. September. p.453.

[243] Stokke and Vidas. 2004. Above, n.131. p.42

[244] Stokke and Vidas note that "MSC officials are much less optimistic about Japan, for instance." Stokke and Vidas. 2004, citing May *et al*, 2003. Above, n.131. p.42.

[245] Spain, UK, France, Italy, Denmark account for 68% of the volume of fishery imports into Europe. Seafood Choices Alliance. 2007. Above, n.213. p.19.

[246] Seafood Choices Alliance. 2007. Above, n.213. p.18, citing FAO FishStat.

[247] Malvarosa, Loretta. *The fish trade of North African Mediterranean countries: Intra-regional trade and import-export with the European Union.* FAO Fisheries Circular No. 978 FIIT/C978. FAO. Rome, Italy. p.6; WTO-CTE. 23 February 2000. *Subsidies in the fisheries sector: Update on recent work conducted by New Zealand.* WT/CTE/W/134. Paragraph 2. www.wto.org/spanish/news_s/news00_s/w134.doc. Accessed 1 June 2009.

rich emerging economies of South America and Russia.[248] Demand from those markets will soon become big enough to dictate to it. Gardiner and Viswanathan note that the governments of those same countries have resisted eco-labelling requirements, seeing them as potentially protectionist barriers to market access.[249]

These are all major challenges to the market-oriented approach to fisheries. By extension, they are major challenges to the Global Record. It is generally expected that the Global Record will be driven largely by industry, as information providers and primary users. It also represents a challenge to the successful implementation of the draft Port State Measures Agreement. Port State measures are hoped to provide critical links in establishing the 'sea to plate' tracking of fisheries products. If the market for such tracking remains as small and niche-oriented as it currently is, momentum may well be lost for both international instruments.

Conclusion

The foregoing concerns are not insignificant. The extent of States' support for the market approach to fisheries remains deeply uncertain, as is the market's ability to drive the eradication of IUU fishing in a widespread and meaningful way. Despite this, it is submitted that market responses to shrinking fish stocks and the predation of IUU fishers have been admirable. It is impossible to know what the international fisheries sector would look like if the MSC and other market-based responses did not exist. Surely worse. National support for these efforts must continue, even if hard evidence of their effectiveness is not yet available, or if the initiatives are inevitably limited. Market-based efforts stand at the 'coal-face' of the globe's insatiable demand for seafood, and may yet help shape it. They should continue to receive support at the international level, through FAO and the OECD (whose information-gathering and research capacity outstrips industry's) and through the freer exchange of catch and vessel data held by States and RFMOs. This service would come via the Global Record and its envisaged "one-stop shop" portal for fisheries information. This tool should greatly assist their certification and traceability systems, which are expensive and labour-intensive. One expert has predicted that a Global Record, providing timely data on vessels and their activities, would be "invaluable in bringing confidence to the consumer market and the corporate world."[250] Better, up-to-the-minute information, made widely and publicly available through an implemented Global Record, would enable buyers to better assess risk.[251] It would also help them manage their supply chains in a more centralized way.[252] Improving the tracking of catch via the tracking of vessels would enhance the *transparency* of all fishing operations. This would surely improve the effectiveness of the market approach and, hopefully, broaden it. As the

---

[248] Jacquet and Pauly note that: "Asia consumes more than two-thirds of the world's seafood. Yet, to date, very few Asian consumers discriminate between products in the context of environmental issues... demand for fish and fishery products is expected to rise not only in Asia but in Latin America and Africa, where consumers are also likely not to be responsive to eco-labeling of fish." Jacquet and Pauly. 2007. Above, n.165. p.309. It should also be noted, in relation to the Global Record of fishing vessels, that 85% of the total global number of decked vessels, 50% of powered undecked vessels and 83% of the global number of non-powered boats are Asian. FAO. SOFIA. 2004. pp.6,7.

[249] *Ibid.*

[250] See: Advance Copy. FAO. *Report of The Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* Rome, 25–28 February 2008. p.8.

[251] *Ibid.*

[252] *Ibid.*

Global Record would be supplied with VMS data, RFMO documentation, port State inspection records and NGO analysis, it could enable a quasi-certification system for *vessels*. Wholesalers already try to buy product from known, trusted fishing companies and vessels. Breaking into that system is presumably difficult. The Global Record could assist buyers to identify 'clean' suppliers, which they could then approach. The *catch* from those vessels could be set against quotas made publicly-available through the Global Record.

The synergies between developments in the marketplace and within COFI are clear. Enacting stronger and more coordinated port State controls through the draft Port State Measures Agreement, implementing and utilizing a Global Record and employing well designed trade-related measures to support and enforce them have the potential to have sustained impact on the problem of IUU fishing by cutting it off at its most vulnerable point: its access to the market. This picture of integration would see RFMOs backed up by national legal frameworks that include mandatory port and market-related actions by States, under the draft Port State Measures Agreement. These State-based efforts would enhance the systems already developed by industry and retailers. MSC certification has been a boon for some players in the market and those retailers wanting a 'green' point of difference. But the addition to the matrix of regional port State control systems reinforced by a Global Record would capture fish coming off vessels all around the world, only a fraction of which is currently MSC-certified. This would open up and surely transform the way supply and demand currently interact regarding seafood. If successfully integrated, this could mark a decisive shift away from the model of fishing that has stripped the oceans and given rise to IUU fishing on a global scale.

Chapter 9 – Summary and Discussion

Introduction

This dissertation has answered four primary research questions:

1) What international measures are currently employed to reduce IUU fishing?;
2) How will the draft Port State Measures Agreement and Global Record work?;
3) Can trade and market-related measures effectively support these two new tools?; and
4) Will these two new instruments significantly contribute to solving the problem of global IUU fishing?

In answering these questions, chapters one and two described the twin problems of ongoing unsustainable fishing and IUU fishing. They explored the reasons that IUU fishing on a global scale still very much exists, despite significant international attention from the international community of States for nearly a decade. Chapters three, four and five outlined the extant international fisheries legal regime dealing with fisheries and IUU fishing. This includes hard and soft law and a generally unsuccessful precursor to the Global Record – the FAO High Seas Vessels Authorization Record. Chapters six, seven and eight constituted the substantive portion of this dissertation, and its original contribution to knowledge in this field. Together they explored two potential tools to combat IUU fishing – the Global Record and the draft Port State Measures Agreement. Both tools are still in the form of proposals before COFI, although the latter is in physical form as a draft agreement. Both tools build naturally on the extant international fisheries legal regime. Both tools provide substantial opportunities for non-flag State enforcement, in the form of greater information for monitoring, control and surveillance purposes, port State measures, and clearer connections to the market. Chapter eight explored trade and market-related measures as they relate to fisheries. If supported by States and used by industry, trade and market-related measures will constitute a reason for the instruments' implementation and provide a strong incentive/disincentive system of enforcement.

It is submitted that these two proposed global instruments, and the enhanced market-based measures that should come with them, will be at the forefront of the vital transformation from unsustainable and widespread IUU fishing into globally sustainable, profitable, legal fishing. However, it is strongly submitted that the draft Port State Measures Agreement and the Global Record – if both are adopted and established – will only succeed if States fulfill the obligations that will flow from these tools. These obligations will include denying port entry and services to many fishing vessels, targeting vessels for inspection and cooperating with other States to take meaningful action against vessels that have been found to have engaged in IUU fishing. While some States have been taking these actions already, on a global scale it has been sporadic and inconsistent. The purpose of the draft Port State Measures Agreement is to harmonize and standardize State action within ports and by flag States. Obligations that will flow from the adoption of the Global Record will include providing sizable amounts of information to the Global Record and on a regular basis. They will include enhancing other monitoring, control and surveillance activities based on information received from the Global Record and the regional networks of port States that develop via the draft Port State Measures Agreement. They will include enacting laws that make

it a crime to do business with IUU fishers and the companies behind them. This will include making it illegal to knowingly sell insurance, banking and other services to illegal operations. Other obligations will include using information from the Global Record to shut vessels – and perhaps their flag States – out of the seafood market by encouraging market-based initiatives. Unless flag States, market States and port States fulfill these and other obligations that flow from the draft Port State Measures Agreement and the Global Record, the situation in fisheries will not measurably improve.

The following section summarizes the key findings of this dissertation which has led the author to this conclusion.

Dissertation summary

Chapter 1 – Fish stocks

The opening chapter of this dissertation set the scene in world fisheries. Global fisheries ecosystems have been subjected to decades of unsustainable fishing practices. Now, fish stocks are widely acknowledged to be in crisis. FAO has reported that 25% of the 260+ fish stocks that are monitored by the organization are either substantially depleted, overexploited or recovering from depletion. The World Resources Institute estimates that cod, tuna, swordfish and salmon stocks have collectively been reduced by 90% since the start of large scale industrial fishing.[1] Nearly two thirds of the world's straddling and highly migratory fish stocks are overexploited. Around 50% of the stocks of oceanic shark species are either overexploited or depleted.[2] This depletion of predatory fish has caused trophic cascades. These can be considered ecological disasters. Because a billion people depend on fish for their livelihood, a crisis in world fisheries can also be seen as a crisis in world economic development. With fishing vessels steaming further afield to find fish, burning more and more oil, the fisheries crisis has a further adverse environmental effect. The loss of productivity in the oceans may become a global security issue. The UN Security Council President has said that environmental instability threatens international peace and security.

The chapter described how the public seems only partially aware of the effects of its collective demand on the oceans. Supply problems have been hidden from consumers by marketing species that were once considered by-catch, renaming fish and rapid increases in aquaculture production. Sourcing wild seafood from other oceans has created the impression that there is still plenty to go around. The chapter described how seafood has been harvested to supply this ever-rising demand for seafood. Three major factors have played out here: a) over-capacity in the order of perhaps 200-300%; b) a lack of limits under the customary international law notion of 'freedom of the high seas'; and c) inefficient and poorly designed government subsidies, estimates of which range between USD34 billion and USD124 billion annually. Political and scientific failures have compounded the effects of this magnitude of fisheries harvesting. Sufficient political will has not been found to fully implement international agreements that apply meaningful limits to fishers. A stealthy enemy has arisen among all this chaos: IUU fishing, which this dissertation explored in chapter 2.

---

[1] Denton, Peter. "Over-fishing the World's Seas." World Resources Institute. http://marine.wri.org/topic_content.cfm?cid=3299. Accessed 19 May 2009.
[2] FAO. SOFIA. 2006. p.33.

Chapter 2 – Illegal, unreported and unregulated fishing

Chapter 2 outlined the rise of IUU fishing into the global phenomenon it is today. It was reported in 2004 that it was "increasing in both intensity and scope and... is continuing to undermine national and regional efforts to sustainably manage fisheries."[3] As this dissertation noted in chapter two, in 2008 the Marine Resources Assessment Group and the University of British Columbia estimated the value of IUU fishing to be USD10-23 billion.[4] It is said to be prevalent in just about every fishery and, in some, has reached what could be described as epidemic proportions. The UN now considers IUU fishing to be the main obstacle to achieving sustainable fisheries.[5]

IUU fishing is easily described as "removals of fish from a fisheries ecosystem that are either unauthorized or unrecorded."[6] It is true that unauthorized fishing has existed ever since the first restrictions were applied to fisheries, such as season closures. Indeed, Upton and Vitalis note that "pirate fishing in Athenian waters by fleets based in the Asia Minor Greek cities in 260 BC, for instance, helped trigger a series of mini-conflicts between Athens and its former clients."[7] But in the 1980s, the LOSC brought great changes to the jurisdictional status and activities of States on the world's oceans. Extensions of coastal State Exclusive Economic Zones tied up around 36% of the ocean under national jurisdiction. This represented 90-95% of the world's marine fisheries. The high seas was contracted. The rise of regional fisheries management organizations and State-based fisheries restrictions applied pressure to fishers as they attempted to continue running viable businesses. Traditional distant water fishing States found old fishing grounds locked up under coastal State or RFMO jurisdiction. Emerging fishing nations began to exploit 'their' fish. As fish stocks dwindled and demand rose, so did the price of fish. Criminal enterprises entered the fray, realizing huge profits from unauthorized fishing. This pressured fish stocks, legitimate fishers, RFMOs and States alike. The acronym "IU" – illegal and unreported – was used by the CCAMLR Commission in the early 1990s. "IUU" – illegal, unreported and unregulated – was first used at the 1997 CCAMLR Commission meeting. Executive Secretary Denzil Miller calls it "Insidious, Unfair and Unsustainable."[8] In a universally-agreed definition within

---

[3] Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: how flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. p.8.

[4] MRAG and Fisheries Ecosystems Restoration Research, Fisheries Centre, University of British Columbia. April 2008. *The Global Extent of Illegal Fishing: Final report.* p.1.

[5] Report of the Secretary General of the United Nations. 26 August 2004. "Sustainable Fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related Instruments." A/59/298. Paragraph 36. Accessible at http://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm

[6] Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." In OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing. OECD.* Committee for Fisheries. OECD Publishing. 2004. p.173.

[7] Upton, Simon and Vitalis, Vangelis. 2003. "Stopping the high seas robbers: Coming to grips with illegal, unreported and unregulated fisheries on the high seas." Background paper submitted to the *OECD Round Table on Sustainable Development: The sustainable development of global fisheries, with particular reference to enforcement against illegal, unreported and unregulated fisheries on the high seas.* 6 June 2003. p.1.

[8] Miller, Denzil. Presentation to IASOS. 23 April 2008.

an important piece of soft law (which was be discussed in chapter 4), FAO defined it in this way in 2001:[9]

> 3.1 Illegal fishing refers to activities:
> 3.1.1 conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;
> 3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or
> 3.1.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.
> 3.2 Unreported fishing refers to fishing activities:
> 3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or
> 3.2.2 undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.
> 3.3 Unregulated fishing refers to fishing activities:
> 3.3.1 in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or
> 3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

IUU vessels in general have low operating costs because they do not pay licence fees or meet costly by-catch mitigation, crew safety or labour standards. There remains only a small chance of detection, a smaller chance of apprehension and the imposition of extremely modest penalties if they are convicted. According to Agnew and Barnes, this makes the opportunity cost of this kind of fishing low.[10] Flag States have not applied effective control to IUU fishing vessels. The 'corporate veil' provided by international financial devices hides beneficial owners from scrutiny and liability. And the widespread use of flags of convenience have made the problem legally intractable. Although these change year by year, there are, at any one time, dozens of open flag registries through which to gain a flag with limited oversight and many dozens of friendly ports in which to land illegal catch. Additional factors include the speed with which IUU fishing operations adapt to changed legal environments, steam to new fishing grounds and transship product and re-supply on the open oceans. Monitoring is insufficient and expensive, detection is difficult, securing evidence of wrong-doing is a physically and legally complex task, and monetary penalties can readily be written off. Most importantly, significant incentive and profit structures sustain IUU fishing: IUU-caught fish is still landed in ports, by vessels that are neither traceable nor easily identified, flying the flags of States who do not or will not enforce the rules. As a result, catches get to market and are sold at a high enough price to provide sufficient incentives to continue fishing outside the prevailing regulations.

---

[9] This definition comes from the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing, which will be discussed in the following chapter. It is the agreed definition of IUU fishing by FAO-COFI members. Any shorter versions are generally modification of this broad definition.
[10] Agnew and Barnes. 2004. Above, n.6. p.169.

The existing international legal regime and why it has not worked

Chapter 3 – Hard law

Chapter 3 explored developments in the law of the sea during the 20th century. The purpose of this was to set the context within which the dissertation could logically explore the two instruments which are its ultimate subjects – the draft Port State Measures Agreement and a proposed Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels.

A series of multilateral conferences were convened and declarations and statements made about the environment during the 1970s and early 1980s. A series of fisheries disputes and unilateral territorial extensions led to the LOSC. This near-universally supported convention created, *inter alia*, a regime for the exploitation of fish stocks in the Exclusive Economic Zones of coastal States and a regime for the regulation of high seas fisheries. The LOSC enshrined the customary international law principles of freedom of the high seas and freedom of fishing at Article 87, subject only to a general limitation to have "due regard for the interests of other States in their exercise of the freedom of the high seas." This came in the form of duties to cooperate, consult and regard the rights and duties of other States. This was, in general, to be achieved through subregional and regional organizations. However, the obligations were not well defined and the organizations themselves, at that time, were either non-existent or weak. With rights and freedoms paramount and flag States retaining sole jurisdiction over the activities of fishing vessels, the LOSC did little to curb the overexploitation of fish stocks. It did almost nothing to conserve high seas fish stocks. Soon after its adoption, negotiations began on issues that remained unresolved. These included gross over-capacity in fisheries, inadequate flag State control, minimal information collection or exchange and the lack of attention given to certain categories of fish by the LOSC: straddling and highly migratory fish stocks. These 'international' stocks had continued to decline during the many years the LOSC slowly came into force. The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement) contained detailed operational guidelines relating to the rights and duties of States under the LOSC regarding these stocks. This Agreement was adopted in 1995. It was the second piece of hard law discussed in chapter three of this dissertation.

The Fish Stocks Agreement made cooperation through RFMOs the primary vehicle of fisheries management for straddling and highly migratory stocks. States were required to make it a national offence for flagged vessels to undermine regional and international conservation and management measures. They were to apply enforcement measures in order to achieve compliance. The Fish Stocks Agreement created a legal foundation for various types of non-flag State enforcement, including at-sea boarding by third nations and enhanced port State measures. With the implications for State sovereignty that the Fish Stocks Agreement represented, take-up of the Agreement has been patchy and slow, leaving much fishing activity outside the reach of this important fisheries agreement.

Two major issues were still barriers to the international community's efforts to control and manage high seas fishing in the wake of the LOSC and the recognition of further declining fish supplies: the flagging or reflagging of fishing of vessels to certain States

in order to evade fisheries controls, and the generally inadequate flag State control over fishing vessels.[1] In order to address these issues, the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement) was adopted in 1993. This was the third piece of hard law that was examined in chapter three of this dissertation. The Agreement specified a flag State's responsibilities. Parties to the Agreement were to "take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures."[2] Vessels had to be specifically authorized by the flag State to fish on the high seas, and any conditions placed upon that high seas authorization had to be adhered to.[3] States were to keep records of the fishing vessels entitled to fly its flag and authorized to fish on the high seas.[4] They were obliged to exchange these records with other States and FAO. However, just thirty-eight States plus the European Union have signed the Compliance Agreement, a narrow base with a limited impact on curbing the practice of reflagging vessels to avoid fisheries controls. In addition, it concerns only high seas fishing activities. With weak coverage and poor compliance, the information that was obliged to be collected and exchanged by States under the Compliance Agreement has barely taken place.

Thus, the international legal framework surrounding fisheries was unfinished. Two major challenges remained. The first was the dearth of information that exists regarding fishing vessels, their catches, histories and beneficial owners. The second was continuing inadequate flag state control over fishing vessels. It was hoped that these issues would be furthered by soft law. It was to this that this dissertation turned.

Chapter 4 – Soft law re: IUU fishing

The hard law legal framework surrounding international fisheries was adopted before it became clear how widespread the phenomenon of IUU fishing was, and would become. Activity at the international level came in the form of statements and declarations and non-binding agreements. While not having the force of hard law, these instruments nonetheless guided state practice and began to build institutional capacity to combat IUU fishing. Given their importance, chapter four therefore explored these soft law arrangements.

In May 1992 an international fisheries conference in Cancún, Mexico began the development of a comprehensive system framed by a new concept known as 'responsible fishing.' The non-binding FAO Code of Conduct for Responsible Fisheries was adopted in 1995 as an umbrella agreement under which others could be elaborated.[5] The Code of Conduct covered fishing in both national waters and the high seas. Multilateral cooperation was made a central tenet. States were to exercise effective control over vessels that fly their flags and ensure that their activities did not undermine the effectiveness of national, subregional, regional or global conservation and management measures. Flagged vessels were to collect and provide data relating to their

[1] Preamble, Compliance Agreement.
[2] Article III(1)(a).
[3] Article III(2).
[4] Article IV.
[5] The Compliance Agreement was the first integral component of the Code of Conduct and the only piece of hard law.

fishing activities. States were to maintain records of fishing vessels flying their flag and authorized to fish. This included vessel characteristics and ownership details.[6] While flag State jurisdiction is still very much primary in the Code of Conduct, importantly, the Code of Conduct delineated duties for port States.

Four subsequent (non-binding) instruments were elaborated under the Code of Conduct – FAO International Plans of Action to reduce fishing capacity, protect sharks and seabirds, and combat IUU fishing. The 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU) was created to guide national plans and strategies to combat IUU fishing both in States' territories and by their flagged vessels. It included measurable targets and reporting duties. It contained important new ways to exert control over fishers. While the flag State was still the 'first defence' against IUU, port State controls and internationally agreed market-related measures were promoted as second and third pillars upon which enforcement of international fisheries rules could rest. The IPOA-IUU encouraged States to ensure that their nationals and companies within their jurisdiction did not engage in IUU fishing. They were to discourage their citizens from flagging their vessels to flag of convenience States. States were encouraged to implement a suite of monitoring, control and surveillance measures including access and authorization schemes for vessels, Vessel Monitoring Systems and observer programmes, boarding and inspection regimes in national and international waters, vessel records and systems for the acquisition, storage and dissemination of monitoring, control and surveillance data.[7] States were encouraged to keep and exchange detailed records, including, *inter alia,* the name and ownership history of the vessel and any history of non-compliance.[8] Crucially, the IPOA-IUU encouraged States to "embrace measures building on the primary responsibility of the flag State and using all available jurisdiction in accordance with international law, including port State measures, coastal State measures, market-related measures and measures to ensure that nationals do not support or engage in IUU fishing."[9]

Implementation of the comprehensive Code of Conduct and the International Plan of Action to Prevent, Deter and Eliminate IUU Fishing has been slow, especially among developing States. Many of these States have capacity problems in realizing the legal and political changes required by the 'toolbox' of measures to address unsustainable fishing and IUU fishing. Feedback on implementation suggests that information collection and exchange was still weak but monitoring, control and surveillance measures had improved. Basic port State controls had been introduced and were used by most of the respondents to a FAO survey. While progress is difficult to evaluate, what has become clear is that improving monitoring, control and surveillance of vessels, information exchange and port State measures were areas of genuine promise in combatting IUU fishing.

Despite progress, the IPOA-IUU alone had proven insufficient to solve the problems. The pervasiveness of IUU fishing strongly suggests that the incentive and profit structures that sustain it have not been addressed by the suite of hard and soft laws explored in these two chapters. Ineffective flag State control had been exposed as a key reason for the spread and persistence of IUU fishing. IUU fishers continued to be able

---

[6] Article 8.2.1.

[7] Paragraphs 24—24.10. IPOA-IUU.

[8] Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: The economics of illegal, unreported, and unregulated fishing*. Organisation for Economic Co-operation and Development. OECD Publishing. pp.113,114

[9] Paragraph 9.3. IPOA-IUU.

to offload their catches in ports and sell them into markets. This chapter concluded that in order to secure compliance with the measures in the binding Compliance Agreement and the Fish Stocks Agreement, the non-binding Code of Conduct and the IPOA-IUU, additional operational-level tools were still required. These would need to address the continuing lack of good information about fishing vessels, their activities, catches and beneficial owners. With this information, they could be more successfully targetted for more extensive monitoring, control and surveillance measures and enhanced port and market-based measures.

Chapter 5 – Monitoring, control and surveillance in fisheries

Chapter five explored monitoring, control and surveillance measures. These are now seen as vital both to fisheries management in general and to controlling the activities of IUU fishers. All MCS tools have a role to play in eradicating IUU fishing. However, chapter five focused on *information* in fisheries, the lack of which must be addressed in order for IUU fishing to be controlled. This chapter discussed state practice in the area of monitoring, control and surveillance, and focused on the role played by Vessel Monitoring Systems and the vessel lists kept by States and RFMOs. It then discussed the FAO High Seas Vessels Authorization Record (HSVAR). This international record was set up under the 1993 Compliance Agreement. This Agreement mandated the exchange between parties, RFMOs and international organizations of various information on fishing vessels and their activities that had been authorized by States to fish on the high seas. In 1994 the HSVAR was developed by FAO to operationalize this record-keeping component of the Compliance Agreement. It was to be a repository of all high seas fishing registrations and authorizations issued by States.

But in practice the HSVAR had significant weaknesses. There was no mandate to request all data which would be relevant for MCS practitioners and fisheries managers. Only parties to Compliance Agreement were obliged to provide data. It did not receive the amount or quality of data that was envisioned (only 7,175 vessel records exist in the HSVAR). States have not sent regular updates. It related only to high seas fishing vessels and, in practice, only applied to vessels over 24 metres in length. It did little to deal with the lack of ability to permanently identify vessels, through time and changes in ownership. It relies on flag State cooperation, which has not generally been forthcoming. It does not deal with the 'corporate veil', which continues to shield beneficial owners from liability. It gives inadequate support to developing States and had no review function to easily change any of this.

The information that was meant to flow through the HSVAR has therefore not been forthcoming. Greater transparency was needed in fisheries. The international instruments that this dissertation explored in chapters two, three and four were not enough to prevent or deter global IUU fishing. RFMOs have implemented schemes that build on the internationally-agreed measures. States have heightened their MCS programs, including expensive at-sea patrols, to catch IUU fishers. But while these activities may shift IUU fishing operations from an area, they typically do not eliminate it. The search for tools that could have a real impact on the global picture of IUU fishing has continued. In 2005 the High Sea Task Force called for "the establishment of a publicly-available international database of information relating to the global high seas fishing fleet"[10] This new instrument was to include not only high seas fishing vessels

[10] High Seas Task Force. 2005. "How to get better information about high seas fishing vessels." Meeting of the High Seas Task Force. Paris, France. 9 March. p.2. It should be noted that the High Seas Task

but domestic fishing vessels; not only large-scale vessels but smaller ones too. It needed to provide reliable information on the activities of IUU fishing vessels, results of port landings and transshipments, as well as information on the measures in place at national ports to inspect and detain vessels and catch. It was to these matters that this dissertation turned in chapter six.

Two potential new FAO tools to combat illegal, unreported and unregulated fishing

Chapter 6 – The Global Record of fishing vessels

It was seen in this dissertation that the lack of transparency about vessels and their ownership in combination with an absence of information about fishing activities in general have been two major constraints on the deterrence of IUU fishing. Yet the concept of a global fishing vessel information system is relatively recent. In its March 2006 Resolution on Sustainable Fisheries, the UN General Assembly:

> encouraged and supported the development of a "comprehensive global record" within FAO of fishing vessels that incorporates available information on beneficial ownership, subject to confidentiality requirements in accordance with national law... A data base that identifies IUU vessels and catch at port could assist in the activation of port controls with respect to relevant vessels.[11]

Within a year the idea was on the agenda of the 2007 FAO-COFI session. In 2008 an Expert Consultation was convened within FAO. Chapter six of this dissertation, therefore, was largely occupied with an examination of this proposed Global Record.

The purpose of the Global Record will be to 'shine a light' on vessels, their owners and their fishing activities. It would be a database, not a registry, and would offer no legal standing. It would simply house data, acting as an information source.[12] No judgements would be made by FAO or the administrators on the content of the records. Chapter six identified the primary issues which will need to be addressed by the designers of the eventual instrument and States negotiators. These relate to: a) sources of information; b) types of information; c) the size and type of vessels it will include; d) the technical compatibility of existing RFMO and national vessel records; e) the use of unique vessel identifiers; and f) the inclusion of information about beneficial owners. It was submitted that the Global Record will need to better incorporate the special needs of developing countries. It will also need to address the issue of the project's significant costs, and who will pay them. It will need a review process, which the HSVAR sorely lacked, to

---

Force's specific role and remit was IUU on the high seas. This dissertation has argued that because 90%+ of fish stocks are found in national EEZs, and IUU fishing in EEZs is a major problem for coastal states, fishers in general and international trade in fish and fishery products a *global* register is needed, which would naturally and importantly include high seas vessels.

[11] UN General Assembly Resolution 61/105: *Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments.* A/RES/61/105. Paragraph 56.

[12] Midson, David. 2009. "A New Global Record for an Old Threat." *Australian and New Zealand Maritime Law Journal.* Vol. 23. Forthcoming. See also: Lugten, Gail. 2008. "Current legal developments: Food and Agriculture Organization: The FAO Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels." *International Journal of Marine and Coastal Law.* Vol. 23. No. 4. p.762.

give it the flexibility to respond to changing needs and circumstances in the world of fisheries.

This chapter, in combination with the chapter describing the HSVAR, saw that the overriding concern was going to be how to obtain, on an ongoing basis, accurate, comprehensive and current data with which to populate the Global Record. The failure of the HSVAR suggests that the amount of information that can be sought without jeopardizing the support of States may be quite low. But the HSVAR was not connected to any ongoing incentives. The Global Record would be connected to the market.

User groups for the Global Record include port authorities (who will use it to decide whether or not to allow a vessel to use its port), flag States (who will use it to decide whether or not to flag or licence a vessel), and coastal States (who will use it to decide whether or not to allow a foreign fishing vessels to fish in its EEZ). However, its real innovation will be that it would be market-driven. Knowledge about the declining state of world fisheries is no longer the province of fisheries managers or FAO. Consumers and retailers in key markets are increasingly well informed. They are searching for ways to ensure that they do not buy or stock illegally-caught fish. It is likely, therefore, that market States, fish wholesalers and retailers, responsible States whose vessels fish for those markets and legitimate vessels in all fisheries would *use* the system and *support* the Global Record with information. This is because they would have a great deal to gain from the system. It was submitted in this chapter that the market orientation of the Global Record could be the counter that the vexing problem of IUU has sorely needed.

This chapter briefly explored the issue of the Global Record's legal standing. The Global Record does not need to be conjoined with another instrument in order for its records to have legal standing. However, it was submitted that it would be most effective if it were attached to the draft Port State Measures Agreement, as an Annex. (The draft Port State Measures Agreement is currently in negotiation under FAO.) The reasons for this recommended annexation include, firstly, the hard law status of the draft Port State Measures Agreement. As a result, compliance pressure would come by virtue of it being enforceable against parties in an international court. Secondly, it would be synergistic: the aims, provisions and extent of their application are mutually supportive. The draft Port State Measures Agreement calls on parties to exchange information with States, RFMOs, international organizations (such as FAO) and other entities; the Global Record aspires to include all of the vessels the draft Port State Measures Agreement will cover. Further, the information required for regional and international port State controls to work effectively could be provided, in part, by the Global Record. In turn, information provided by the port records and inspections could be fed back into the Global Record. Market stakeholders would use all this information to help make their purchasing decisions. All this depends on States providing it with information. It was submitted that the incentives provided by the market could prove to be the decisive factor in gaining State support.

There are many challenges ahead for the Global Record as it is designed, negotiated and potentially adopted. If it supported by States, and used by them as well as industry stakeholders, this chapter concluded that the Global Record would bring a new, previously unheard of transparency to the world's fishing activities. It will coalesce the fish harvesting, processing and purchasing industry, States, policy and academic researchers, NGOs and the public – all using and sharing information. This

could allow it to do what Lugten has suggested, that is, "totally change the way we manage, catch and purchase our fish and fish products."[13]

Chapter 7 – The draft Port State Measures Agreement

Chapter seven saw that enhancing port State control adds another enforcement layer to State activities to combat IUU fishing. Alongside responsible flag States, port States can apply control measures to foreign fishing vessels. These can make it more difficult for IUU-caught fish to reach markets. Action is focused on what is probably IUU fishing's most vulnerable point – its economic base, the reason for its existence.[14] Measures have been available to States at international law for some time to control port access to suspect foreign fishing vessels, but under the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing, these rights were crystallized.[15] Since 2005, the 130+ members of FAO-COFI have been exploring the implementation of port State controls on a coordinated and standardized global scale. The draft Port State Measures Agreement analyzed in this chapter will bind contracting parties to a set of legally-binding minimum standards regarding the application of port State measures.[16] This chapter analyzed its major elements. These included: the public designation of the ports that are available to foreign fishing vessels; the requirement for a foreign fishing vessel to give prior notification before arrival in a port; and the requirement for detailed information to be transmitted by a vessel wishing to enter a port. The Agreement provides for national authorities to deny a foreign fishing vessel access to its ports for landing, transshipping, packing or processing catch, as well as using its services. The draft Port State Measures Agreement provides standardized protocols for inspections, inspector training, the transmission of inspection reports and the exchange of information with other States, international and regional organizations. If a foreign fishing vessel is found to have engaged in IUU fishing, flag State signatories are obliged to take action against the vessel, or allow the port State to do so. The draft Port State Measures Agreement contains what amounts to a 'trust fund' for developing countries to access in order to increase their port State capacity. It also contains dispute settlement provisions, with ITLOS or the International Court of Justice being possible final arbiters.

Chapter seven's evaluation of the draft Port State Measures Agreement raised a number of issues which FAO and the negotiating States will need to address. They will need to settle on a definition of IUU fishing that is appropriate to a legally-binding treaty, and also decide where it should be placed within the treaty. They will need to decide on how broad the definition of "vessel" will be. Will it cover bunkering and other supply vessels? Will it cover multi-cargo vessels? Under the draft Port State

---

[13] Lugten, Gail. 2009. "The FAO Global Record of Fishing Vessels: Issues for Pacific Island States and the Forum Fisheries Agency." Chapter four. Tsamenyi, B.K.M., and Hanich Q. (eds). *Legal and policy trends in the implementation of international fisheries instruments in the Western and Central Pacific Region.* Kluwer Publishing. The Netherlands. In press. p.22.

[14] Closing ports to vessels forces them to land their catch elsewhere, increasing their steaming costs and restricts their market access, constituting a significant profit-cutting economic burden. See: Gallic, Bertrand and Cox, Anthony. 2006. "An economic analysis of illegal, unreported and unregulated (IUU) fishing: key drivers and possible solutions." *Marine Policy.* Vol. 30. p.693.

[15] States are able to control port access to "foreign fishing vessels to ports or offshore terminals for the purpose of *inter alia*, refueling, re-supplying, transshipping and landing." Paragraph 53. It should be noted that this section makes a point of excepting emergency circumstances from the application of restrictive measures.

[16] These binding standards come from the FAO Port State Model Scheme and the IPOA-IUU.

Measures Agreement, port States can take "action", but it is the flag State which must "enforce" the treaty. As they are at customary international law, port State measures will generally comprise denying access to port and mandatory inspections in the absence of the flag State's cooperation. It is unlikely that port States can deny a vessel's *exit* from a port, and unlikely that they can deny landing and transshipment without first doing an inspection of the vessel and finding evidence of engagement in IUU fishing.

The process whereby a vessel is targeted for inspection under the draft Port State Measures Agreement is not well delineated. It will be important to know whether a vessel's choice of flag State and vessel history or ownership will subject it to more inspections than other vessels. The maritime shipping sector has identified the need to target vessels *and* their flags as an important component for control regimes combatting IUU fishing. Both the Paris MoU and the EU's incoming EU-IUU Regulation have methods of targeting vessels that are more complicated but, possibly, more likely to target vessels that are at highest risk of having offended. The white, grey and black lists under the Paris MoU are especially useful indicators. The draft Port State Measures Agreement provides for none of these. A further, and related, problem is that the current draft of the treaty allows for compensation claims to be made by vessel operators for undue delays. It is unknown how this will affect the port inspection process. The draft Port State Measures Agreement does contain a 'trust fund' to assist developing countries enhance their port State capacity, which may be decisive in attracting participation by developing States. However, the Agreement contains no incentives for long-term participation or for applying measures to foreign fishing vessels which have violated international conservation and management measures outside the port State's territory (and immediate self-interest). With some States standing to lose tangible benefits by implementing strengthened port State controls, it was submitted that they may need a reason to participate beyond an intangible improvement to its international reputation.

Despite the challenges discussed in chapter seven, it is submitted that the draft Port State Measures Agreement should be adopted by the international community of states. Supplying minimum standards for port States in Convention form would codify a new global consensus on preventing and deterring IUU fishing. Other extant port State control systems, such as CCAMLR's catch documentation scheme, the EU's recent IUU Regulation and the coordinated activities within NAFO and NEAFC are painstakingly-designed regional systems and have tested the concepts solidified in the draft Port State Measures Agreement. However, they represent the piecemeal, uncoordinated approach to fisheries and by definition fall short of the comprehensiveness required to stop IUU fishers. A global standard should bring poorly performing States into the fold by providing incentives, such as ensuring market access to their fishers, and disincentives – the targeting of their flagged fishing vessels by a great number of port States.

Information exchange, which has been so poor in fisheries, should be enhanced by the draft Port State Measures Agreement. It provides for it, though it is unknown whether this information will be delivered to a centralized repository, the Global Record, FAO itself or on a regional basis. It is unknown what sort of information will be exchanged, and at what intervals. It is therefore unknown how information derived from the application of the draft Port State Measures Agreement will be used, and by whom. However, it was submitted in this chapter that there are obvious linkages between the Agreement and the proposed Global Record. Indeed, it would further legitimatize the very concept of the Global Record. It would both provide information to it (such as inspection results, or the mere fact that it was inspected) and use its

records to assist the identification of vessels and verification of the details under the notification process before they arrive in port.

The draft Port State Measures Agreement would also enjoy strong links to market-related measures. These would act as both incentives and enforcement tools. The treaty should be a significant step towards the development of customary international law for port State action against IUU fishing vessels. It would shade flag State primacy, underlie the formulation of stronger domestic laws against IUU fishing, and assist the process of challenging States which still fail to comply. This chapter concluded that the draft Port State Measures Agreement, together with an active, evolving and fully implemented Global Record, would form a formidable line of defence against IUU fishing operations.

Supporting the two proposed new FAO tools – trade and market-related measures

Chapter 8 – Trade and market-related measures

It has been believed for some time that making IUU fishing operations less profitable or even *un*profitable is the key to eliminating the trade in IUU-caught fish – a belief made especially potent because around 37% of world fishery production is now traded internationally.[17] This dissertation explored trade and market-related measures as tools to help enforce the activities of States and support those in the fishing, processing and purchasing industries that are employing sustainable fishing practices. These same stakeholders are seeking to ensure that their supply chains do not include illegally-caught fish. Consumer demand has helped create new markets for environmentally-friendly products and sustainably-harvested fish. One way for governments and private organizations to institute higher standards is to limit access to these new, 'clean' markets to only those companies, countries or fishing vessels that meet those higher standards. In turn, this will encourage consumers and civil society to apply even greater pressure on governments to implement effective State-based measures, such as applying trade restrictions to product from unsustainable sources or IUU fishing.

Thus, chapter eight looked at the ways in which States can use trade restrictions to try and protect the environment. It evaluated a series of GATT and WTO dispute settlement cases, which showed that the imposition of trade-related measures to achieve an environmental aim is legitimate under the WTO Agreement. They must be justifiable under Article XX's "General Exceptions." It was shown that the WTO's primary concern is that the measure invoked by the State is the least trade-restrictive option available to achieve the policy goal. Alternatives must have been exhausted. It was submitted that the multilateral use of trade restrictions can be used to protect fisheries from unsustainable practices and IUU fishing. It further submitted that all States should enact laws such as the US Lacey Act Amendments of 1981, which makes it a crime to import into the United States wildlife caught in violation of a foreign law or any State law.[18] This includes illegally-harvested fish.

Chapter eight went on to examine private initiatives in fisheries, with a particular focus on the Marine Stewardship Council. It evaluated whether market-related measures in the

[17] FAO. SOFIA. 2008. pp.8,45.

[18] United States Attorney. May 28, 2004. Southern District of New York. US Attorney's Office. "Three seafood industry executives sentenced to federal prison in massive seafood poaching and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/May04/bengissentencingpr.pdf. Accessed 14 November 2008.

form of private standards can make a significant contribution to the enforcement of the fisheries instruments discussed in this dissertation. The Marine Stewardship Council's standard is based on three principles: that the harvesting is sustainable (a standard which is impossible to meet if IUU fishing is a major factor in the fishery); that environmental impact is minimized, and; that management within the fishery is effective. Marine Stewardship Council-labelled products are now available in 36 countries. Growth is significant. However, it still has only around 5 million annual tonnes of fish under certification. The latest estimation of the size of the annual IUU fishing catches is 11-25 million annual tonnes of fish.[19] Nevertheless, there is some evidence that these private standard-setting organizations are tuning the market and impacting the sale of illegally-caught fish by making market access difficult to achieve for IUU fishing operations.

It was submitted that the market must be both a driver and a supporter of the Global Record and the draft Port State Measures Agreement if they are to work most effectively. Two of the market's key needs when sourcing non-IUU, sustainably-caught seafood are traceability and reliability of sourcing. These factors underlie the market's ability to support fisheries instruments, and vice versa. It was seen earlier in the dissertation that the draft Port State Measures Agreement and, especially, the Global Record would improve the tracking of vessels and catch and generally enhance the transparency of fishing operations. These attributes will be vital to the market's attempts to validate their chains of custody and gain greater consumer confidence. If adopted, the Global Record would be supported by monitoring, control and surveillance information, Vessel Monitoring System data, RFMO documentation, NGO information, and perhaps the draft Port State Measures Agreement's port State inspection records. Coordinated port and market State information, reinforced by a Global Record, would capture the movements of fish and vessels all around the world. This will be especially important while only a fraction of this movement is currently traceable under the MSC program on account of its small size. It was concluded that trade and market-related efforts should be supported by States, enabling those fishing operations which fish within the rules to be rewarded in the marketplace while IUU operations are increasingly locked out of it.

Conclusion

IUU fishing is a worldwide problem which has proven intractable because the catch from these operations continues to make it to market. However, if effectively implemented, the two instruments described will go far towards eliminating IUU fishing. The draft Port State Measures Agreement provides a legal model for States to implement domestically and regionally. It will enable and encourage them to act against foreign fishing vessels that are suspected of IUU fishing outside the normal legal jurisdiction of the port State. Deterrence of IUU fishing will come through the ability of a port State to deny a suspect vessel access to its ports, or subject it to a detailed inspection once it in is port. The dissemination of the inspection report and other information among other contracting parties, RFMOs and international organizations will allow for better coordination of information than has been previously enjoyed by monitoring, control and surveillance practitioners and national fishing authorities. Forcing suspect vessels to steam far away to a port that will still allow it to land or transship its catch will reduce profits. Giving States a framework within which to enact

[19] MRAG and University of British Columbia. 2008. Above, n.4. p.1.

Lacey-style laws restricting trade in certain fish closely links port State measures with market-related measures. The act of importing illegally-caught fish or even offloading in a port outside the scheme can then be a violation of national law.

The Global Record, if implemented, would greatly enhance the data available on a large number of the world's fishing vessels. It will complement the internal systems established by the big European seafood retailers and provide to the wider market the information it needs when assessing the source of its catch. When buyers are looking to purchase fish from a vessel, the Global Record will show a clean bill of health, or activities that make it suspect. In a highly globalized marketplace, these issues will matter. The Global Record will also complement, and perhaps eventually replace, the *ad hoc* systems port State and MCS authorities currently use to trace the movements of fishing vessels.

While either instrument could stand on its own, it is submitted that neither would work as effectively if implemented alone. As promising as they are, market-based measures cannot do the work alone either, as evidenced by the Marine Stewardship Council's struggle to become a self-sustaining organization. The time for piecemeal and soft law approaches to IUU fishing must be considered well over. While there has been success in combatting IUU fishing within RFMOs over the past decade, the mutability and continuing scale of IUU fishing has exposed the disjointed approach as deeply fallible. The focus of the new FAO instruments is *global*. They are interconnected. Activities under one will support the other. Vessels could be targeted for port State measures if they are not on the Global Record. The Global Record could, in time, act as the global information database that MCS authorities feed their sightings into and regional port State control regimes feed their notification information and inspection data into. The Global Record will be a source of information for both port State measures and trade and market-related measures, and would be rendered most effective if it resided within the hard law draft Port State Measures Agreement.

The draft Port State Measures Agreement and the Global Record are both tools that will require a significant commitment by States. This will be required in the implementation by States of their responsibilities under them, as well as in maintenance and administration tasks that aim to keep the tools current and active. The currently informal network of RFMOs will probably harmonize via the draft Port State Measures Agreement. They will also cooperate more formally, perhaps eventually forming a global fabric of regional port regimes. The IMO regimes have done this, beginning in 1982 with the Paris MoU. These new port control regimes would probably develop standardized information-gathering tools, disseminated through FAO, and form significant and formalized links with the MCS Network. They would use the Global Record, which would be implemented by States and coordinated by FAO. FAO has engaged in a multi-year effort to create and adopt these two new international tools and has proven its role in the vital areas of on-site, in-country and regional training workshops on MCS and port State capacity building for developing States.

It is too early to tell whether or not these two proposed instruments and better coordinated trade and market-related measures will be sufficient to ultimately eradicate IUU fishing. But it has been seen in this dissertation how far they will go – if properly implemented – at helping to prevent and deter the practice. This is because the tools will address major gaps in the international legal regime and cut IUU off at its most vulnerable point: its profits. What is clear is that *not* implementing these instruments,

and not being bolder in the use of trade and market-related measures to support them, will leave the world far away from achieving the goal of sustainable fisheries. The future of fisheries begins here, not at some distant point on the horizon. It is submitted that the international community should see these two proposed instruments as part of the necessary process of modernization, adaptation and evolution in fisheries management. It has been seen in this dissertation that the business-as-usual approach to fisheries is no longer viable. The future will be framed by cooperation, coordination, globalization and restraint. It must focus on rebuilding fish stocks and re-educating consumers. The international community as a whole must finally make it clear to laggard flag States that if they are not going to enforce international and regional rules, then other States will do it for them. The market will tune their behaviour by rejecting those who act outside the rules. The market-based model has brought to fisheries an idea of governance which includes both restrictions *and* incentive systems that reward conservation and good environmental practices. Other forms of "smart regulations" that are increasingly being used in fisheries include private and cooperative ownership and tradeable catch shares – where a fisher or a fishing company owns a percentage stake in a yearly harvest. Such systems focus on rebuilding, and reward conservation.[20] They inevitably and will increasingly involve the local community.[21] Expanding such innovations to fisheries outside of national jurisdiction will fundamentally change fisheries management, as it increasingly devolves to the market. But right now, the new way of doing business in fisheries needs to begin with finding the political will to:

- implement the draft Port State Measures Agreement and coordinate enhanced port state actions on a regional and global level;
- implement the Global Record and gather and share adequate information about fishing vessels, their activities, owners and operators;
- use that information to withhold access to the market, backed up by state-based trade-related measures;
- secure the participation of reluctant states using the draft Port State Measures Agreement's trust fund and adequately calibrated incentives, and;

---

[20] See, for example: Campbell, David, Brown, Debbie and Battaglene, Tony. "Individual trabsferable catch quotas: Australian experience in the southern bluefin tuna fishery." *Marine Policy.* Vol. 24. pp.109-117, showing that profitability increased and fisher behaviour altered, but also that smaller operators left the fishery within two years (p.117); Bess, Randall. 2005. "Expanding New Zealand's quota management system." *Marine Policy.* Vol. 29. Iss. 4. July. pp.339-347, noting that such a system has "lessened the ecological consequences of the incentive for fishers to 'race for fish' at the same time that the industry has experienced substantial growth in the volume and value of production."); Chavez, Carlos and Salgado, Hugo. 2005. "Individual Transferable Quota Markets under Illegal Fishing." *Environmental and Resource Economics.* Vol. 31. pp.303-324, discussing the relationship between quota prices and quota demand and how this affects violations; Crothers, G.T. and Nelson, Lindie. *High seas fisheries governance: A framework for the future?* (not in wide distribution, 10pp), regarding a shift in governance to rights to "share in the net wealth generated from sustainable harvest of high seas fisheries." (p.1.); Trondsen, Torbjorn, Matthiasson, Thorolfur and Young, James. 2006. "Towards a market-oriented management model for straddling fish stocks." *Marine Policy.* Vol. 30. pp.199-206, suggesting that Multinational Resource Cooperatives be established which would, *inter alia*, auction quota; Gibbs, Mark. 2007. "Lesser-known consequences of managing marine fisheries using individual transferable quotas." *Marine Policy.* Vol. 31. Iss. 2. March. pp.112-116, noting some of the problems of such systems.

[21] See, for example: Crean, Kevin and Wisher, Steve J. 2000. "Is there a will to manage fisheries at a local level in the European Union? A case study from Shetland." *Marine Policy.* Vol. 24. pp.471-481, noting a shift towards a "devolved and locally maintained fishing industry" (p.480); Jentoft, Svein. 2000. "The community: A missing link of fisheries management." *Marine Policy.* Vol. 24. pp.53-59, regarding the challenges of co-management; Carrell, Severin. 3 January 2007. "Scottish experiment may help turn the tide for Britain's dwindling fish stocks." *The Guardian.* www.guardian.co.uk/fish/story/0,,1981616,00.html. Accessed 29 March 2007.

- place a *value* on sustainability that resonates more broadly than just western Europe, parts of North America, Australia, New Zealand and Japan.

It is important to remain optimistic. COFI's efforts in designing these two new instruments has shown an admirable amount of will to solve the problem. IUU undermines RFMO agreements and national laws. The corrosive and weakening effect of widespread IUU fishing has thrown into sharp relief the gaps in the regime surrounding the LOSC. While this treaty has been adopted by 157 States, this dissertation has seen that many are not in compliance with it. It can be redeemed, however, with sustained international efforts and the Global Record and the draft Port State Measures Agreement will be important elements in this process. If both instruments can avoid being watered down during negotiations, they will provide information to the otherwise data-poor area of international fisheries. They will help harmonize responses and marginalize dysfunctional or ineffective flag States. They will help build an ever-more-accurate picture of fishing activities and provide a market-based incentive system to generate compliance. If these two instruments can mark the beginning of the future of fisheries, there is a great deal of scope for optimism that the recovery of plundered species, the re-building of the ecosystems they live in, and a greater respect for the one remaining wild food system can begin here too.

Appendices

Appendix A – 2001 FAO IPOA-IUU
Appendix B – February 2009 Chairman's Text FAO draft Port State Measures Agreement
Appendix C –Annex A of the 2008 draft of the FAO Port State Measures Agreement
Appendix D – Annex A of the February 2009 draft of the FAO Port State Measures Agreement

Appendix A – 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing

FAO CORPORATE DOCUMENT REPOSITORY

Originated by: Fisheries and Aquaculture Department

Title: IPOA - International Plan of Action to Prevent, Deter and Eliminate Illegal, ...

النسخة بالعربية Español Français Russian More details

French | Spanish

Back to main page

INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING

Photo credit: Mr Austin Jones, Director of the Surveillance Operations Coordinating Unit, Banjul, The Gambia

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2001

PREPARATION OF THIS DOCUMENT

This document contains the text of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU).

The **IPOA-IUU** was developed as a voluntary instrument, within the framework of the Code of Conduct for Responsible Fisheries, in response to a call from the Twenty-third Session of the Committee on Fisheries (COFI). A draft text for an IPOA-IUU was elaborated at an Expert Consultation in Sydney, Australia, in May 2000. This document formed the basis for negotiations at Technical Consultations that were held at FAO Headquarters, Rome,

in October 2000 and February 2001. The IPOA-IUU was adopted by consensus at the Twenty-fourth Session of COFI on 2 March 2001 and endorsed by the Hundred and Twentieth Session of the FAO Council on 23 June 2001.

The Governments of Australia, Canada and the European Commission contributed financially to the preparatory activities leading to the development of the IPOA-IUU.

FAO.
International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing.
Rome, FAO. 2001. 24p.

ABSTRACT

The **IPOA-IUU** is a voluntary instrument that applies to all States and entities and to all fishers. Following the IPOA's introduction, the nature and scope of IUU fishing is addressed. This is followed by the IPOA's objective and principles and the implementation of measures to prevent, deter and eliminate IUU fishing. These measures focus on all State responsibilities,' flag State responsibilities, coastal State measures, port State measures, internationally agreed market-related measures, research and regional fisheries management organizations. Special requirements of developing countries are then considered, followed by reporting requirements and the role of FAO.

I. INTRODUCTION

II. NATURE AND SCOPE OF IUU FISHING AND THE INTERNATIONAL PLAN OF ACTION

III. OBJECTIVE AND PRINCIPLES

IV. IMPLEMENTATION OF MEASURES TO PREVENT, DETER AND ELIMINATE IUU FISHING

V. SPECIAL REQUIREMENTS OF DEVELOPING COUNTRIES

VI. REPORTING

VII. ROLE OF FAO

***

I. INTRODUCTION

1. In the context of the Code of Conduct for Responsible Fisheries and its overall objective of sustainable fisheries, the issue of illegal, unreported and unregulated (IUU) fishing in world fisheries is of serious and increasing concern. IUU fishing undermines efforts to conserve and manage fish stocks in all capture fisheries. When confronted with IUU fishing, national and regional fisheries management organizations can fail to achieve management goals. This situation leads to the loss of both short and long-term social and economic opportunities and to negative effects on food security and environmental protection. IUU fishing can lead to the collapse of a fishery or seriously impair efforts to rebuild stocks that have already been depleted. Existing international instruments addressing IUU fishing have not been effective due to a lack of political will, priority, capacity and resources to ratify or accede to and implement them.

2. The Twenty-third Session of the FAO Committee on Fisheries (COFI) in February 1999 addressed the need to prevent, deter and eliminate IUU fishing. The Committee was concerned about information presented indicating increases in IUU fishing, including fishing vessels flying "flags of convenience". Shortly afterwards, an FAO Ministerial Meeting on Fisheries in March 1999 declared that, without prejudice to the rights and obligations of States under international law, FAO "will develop a global plan of action to deal effectively with all forms of illegal, unregulated and unreported fishing including fishing vessels flying "flags of convenience" through coordinated efforts by States, FAO, relevant regional fisheries management bodies and other relevant international agencies such as the International Maritime Organization (IMO), as provided in Article IV of the Code of Conduct.

The Government of Australia, in cooperation with FAO, organized an Expert Consultation on Illegal, Unreported and Unregulated Fishing in Sydney, Australia, from 15 to 19 May 2000. Subsequently, an FAO Technical Consultation on Illegal, Unreported and Unregulated Fishing was held in Rome from 2 to 6 October 2000 and a further Technical Consultation was held in Rome from 22 to 23 February 2001. The draft International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing was adopted by the Consultation on 23 February 2001 with a request that the report be submitted to the Twenty-fourth Session of COFI for consideration and eventual adoption. COFI approved the International Plan of Action, by consensus, on 2 March 2001. In doing so, the Committee urged all Members to take the necessary steps to effectively implement the International Plan of Action.

II. NATURE AND SCOPE OF IUU FISHING AND THE INTERNATIONAL PLAN OF ACTION

3. In this document:

3.1 Illegal fishing refers to activities:

3.1.1 conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;

3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or

3.1.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

3.2 Unreported fishing refers to fishing activities:

3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or

3.2.2 undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

3.3 Unregulated fishing refers to fishing activities:

3.3.1 in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or

3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

3.4 Notwithstanding paragraph 3.3, certain unregulated fishing may take place in a manner which is not in violation of applicable international law, and may not require the application of measures envisaged under the International Plan of Action (IPOA).

4. The IPOA is voluntary. It has been elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d).

5. The FAO Code of Conduct for Responsible Fisheries, in particular Articles 1.1, 1.2, 3.1, and 3.2 applies to the interpretation and application of this IPOA and its relationship with other international instruments. The IPOA is also directed as appropriate towards fishing entities as referred to in the Code of Conduct. The IPOA responds to fisheries specific issues and nothing in it prejudices the positions of States in other fora.

6. In this document:

a. the reference to States includes regional economic integration organizations in matters within their competence;

b. the term "regional" includes sub-regional, as appropriate;

c. the term "regional fisheries management organization" means an intergovernmental fisheries organization or

arrangement, as appropriate, that has the competence to establish fishery conservation and management measures;

d. the term "conservation and management measures" means measures to conserve one or more species of living marine resources that are adopted and applied consistent with the relevant rules of international law;

e. the term "1982 UN Convention" refers to the United Nations Convention on the Law of the Sea of 10 December 1982;

f. the term "1993 FAO Compliance Agreement" refers to the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, approved by the FAO Conference on 24 November 1993.

g. the term "1995 UN Fish Stocks Agreement" refers to the Agreement for the Implementation of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks; and

h. the term "Code of Conduct" refers to the FAO Code of Conduct for Responsible Fisheries.

7. This document is a further commitment by all States to implement the Code of Conduct.

III. OBJECTIVE AND PRINCIPLES

8. The objective of the IPOA is to prevent, deter and eliminate IUU fishing by providing all States with comprehensive, effective and transparent measures by which to act, including through appropriate regional fisheries management organizations established in accordance with international law.

9. The IPOA to prevent, deter and eliminate IUU fishing incorporates the following principles and strategies. Due consideration should be given to the special requirements of developing countries in accordance with Article 5 of the Code of Conduct.

9.1 Participation and coordination: To be fully effective, the IPOA should be implemented by all States either directly, in cooperation with other States, or indirectly through relevant regional fisheries management organizations or through FAO and other appropriate international organizations. An important element in successful implementation will be close and effective coordination and consultation, and the sharing of information to reduce the incidence of IUU fishing, among States and relevant regional and global organizations. The full participation of stakeholders in combating IUU fishing, including industry, fishing communities, and non-governmental organizations, should be encouraged.

9.2 Phased implementation: Measures to prevent, deter and eliminate IUU fishing should be based on the earliest possible phased implementation of national plans of action, and regional and global action in accordance with the IPOA.

9.3 Comprehensive and integrated approach: Measures to prevent, deter and eliminate IUU fishing should address factors affecting all capture fisheries. In taking such an approach, States should embrace measures building on the primary responsibility of the flag State and using all available jurisdiction in accordance with international law, including port State measures, coastal State measures, market-related measures and measures to ensure that nationals do not support or engage in IUU fishing. States are encouraged to use all these measures, where appropriate, and to cooperate in order to ensure that measures are applied in an integrated manner. The action plan should address all economic, social and environmental impacts of IUU fishing.

9.4 Conservation: Measures to prevent, deter and eliminate IUU fishing should be consistent with the conservation and long-term sustainable use of fish stocks and the protection of the environment.

9.5 Transparency: The IPOA should be implemented in a transparent manner in accordance with Article 6.13 of the Code of Conduct.

9.6 Non-discrimination: The IPOA should be developed and applied without discrimination in form or in fact against any State or its fishing vessels.

IV. IMPLEMENTATION OF MEASURES TO PREVENT, DETER AND ELIMINATE IUU FISHING

ALL STATE RESPONSIBILITIES

International Instruments

10. States should give full effect to relevant norms of international law, in particular as reflected in the 1982 UN Convention, in order to prevent, deter and eliminate IUU fishing.

11. States are encouraged, as a matter of priority, to ratify, accept or accede to, as appropriate, the 1982 UN Convention, the 1995 UN Fish Stocks Agreement and the 1993 FAO Compliance Agreement. Those States that have not ratified, accepted or acceded to these relevant international instruments should not act in a manner inconsistent with these instruments.

12. States should implement fully and effectively all relevant international fisheries instruments which they have ratified, accepted or acceded to.

13. Nothing in the IPOA affects, or should be interpreted as affecting, the rights and obligations of States under international law. Nothing in the IPOA affects, or should be interpreted as affecting, the rights and obligations contained in the 1995 UN Fish Stocks Agreement and the 1993 FAO Compliance Agreement, for States parties to those instruments.

14. States should fully and effectively implement the Code of Conduct and its associated International Plans of Action.

15. States whose nationals fish on the high seas in fisheries not regulated by a relevant regional fisheries management organization should fully implement their obligations under Part VII of the 1982 UN Convention to take measures with respect to their nationals as may be necessary for the conservation of the living resources of the high seas.

National Legislation

Legislation

16. National legislation should address in an effective manner all aspects of IUU fishing.

17. National legislation should address, *inter alia*, evidentiary standards and admissibility including, as appropriate, the use of electronic evidence and new technologies.

State Control over Nationals

18. In the light of relevant provisions of the 1982 UN Convention, and without prejudice to the primary responsibility of the flag State on the high seas, each State should, to the greatest extent possible, take measures or cooperate to ensure that nationals subject to their jurisdiction do not support or engage in IUU fishing. All States should cooperate to identify those nationals who are the operators or beneficial owners of vessels involved in IUU fishing.

19. States should discourage their nationals from flagging fishing vessels under the jurisdiction of a State that does not meet its flag State responsibilities.

Vessels without Nationality

20. States should take measures consistent with international law in relation to vessels without nationality on the high seas involved in IUU fishing.

Sanctions

21. States should ensure that sanctions for IUU fishing by vessels and, to the greatest extent possible, nationals under its jurisdiction are of sufficient severity to effectively prevent, deter and eliminate IUU fishing and to deprive offenders of the benefits accruing from such fishing. This may include the adoption of a civil sanction regime based on an administrative penalty scheme. States should ensure the consistent and transparent application of sanctions.

Non Cooperating States

22. All possible steps should be taken, consistent with international law, to prevent, deter and eliminate the activities of non-cooperating States to a relevant regional fisheries management organization which engage in IUU fishing.

Economic Incentives

23. States should, to the exent possible in their national law, avoid conferring economic support, including

subsidies, to companies, vessels or persons that are involved in IUU fishing.

Monitoring, Control and Surveillance

24. States should undertake comprehensive and effective monitoring, control and surveillance (MCS) of fishing from its commencement, through the point of landing, to final destination, including by:

24.1 developing and implementing schemes for access to waters and resources, including authorization schemes for vessels;

24.2 maintaining records of all vessels and their current owners and operators authorized to undertake fishing subject to their jurisdiction;

24.3 implementing, where appropriate, a vessel monitoring system (VMS), in accordance with the relevant national, regional or international standards, including the requirement for vessels under their jurisdiction to carry VMS on board;

24.4 implementing, where appropriate, observer programmes in accordance with relevant national, regional or international standards, including the requirement for vessels under their jurisdiction to carry observers on board;

24.5 providing training and education to all persons involved in MCS operations;

24.6 planning, funding and undertaking MCS operations in a manner that will maximize their ability to prevent, deter and eliminate IUU fishing;

24.7 promoting industry knowledge and understanding of the need for, and their cooperative participation in, MCS activities to prevent, deter and eliminate IUU fishing;

24.8 promoting knowledge and understanding of MCS issues within national judicial systems;

24.9 establishing and maintaining systems for the acquisition, storage and dissemination of MCS data, taking into account applicable confidentiality requirements;

24.10 ensuring effective implementation of national and, where appropriate, internationally agreed boarding and inspection regimes consistent with international law, recognizing the rights and obligations of masters and of inspection officers, and noting that such regimes are provided for in certain international agreements, such as the 1995 UN Fish Stocks Agreement, and only apply to the parties to those agreements.

National Plans of Action

25. States should develop and implement, as soon as possible but not later than three years after the adoption of the IPOA, national plans of action to further achieve the objectives of the IPOA and give full effect to its provisions as an integral part of their fisheries management programmes and budgets. These plans should also include, as appropriate, actions to implement initiatives adopted by relevant regional fisheries management organizations to prevent, deter and eliminate IUU fishing. In doing so, States should encourage the full participation and engagement of all interested stakeholders, including industry, fishing communities and non-governmental organizations.

26. At least every four years after the adoption of their national plans of action, States should review the implementation of these plans for the purpose of identifying cost-effective strategies to increase their effectiveness and to take into account their reporting obligations to FAO under Part VI of the IPOA.

27. States should ensure that national efforts to prevent, deter and eliminate IUU fishing are internally coordinated.

Cooperation between States

28. States should coordinate their activities and cooperate directly, and as appropriate through relevant regional fisheries management organizations, in preventing, deterring and eliminating IUU fishing. In particular, States should:

28.1 exchange data or information, preferably in standardized format, from records of vessels authorized by them to fish, in a manner consistent with any applicable confidentiality requirements;

28.2 cooperate in effective acquisition, management and verification of all relevant data and information from fishing;

28.3 allow and enable their respective MCS practitioners or enforcement personnel to cooperate in the investigation

of IUU fishing, and to this end States should collect and maintain data and information relating to such fishing;

28.4 cooperate in transferring expertise and technology;

28.5 cooperate to make policies and measures compatible;

28.6 develop cooperative mechanisms that allow, *inter alia*, rapid responses to IUU fishing; and

28.7 cooperate in monitoring, control and surveillance, including through international agreements.

29. In the light of Article VI of the 1993 FAO Compliance Agreement, flag States should make available to FAO and, as appropriate, to other States and relevant regional or international organizations, information about vessels deleted from their records or whose authorization to fish has been cancelled and to the extent possible, the reasons therefor.

30. In order to facilitate cooperation and exchange of information, each State and regional or international organization should nominate and publicize initial formal contact points.

31. Flag States should consider entering into agreements or arrangements with other States and otherwise cooperate for the enforcement of applicable laws and conservation and management measures or provisions adopted at a national, regional or global level.

Publicity

32. States should publicize widely, including through cooperation with other States, full details of IUU fishing and actions taken to eliminate it, in a manner consistent with any applicable confidentiality requirements.

Technical Capacity and Resources

33. States should endeavour to make available the technical capacity and resources which are needed to implement the IPOA. This should include, where appropriate, the establishment of special funds at the national, regional or global level. In this respect, international cooperation should play an important role.

FLAG STATE RESPONSIBILITIES

Fishing Vessel Registration

34. States should ensure that fishing vessels entitled to fly their flag do not engage in or support IUU fishing.

35. A flag State should ensure, before it registers a fishing vessel, that it can exercise its responsibility to ensure that the vessel does not engage in IUU fishing.

36. Flag States should avoid flagging vessels with a history of non-compliance except where:

36.1 the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel; or

36.2 having taken into account all relevant facts, the flag State determines that flagging the vessel would not result in IUU fishing.

37. All States involved in a chartering arrangement, including flag States and other States that accept such an arrangement, should, within the limits of their respective jurisdictions, take measures to ensure that chartered vessels do not engage in IUU fishing.

38. Flag States should deter vessels from reflagging for the purposes of non-compliance with conservation and management measures or provisions adopted at a national, regional or global level. To the extent practicable, the actions and standards flag States adopt should be uniform to avoid creating incentives for vessel owners to reflag their vessels to other States.

39. States should take all practicable steps, including denial to a vessel of an authorization to fish and the entitlement to fly that State's flag, to prevent "flag hopping"; that is to say, the practice of repeated and rapid changes of a vessel's flag for the purposes of circumventing conservation and management measures or provisions adopted at a national, regional or global level or of facilitating non-compliance with such measures or provisions.

40. Although the functions of registration of a vessel and issuing of an authorization to fish are separate, flag States

should consider conducting these functions in a manner which ensures each gives appropriate consideration to the other. Flag States should ensure appropriate links between the operation of their vessel registers and the record those States keep of their fishing vessels. Where such functions are not undertaken by one agency, States should ensure sufficient cooperation and information sharing between the agencies responsible for those functions.

41. A Flag State should consider making its decision to register a fishing vessel conditional upon its being prepared to provide to the vessel an authorization to fish in waters under its jurisdiction, or on the high seas, or conditional upon an authorization to fish being issued by a coastal State to the vessel when it is under the control of that flag State.

Record of Fishing Vessels

42. Each flag State should maintain a record of fishing vessels entitled to fly its flag. Each flag State's record of fishing vessels should include, for vessels authorized to fish on the high seas, all the information set out in paragraphs 1 and 2 of Article VI of the 1993 FAO Compliance Agreement, and may also include, *inter alia*:

42.1 the previous names, if any and if known;

42.2 name, address and nationality of the natural or legal person in whose name the vessel is registered ;

42.3 name, street address, mailing address and nationality of the natural or legal persons responsible for managing the operations of the vessel;

42.4 name, street address, mailing address and nationality of natural or legal persons with beneficial ownership of the vessel;

42.5 name and ownership history of the vessel, and, where this is known, the history of non-compliance by that vessel, in accordance with national laws, with conservation and management measures or provisions adopted at a national, regional or global level; and

42.6 vessel dimensions, and where appropriate, a photograph, taken at the time of registration or at the conclusion of any more recent structural alterations, showing a side profile view of the vessel.

43. Flag States may also require the inclusion of the information in paragraph 42 in their record of fishing vessels that are not authorized to fish on the high seas.

Authorization to Fish

44. States should adopt measures to ensure that no vessel be allowed to fish unless so authorized, in a manner consistent with international law for the high seas , in particular the rights and duties set out in articles 116 and 117 of the 1982 UN Convention, or in conformity with national legislation within areas of national jurisdiction.

45. A flag State should ensure that each of the vessels entitled to fly its flag fishing in waters outside its sovereignty or jurisdiction holds a valid authorization to fish issued by that flag State. Where a coastal State issues an authorization to fish to a vessel, that coastal State should ensure that no fishing in its waters occurs without an authorization to fish issued by the flag State of the vessel.

46. Vessels should have an authorization to fish and where required carry it on board. Each State's authorization should include, but need not be limited to:

46.1 the name of the vessel, and, where appropriate, the natural or legal person authorized to fish;

46.2 the areas, scope and duration of the authorization to fish; and

46.3 the species, fishing gear authorized, and where appropriate, other applicable management measures.

47. Conditions under which an authorization is issued may also include, where required:

47.1 vessel monitoring systems;

47.2 catch reporting conditions, such as:

47.2.1 time series of catch and effort statistics by vessel;

47.2.2 total catch in number, nominal weight, or both, by species (both target and non-target) as is

appropriate to each fishery period (nominal weight is defined as the live weight equivalent of the catch);

47.2.3 discard statistics, including estimates where necessary, reported as number or nominal weight by species, as is appropriate to each fishery;

47.2.4 effort statistics appropriate to each fishing method; and

47.2.5 fishing location, date and time fished and other statistics on fishing operations.

47.3 reporting and other conditions for transshipping, where transshipping is permitted;

47.4 observer coverage;

47.5 maintenance of fishing and related log books;

47.6 navigational equipment to ensure compliance with boundaries and in relation to restricted areas;

47.7 compliance with applicable international conventions and national laws and regulations in relation to maritime safety, protection of the marine environment, and conservation and management measures or provisions adopted at a national, regional or global level;

47.8 marking of its fishing vessels in accordance with internationally recognized standards, such as the FAO Standard Specification and Guidelines for the Marking and Identification of Fishing Vessels. Vessels' fishing gear should similarly be marked in accordance with internationally recognized standards;

47.9 where appropriate, compliance with other aspects of fisheries arrangements applicable to the flag State; and

47.10 the vessel having a unique, internationally recognized identification number, wherever possible, that enables it to be identified regardles of changes in registration or name over time.

48. Flag States should ensure that their fishing, transport and support vessels do not support or engage in IUU fishing. To this end, flag States should ensure that none of their vessels re-supply fishing vessels engaged in such activities or transship fish to or from these vessels. This paragraph is without prejudice to the taking of appropriate action, as necessary, for humanitarian purposes, including the safety of crew members.

49. Flag States should ensure that, to the greatest extent possible, all of their fishing, transport and support vessels involved in transshipment at sea have a prior authorization to transship issued by the flag State, and report to the national fisheries administration or other designated institution:

49.1 the date and location of all of their transshipments of fish at sea;

49.2 the weight by species and catch area of the catch transshipped;

49.3 the name, registration, flag and other information related to the identification of the vessels involved in the transshipment; and

49.4 the port of landing of the transshipped catch.

50. Flag States should make information from catch and transshipment reports available, aggregated according to areas and species, in a full, timely and regular manner and, as appropriate, to relevant national, regional and international organizations, including FAO, taking into account applicable confidentiality requirements.

COASTAL STATE MEASURES

51. In the exercise of the sovereign rights of coastal States for exploring and exploiting, conserving and managing the living marine resources under their jurisdiction, in conformity with the 1982 UN Convention and international law, each coastal State should implement measures to prevent, deter and eliminate IUU fishing in the exclusive economic zone. Among the measures which the coastal State should consider, consistent with national legislation and international law, and to the extent practicable and appropriate, are:

51.1 effective monitoring, control and surveillance of fishing activities in the exclusive economic zone;

51.2 cooperation and exchange of information with other States, where appropriate, including neighbouring coastal States and with regional fisheries management organizations;

51.3 to ensure that no vessel undertakes fishing activities within its waters without a valid authorization to fish issued by that coastal State;

51.4 to ensure that an authorization to fish is issued only if the vessel concerned is entered on a record of vessels;

51.5 to ensure that each vessel fishing in its waters maintains a logbook recording its fishing activities where appropriate;

51.6 to ensure that at-sea transshipment and processing of fish and fish products in coastal State waters are authorized by that coastal State, or conducted in conformity with appropriate management regulations;

51.7 regulation of fishing access to its waters in a manner which will help to prevent, deter and eliminate IUU fishing; and

51.8 avoiding licensing a vessel to fish in its waters if that particular vessel has a history of IUU fishing, taking into account the provisions of paragraph 36.

PORT STATE MEASURES

52. States should use measures, in accordance with international law, for port State control of fishing vessels in order to prevent, deter and eliminate IUU fishing. Such measures should be implemented in a fair, transparent and non-discriminatory manner.

53. When used in paragraphs 52 to 64, port access means admission for foreign fishing vessels to ports or offshore terminals for the purpose of, *inter alia*, refuelling, re-supplying, transshipping and landing, without prejudice to the sovereignty of a coastal State in accordance with its national law and article 25.2 of the 1982 UN Convention and other relevant international law.

54. Notwithstanding paragraphs 52, 53 and 55; a vessel should be provided port access, in accordance with international law, for reasons of *force majeure* or distress or for rendering assistance to persons, ships or aircraft in danger or distress.

55. Prior to allowing a vessel port access, States should require fishing vessels and vessels involved in fishing related activities seeking permission to enter their ports to provide reasonable advance notice of their entry into port, a copy of their authorization to fish, details of their fishing trip and quantities of fish on board, with due regard to confidentiality requirements, in order to ascertain whether the vessel may have engaged in, or supported, IUU fishing.

56. Where a port State has clear evidence that a vessel having been granted access to its ports has engaged in IUU fishing activity, the port State should not allow the vessel to land or transship fish in its ports, and should report the matter to the flag State of the vessel.

57. States should publicize ports to which foreign flagged vessels may be permitted admission and should ensure that these ports have the capacity to conduct inspections.

58. In the exercise of their right to inspect fishing vessels, port States should collect the following information and remit it to the flag State and, where appropriate, the relevant regional fisheries management organization:

58.1 the flag State of the vessel and identification details;

58.2 name, nationality, and qualifications of the master and the fishing master;

58.3 fishing gear;

58.4 catch on board, including origin, species, form, and quantity;

58.5 where appropriate, other information required by relevant regional fisheries management organizations or other international agreements; and

58.6 total landed and transshipped catch.

59. If, in the course of an inspection, it is found that there are reasonable grounds to suspect that the vessel has engaged in or supported IUU fishing in areas beyond the jurisdiction of the port State, the port State should, in addition to any other actions it may take consistent with international law, immediately report the matter to the flag State of the vessel and, where appropriate, the relevant coastal States and regional fisheries management organization. The port State may take other action with the consent of, or upon the request of, the flag State.

60. In applying paragraphs 58 and 59, States should safeguard the confidentiality of information collected, in accordance with their national laws.

61. States should establish and publicize a national strategy and procedures for port State control of vessels involved in fishing and related activities, including training, technical support, qualification requirements and general operating guidelines for port State control officers. States should also consider capacity-building needs in the development and implementation of this strategy.

62. States should cooperate, as appropriate, bilaterally, multilaterally and within relevant regional fisheries management organizations, to develop compatible measures for port State control of fishing vessels. Such measures should deal with the information to be collected by port States, procedures for information collection, and measures for dealing with suspected infringements by the vessel of measures adopted under these national, regional or international systems.

63. States should consider developing within relevant regional fisheries management organizations port State measures building on the presumption that fishing vessels entitled to fly the flag of States not parties to a regional fisheries management organization and which have not agreed to cooperate with that regional fisheries management organization, which are identified as being engaged in fishing activities in the area of that particular organization, may be engaging in IUU fishing. Such port State measures may prohibit landings and transshipment of catch unless the identified vessel can establish that the catch was taken in a manner consistent with those conservation and management measures. The identification of the vessels by the regional fisheries management organization should be made through agreed procedures in a fair, transparent and non-discriminatory manner.

64. States should enhance cooperation, including by the flow of relevant information, among and between relevant regional fisheries management organizations and States on port State controls.

INTERNATIONALLY AGREED MARKET-RELATED MEASURES

65. The measures in paragraphs 66 to 76 are to be implemented in a manner which recognizes the right of States to trade in fish and fishery products harvested in a sustainable manner and should be interpreted and applied in accordance with the principles, rights and obligations established in the World Trade Organisation, and implemented in a fair, transparent and non-discriminatory manner.

66. States should take all steps necessary, consistent with international law, to prevent fish caught by vessels identified by the relevant regional fisheries management organization to have been engaged in IUU fishing being traded or imported into their territories. The identification of the vessels by the regional fisheries management organization should be made through agreed procedures in a fair, transparent and non-discriminatory manner. Trade-related measures should be adopted and implemented in accordance with international law, including principles, rights and obligations established in WTO Agreements, and implemented in a fair, transparent and non-discriminatory manner. Trade-related measures should only be used in exceptional circumstances, where other measures have proven unsuccessful to prevent, deter and eliminate IUU fishing, and only after prior consultation with interested States. Unilateral trade-related measures should be avoided.

67. States should ensure that measures on international trade in fish and fishery products are transparent, based on scientific evidence, where applicable, and are in accordance with internationally agreed rules.

68. States should cooperate, including through relevant global and regional fisheries management organizations, to adopt appropriate multilaterally agreed trade-related measures, consistent with the WTO, that may be necessary to prevent, deter and eliminate IUU fishing for specific fish stocks or species. Multilateral trade-related measures envisaged in regional fisheries management organizations may be used to support cooperative efforts to ensure that trade in specific fish and fish products does not in any way encourage IUU fishing or otherwise undermine the effectiveness of conservation and management measures which are consistent with the 1982 UN Convention.

69. Trade-related measures to reduce or eliminate trade in fish and fish products derived from IUU fishing could include the adoption of multilateral catch documentation and certification requirements, as well as other appropriate multilaterally-agreed measures such as import and export controls or prohibitions. Such measures should be adopted in a fair, transparent and non-discriminatory manner. When such measures are adopted, States should support their consistent and effective implementation.

70. Stock or species-specific trade-related measures may be necessary to reduce or eliminate the economic incentive for vessels to engage in IUU fishing.

71. States should take steps to improve the transparency of their markets to allow the traceability of fish or fish products.

72. States, when requested by an interested State, should assist any State in deterring trade in fish and fish products

illegally harvested in its jurisdiction. Assistance should be given in accordance with terms agreed by both States and fully respecting the jurisdiction of the State requesting assistance.

73. States should take measures to ensure that their importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers, other services suppliers and the public are aware of the detrimental effects of doing business with vessels identified as engaged in IUU fishing, whether by the State under whose jurisdiction the vessel is operating or by the relevant regional fisheries management organizations in accordance with its agreed procedures, and should consider measures to deter such business. Such measures could include, to the extent possible under national law, legislation that makes it a violation to conduct such business or to trade in fish or fish products derived from IUU fishing. All identifications of vessels engaged in IUU fishing should be made in a fair, transparent and non-discriminatory manner.

74. States should take measures to ensure that their fishers are aware of the detrimental effects of doing business with importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers and other services suppliers identified as doing business with vessels identified as engaged in IUU fishing, whether by the State under whose jurisdiction the vessel is operating or by the relevant regional fisheries management organization in accordance with its agreed procedures, and should consider measures to deter such business. Such measures could include, to the extent possible under national law, legislation that makes it a violation to conduct such business or to trade in fish or fish products derived from IUU fishing. All identifications of vessels engaged in IUU fishing should be made in a fair, transparent and non-discriminatory manner.

75. States should work towards using the Harmonized Commodity Description and Coding System for fish and fisheries products in order to help promote the implementation of the IPOA.

76. Certification and documentation requirements should be standardized to the extent feasible, and electronic schemes developed where possible, to ensure their effectiveness, reduce opportunities for fraud, and avoid unnecessary burdens on trade.

RESEARCH

77. States should encourage scientific research on methods of identifying fish species from samples of processed products. FAO should facilitate the establishment of a network of databases of genetic and other markers used to identify fish species from processed product, including the ability to identify the stock of origin where possible.

REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS

78. States should ensure compliance with and enforcement of policies and measures having a bearing on IUU fishing which are adopted by any relevant regional fisheries management organization and by which they are bound. States should cooperate in the establishment of such organizations in regions where none currently exist.

79. As the cooperation of all relevant States is important for the success of measures taken by relevant regional fisheries management organizations to prevent, deter and eliminate IUU fishing, States which are not members of a relevant regional fisheries management organization are not discharged from their obligation to cooperate, in accordance with their international obligations, with that regional fisheries management organization. To that end, States should give effect to their duty to cooperate by agreeing to apply the conservation and management measures established by that regional fisheries management organization, or by adopting measures consistent with those conservation and management measures, and should ensure that vessels entitled to fly their flag do not undermine such measures.

80. States, acting through relevant regional fisheries management organizations, should take action to strengthen and develop innovative ways, in conformity with international law, to prevent. deter, and eliminate IUU fishing. Consideration should be given to including the following measures:

80.1 institutional strengthening, as appropriate, of relevant regional fisheries management organizations with a view to enhancing their capacity to prevent, deter and eliminate IUU fishing;

80.2 development of compliance measures in conformity with international law;

80.3 development and implementation of comprehensive arrangements for mandatory reporting;

80.4 establishment of and cooperation in the exchange of information on vessels engaged in or supporting IUU fishing;

80.5 development and maintenance of records of vessels fishing in the area of competence of a relevant regional fisheries management organization, including both those authorized to fish and those engaged in or supporting IUU fishing;

80.6 development of methods of compiling and using trade information to monitor IUU fishing;

80.7 development of MCS, including promoting for implementation by its members in their respective jurisdictions, unless otherwise provided for in an international agreement, real time catch and vessel monitoring systems, other new technologies, monitoring of landings, port control, and inspections and regulation of transshipment, as appropriate;

80.8 development within a regional fisheries management organization, where appropriate, of boarding and inspection regimes consistent with international law, recognizing the rights and obligations of masters and inspection officers;

80.9 development of observer programmes;

80.10 where appropriate, market-related measures in accordance with the IPOA;

80.11 definition of circumstances in which vessels will be presumed to have engaged in or to have supported IUU fishing;

80.12 development of education and public awareness programmes;

80.13 development of action plans; and

80.14 where agreed by their members, examination of chartering arrangements, if there is concern that these may result in IUU fishing.

81. States, acting through relevant regional fisheries management organizations, should compile and make available on a timely basis, and at least on an annual basis, to other regional fisheries management organizations and to FAO, information relevant to the prevention, deterrence and elimination of IUU fishing, including:

81.1 estimates of the extent, magnitude and character of IUU activities in the area of competence of the regional fisheries management organization;

81.2 details of measures taken to deter, prevent and eliminate IUU fishing;

81.3 records of vessels authorized to fish, as appropriate; and

81.4 records of vessels engaged in IUU fishing.

82. Objectives of institutional and policy strengthening in relevant regional fisheries management organizations in relation to IUU fishing should include enabling regional fisheries management organizations to:

82.1 determine policy objectives regarding IUU fishing, both for internal purposes and co-ordination with other regional fisheries management organizations;

82.2 strengthen institutional mechanisms as appropriate, including mandate, functions, finance, decision making, reporting or information requirements and enforcement schemes, for the optimum implementation of policies in relation to IUU fishing;

82.3 regularize coordination with institutional mechanisms of other regional fisheries management organizations as far as possible in relation to IUU fishing, in particular information, enforcement and trade aspects; and

82.4 ensure timely and effective implementation of policies and measures internally, and in cooperation with other regional fisheries management organizations and relevant regional and international organizations.

83. States, acting through relevant regional fisheries management organizations, should encourage non-contracting parties with a real interest in the fishery concerned to join those organizations and to participate fully in their work. Where this is not possible, the regional fisheries management organizations should encourage and facilitate the participation and cooperation of non-contracting parties, in accordance with applicable international agreements and international law, in the conservation and management of the relevant fisheries resources and in the implementation of measures adopted by the relevant organizations. Regional fisheries management organizations should address the issue of access to the resource in order to foster cooperation and enhance sustainability in the fishery, in accordance with international law. States, acting through relevant regional fisheries mangement organizations, should also assist, as necessary, non-contracting parties in the implementation of paragraphs 78 and 79 of the IPOA.

84. When a State fails to ensure that fishing vessels entitled to fly its flag, or, to the greatest extent possible, its nationals, do not engage in IUU fishing activities that affect the fish stocks covered by a relevant regional fisheries

management organization, the member States, acting through the organization, should draw the problem to the attention of that State. If the problem is not rectified, members of the organization may agree to adopt appropriate measures, through agreed procedures, in accordance with international law.

V. SPECIAL REQUIREMENTS OF DEVELOPING COUNTRIES

85. States, with the support of FAO and relevant international financial institutions and mechanisms, where appropriate, should cooperate to support training and capacity building and consider providing financial, technical and other assistance to developing countries, including in particular the least developed among them and small island developing States, so that they can more fully meet their commitments under the IPOA and obligations under international law, including their duties as flag States and port States. Such assistance should be directed in particular to help such States in the development and implementation of national plans of action in accordance with paragraph 25.

86. States, with the support of FAO and relevant international financial institutions and mechanisms, where appropriate, should cooperate to enable:

86.1 review and revision of national legislation and regional regulatory frameworks;

86.2 the improvement and harmonization of fisheries and related data collection;

86.3 the strengthening of regional institutions; and

86.4 the strengthening and enhancement of integrated MCS systems, including satellite monitoring systems.

VI. REPORTING

87. States and regional fisheries management organizations should report to FAO on progress with the elaboration and implementation of their plans to prevent, deter and eliminate IUU fishing as part of their biennial reporting to FAO on the Code of Conduct. These reports should be published by FAO in a timely manner.

VII. ROLE OF FAO

88. FAO will, as and to the extent directed by its Conference, collect all relevant information and data that might serve as a basis for further analysis aimed at identifying factors and causes contributing to IUU fishing such as, *inter alia*, a lack of input and output management controls, unsustainable fishery management methods and subsidies that contribute to IUU fishing.

89. FAO will, as and to the extent directed by its Conference, support development and implementation of national and regional plans to prevent, deter and eliminate IUU fishing through specific, in-country technical assistance projects with Regular Programme funds and through the use of extra-budgetary funds made available to the Organization for this purpose.

90. FAO should, in collaboration with other relevant international organizations, in particular IMO, further investigate the issue of IUU fishing.

91. FAO should convene an Expert Consultation on the implementation of paragraph 76 of the IPOA.

92 FAO should investigate the benefits of establishing and maintaining regional and global databases, including but not limited to, information as provided for in Article VI of the 1993 FAO Compliance Agreement.

93. The FAO Committee on Fisheries will, based on a detailed analysis by the Secretariat, biennially evaluate the progress towards the implementation of the IPOA.

Appendix B – February 2009 Chairman's Text: FAO Draft Port State Measures Agreement

UNIVERSITY OF TAS LIBRARY

CHAIRPERSON'S DRAFT AGREEMENT ON PORT STATE MEASURES TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING

PREAMBLE

The Parties to this Agreement:

Deeply concerned about the continuation of illegal, unreported and unregulated fishing and its detrimental effect upon fish stocks, marine ecosystems and the livelihoods of legitimate fishers, and the increasing need for food security on a global basis;

Conscious of the role of the port State in the adoption of effective measures to promote the sustainable use and the long-term conservation of marine living resources;

Recognizing that measures to combat illegal, unreported and unregulated fishing should build on the primary responsibility of flag States and use all available jurisdiction in accordance with international law, including port State measures, coastal State measures, market related measures and measures to ensure that nationals do not support or engage in illegal, unreported and unregulated fishing;

Recognizing that port State measures provide a powerful and cost-effective means of preventing, deterring and eliminating illegal, unreported and unregulated fishing;

Aware of the need for increasing coordination at regional and interregional levels to combat illegal, unreported and unregulated fishing through port State measures;

Acknowledging the rapidly developing communications technology, databases, networks and global records that support port State measures;

Recognizing the need for assistance to developing countries to adopt and implement port State measures;

Taking note of the calls by the international community through the United Nations System, including the United Nations General Assembly and the Committee on Fisheries of the Food and Agriculture Organization of the United Nations (FAO) for a binding international instrument on minimum standards for port State measures, based on the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the 2005 FAO Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing;

Bearing in mind that in the exercise of their sovereignty over ports located in their territory States may adopt more stringent measures, in accordance with international law;

Recalling the relevant provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 (the Convention);

Recalling the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and

Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas of 24 November 1993 and the 1995 FAO Code of Conduct for Responsible Fisheries;

Have agreed as follows:

PART 1

GENERAL PROVISIONS

Article 1
Use of terms

1. For the purposes of this Agreement:

(a) "conservation and management measures" means measures to conserve and manage living marine resources that are adopted and applied consistently with the relevant rules of international law including those reflected in the Convention;

(b) "fish" means all species of living marine resources, whether processed or not;

(c) "fishing" means searching for, catching, taking or harvesting fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish;

(d) "fishing related activities" means any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipment or transport of fish that have not been previously landed at a port, as well as the provision of personnel, fuel, gear and other supplies at sea;

(e) ["Illegal, unreported and unregulated (IUU) fishing" refers to activities in marine areas and involves one or more of the following:

(i) "Illegal fishing" refers to activities:

(i.1) conducted by national or foreign vessels in maritime waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;

(i.2) conducted by vessels flying the flag of States that are contracting parties to a relevant regional fisheries management organization, but which operate in contravention of the conservation and management measures adopted by that organization and by which those States are bound, or of relevant provisions of the applicable international law; or

(i.3) in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

(ii) "unreported fishing" refers to fishing activities:

(ii.1) which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or

(ii.2) undertaken in the area of competence of a relevant regional fisheries management organisation and have not been reported, or have been misreported, in contravention of the reporting procedures of that organization.

(iii) "unregulated fishing" refers to fishing activities:

(iii.1) in the area of application of a relevant regional fisheries management organization by fishing vessels without nationality, by fishing vessels flying the flag of a State not party to that organization or, by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or

(iii.2) [in areas or for fish stocks in relation to which there are no applicable conservation or management measures by fishing vessels and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.]

(iv). Notwithstanding paragraph (iii), certain unregulated fishing may take place in a manner which is not in violation of applicable international law, and may not require the application of measures envisaged under this Agreement.]

(f) "Party" means a State or regional economic integration organization that has consented to be bound by this Agreement and for which this Agreement is in force;

(g) "port" includes offshore terminals and other installations for landing, transshipping, processing, refuelling or resupplying;

(h) "regional economic integration organization" means a regional economic integration organization to which its member States have transferred competence over matters covered by this Agreement, including the authority to make decisions binding on its member States in respect of those matters;

(i) "regional fisheries management organization" means an intergovernmental fisheries organization or arrangement, as appropriate, that has the competence to establish conservation and management measures; and

(j) "vessel" means any vessel, ship of another type and boat used for, equipped to be used for, or intended to be used for, fishing or fishing related activities.

Article 2
Objective

The objective of this Agreement is to prevent, deter and eliminate illegal, unreported and unregulated fishing through the implementation of effective port State measures, and thereby to ensure the long-term conservation and sustainable use of living marine resources and marine ecosystems.

Article 3
Application

1. Each Party shall, in its capacity as a port State, apply this Agreement in respect of vessels that are not entitled to fly its flag that are seeking entry to its port(s) or are in one of its ports, except for:

(a) vessels of a neighbouring State that are engaged in artisanal fishing for subsistence provided that the port State and the flag State cooperate to ensure that those vessels do not engage and/or support illegal, unreported and unregulated fishing; and

(b) container vessels that are not carrying fish or, if carrying fish, only fish [products] that have been previously landed, provided that there are no clear grounds for suspecting that those vessels have engaged in illegal, unreported and unregulated fishing related activities.

1 *bis* A Party in its capacity as a port State may choose not to apply this Agreement to vessels chartered by its nationals exclusively for fishing in areas under its national jurisdiction and operating under its authority therein. Those vessels shall be subject to measures by the Party which are as effective as measures applied in relation to vessels flying its flag.

2. This Agreement shall be applied in a fair, transparent and non-discriminatory manner, consistent with international law.

Article 4
Relationship with international law and other international instruments

1. Nothing in this Agreement shall prejudice the rights, jurisdiction and duties of Parties under international law. In particular, nothing in this Agreement shall be construed to affect:

(a) the sovereignty of Parties over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zones;

(b) the exercise by Parties of their sovereignty over ports in their territory in accordance with international law, including their right to deny access thereto as well as to adopt more stringent port State measures than those provided in this Agreement, including pursuant to a decision made by a regional fisheries management organization.

[1 *bis* Nothing in this Agreement will mean acceptance or recognition by a State of any kind of commitment to ensure compliance by a port State with measures or decisions adopted by a regional fisheries management organization in which it is not a member.] [Nevertheless such State shall contribute to the extent possible in accordance with its laws and regulations to rendering effective the measures taken by such regional fisheries management organization.]

2. This Agreement shall be interpreted and applied in conformity with the relevant rules of international law [taking into account applicable international rules and standards, including those established through the International Maritime Organization as well as other relevant international instruments.]

3. Parties shall fulfil in good faith the obligations assumed pursuant to this Agreement and shall exercise the rights recognized herein in a manner that would not constitute an abuse of right.

Article 5
Integration and coordination at the national level

To the greatest extent possible, Parties shall:

(a) [integrate port State measures into a broader system of fisheries related port State controls;]

(b) integrate port State measures with other measures to prevent, deter and eliminate illegal, unreported and unregulated fishing, [and fishing related activities] taking into account as appropriate the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; and

(c) take measures to share information among relevant national agencies and to coordinate the activities of such agencies in the implementation of this Agreement.

Article 6
Cooperation and exchange of information

1. In order to promote the effective implementation of this Agreement and with due regard to appropriate confidentiality requirements, Parties shall cooperate and exchange information with relevant States, FAO, other international organizations and regional fisheries management organizations, including the measures adopted by such regional fisheries management organizations in relation to the objectives of this Agreement.

2. To the greatest extent possible, each Party shall take measures in support of conservation and management measures adopted by other States and other relevant international organizations.

3. Parties shall cooperate, at the subregional, regional and global levels, in the effective implementation of this Agreement including, where appropriate, through FAO or regional fisheries management organizations and arrangements.

PART 2

ENTRY INTO PORT

Article 7
Designation of ports

1. Each Party shall designate and publicize the ports to which vessels may request entry pursuant to this Agreement for landing, transshipping, packaging or processing fish that have not previously been landed at a port, or use of services including, *inter alia,* refuelling and resupplying.

2. Each Party shall, to the greatest extent possible, ensure that every port designated and publicized in accordance with paragraph 1 of this Article, has sufficient capacity to conduct inspections pursuant to this Agreement [in relation to landing, transshipping, packaging or processing fish whenever a vessel not entitled to fly its flag requests access to its publicized ports for those purposes as well as for other port services such as refuelling and resupplying].

Article 8
Advance request for port access

1. Each Party shall require[, as a minimum standard,] the information set out in Annex A to be provided before granting entry to a vessel to its port.

2. Each Party shall require the information referred to in paragraph 1 of this Article to be provided sufficiently in advance to allow adequate time for the port State to examine the required information.

Article 8bis
Port entry authorization

On the basis of the information provided in Article 8, each Party shall communicate an authorization, or prohibition, for entry into the port to the vessel seeking entry to its ports or to its representative who submitted the request for entry. The vessel or its representative shall present the authorization for entry into the port to the competent authorities of the Party upon its arrival at port.

Article 8tris
Port entry prohibition

[2. A Party shall prohibit [, in accordance with its laws and regulations,] a vessel from entering into its ports if the vessel is included in a list of vessels having engaged in illegal, unreported and unregulated fishing or fishing related activities adopted by a [relevant] regional fisheries management organization in accordance with the rules and procedures of such organization.]

[2*bis* Nothing in this Agreement shall be interpreted to prevent a Party from allowing entry into its ports of a vessel exclusively for the purpose of inspecting it and taking other appropriate actions which are at least as effective in preventing, deterring and eliminating

illegal, unreported and unregulated fishing and fishing related activities as prohibiting port entry.]

Article 8quat
Force majeure or distress

Nothing in this Agreement affects the access of vessels to port in accordance with international law for reasons of force majeure or distress or the obligation to permit entry into port to a vessel rendering assistance to persons, ships or aircraft in danger or distress.

PART 3

USE OF PORTS

Article 9
Use of ports

1. Where a Party allows a vessel to enter its ports, it shall [may] not allow that vessel to use its ports for landing, transshipping, packaging or processing of fish [or other [fishing related activities] [port services], including, *inter alia*, refuelling and resupplying] [maintenance and drydocking]] if, at the relevant time, the vessel:

[(a) was engaged in fishing in an area and for fish under the competence of a regional fisheries management organization and was not flying the flag of a member of that organization, or of a State which has agreed to apply the conservation and management measures established by that organization, or was engaged in fishing related activities in support of such fishing;]

[(b) has been reported by a State or regional fisheries management organization, accompanied by supporting evidence, as engaged in illegal, unreported and unregulated fishing or fishing related activities in the area of competence of a relevant regional fisheries management organization or in an area under the national jurisdiction of a coastal State;] or

[(c) has been identified as participating or supporting unregulated fishing activities in areas or in relation to species where there are no applicable conservation or management measures and where the said fishing activities are not carried out in accordance with responsibilities relevant to the conservation of living marine resources that fall on the State in accordance with international law,]

[unless the vessel can establish that the catch was taken in a manner consistent with relevant conservation and management measures.]]

2. A Party shall not allow a vessel to use its ports for landing, transshipping, packaging or processing of fish if the vessel is included on a list of vessels having engaged in, or supported, illegal, unreported and unregulated fishing adopted by a regional fisheries management organization in accordance with the rules and procedures of such organization.

3. A Party shall not allow a vessel to use its ports for landing, transhipping, packaging or processing of fish [, or other port services, including, *inter alia*, refuelling and resupplying] where [there are reasonable grounds for believing that] the vessel does not have a valid and applicable authorization to engage in fishing and fishing related activities required:

(a) by its flag State in high seas areas not covered by any regional fisheries management organization;

(b) in the area of competence of a relevant regional fisheries management organization; or

(c) by a coastal State for areas under its national jurisdiction.

3*bis* A Party shall not allow a vessel to use its ports for landing, transhipping, packaging or processing of fish where the flag State fails to confirm that the catch was taken in accordance with applicable requirements of a relevant regional fisheries management organization or a relevant coastal State in the case where the fish was caught in the areas of their competence or jurisdiction respectively.

4. A Party shall not deny a vessel referred to in paragraphs 1, 2 [or] 3 [or 3*bis*] of this Article, access to port services essential to the safety and health [and welfare] of the crew and safety of the vessel.

5. Where a Party has denied the use of its ports in accordance with this Article, it shall promptly notify the flag State and, as appropriate, relevant coastal State(s), regional fisheries management organization(s) and other international organizations of such action.

[Article 6 bis (Title to be supplied)

The port State shall allow landings, transshipment or supply of services to fishing vessels and to those providing support to fishing vessels and fishing related activities, only in cases when it can be proved that they have acted in conformity with conservation and management measures adopted in accordance with international law.]

Article 10
Withdrawal of denial of use of port

1. A Party [may] [shall] withdraw its denial of the use of its port in respect of a vessel only if there is sufficient proof to show that the grounds on which use was denied were inadequate or erroneous or that such grounds no longer apply.

2. Where a Party has withdrawn its denial pursuant to paragraph 1 of this Article, it shall promptly notify those to whom a notification was issued pursuant to Article 9 of this Agreement.

PART 4

INSPECTIONS AND FOLLOW-UP ACTIONS

Article 11
Levels and priorities for inspection

1. Each Party shall [endeavour to] inspect a number of vessels in its ports required to reach an annual level of inspections sufficient to achieve the objective of this Agreement.

2. Parties shall seek to agree on the minimum levels for inspection of vessels through, as appropriate, regional fisheries management organizations, FAO or otherwise.

[2*bis* Each Party shall ensure that all vessels that:

(a) enter into its ports without prior authorization under Article 8*bis*; or

(b) have been prohibited the use of one of its ports in accordance with Article 9 of this Agreement,

shall be subject to inspection.]

3. In determining which vessels to inspect, a Party shall give priority to:

(a) vessels that have been denied [entry or] use of a port in accordance with this Agreement;

(b) requests from other relevant Parties, States or regional fisheries management organizations that particular vessels be inspected, particularly where such requests are supported by evidence of illegal, unreported or unregulated fishing by the vessel in question; and

(c) other vessels for which there are clear grounds for suspecting that they have engaged in or supported illegal, unreported or unregulated fishing.

Article 12
Conduct of inspections

1. Each Party shall ensure that its inspectors carry out the functions set forth in Annex B as a minimum standard.

2. Each Party shall, in carrying out inspections in its ports:

(a) ensure that inspections are carried out by properly qualified inspectors authorized for that purpose, having regard in particular to Article 16 of this Agreement;

(b) ensure that, prior to an inspection, inspectors are required to present to the master of the vessel an appropriate document identifying the inspectors as such;

(c) ensure that the inspector examines all relevant areas of the vessel, fish on board, the nets and any other gear, equipment, and any document or record held on board that are relevant to verify compliance with relevant conservation and management measures;

(d) [require the master of the vessel to give the inspector all necessary assistance and information, and present relevant material and documents as may be required, or certified copies thereof;]

(e) [in case of] [subject to] appropriate arrangements with the flag State of the vessel, [notify and] invite the flag State to participate in the inspection;

(f) make all possible efforts to avoid unduly delaying the vessel to minimize interference and inconvenience and to avoid action that would adversely affect the quality of the fish on board;

(g) [ensure that an inspector is able to communicate] [make all possible efforts to facilitate communication] with the master or senior crew members of the vessel, or that the inspector is accompanied, where possible and where needed, by an interpreter; [and]

(h) ensure that inspections are conducted in a fair, transparent and non-discriminatory manner and would not constitute harassment of any vessel[.][;]

[(i) do not interfere with the master's ability to communicate with the authorities of the flag State during the inspection; and

(j) promptly leave the vessel following completion of the inspection if they find no evidence of a serious violation.]

Article 13
Results of inspections

Each Party shall[, as a minimum standard,] include the information set out in Annex C in the written report of the results of each inspection.

Article 14
Transmittal of inspection results

Each Party shall transmit the results of each inspection to the flag State of the inspected vessel and, as appropriate, to:

(a) [relevant Parties and other States, including [those States for which there is evidence through inspection that the vessel has engaged in illegal, unreported and unregulated fishing and fishing related activities within waters under their national jurisdiction and] those States of which the vessel's captain is a national.]

(b) relevant regional fisheries management organizations; and

(c) FAO and other relevant international organizations.

Article 15
Electronic exchange of information

1. To facilitate implementation of this Agreement, each Party shall, where possible, establish a communication mechanism that allows for direct electronic exchange of information , with due regard to appropriate confidentiality requirements.

[1*bis* To the extent possible Parties should seek to establish a centralized database or to facilitate the exchange of information with existing databases relevant to this Agreement.]

2. Each Party shall handle information to be transmitted through any mechanism established under paragraph 1 consistent with Annex D.

Article 16
Training of inspectors

Each Party shall ensure that its inspectors are properly trained taking into account the guidelines for the training of inspectors in Annex E. Parties shall seek to cooperate in this regard.

Article 17
Port State actions following inspection

1. Where, following an inspection, there are clear grounds for believing that a vessel has engaged in illegal, unreported and unregulated fishing [or fishing related activities] the inspecting Party shall promptly notify the flag State of the vessel and, as appropriate, other relevant Parties, States and regional fisheries management organizations [and other relevant organizations] and shall[, depending on the gravity of the activities,] deny use of its port to the vessel for landing, transshipping, [or] processing [and packaging] of fish, if these measures have not already been taken in respect of the vessel.

[2. A Party shall [, in appropriate situations,][1] deny a vessel referred to in paragraph 1 of this Article, access to port services, including refuelling, resupplying, maintenance and drydocking but not including services essential to the safety of the vessel and the safety, health and welfare of the crew.]

[3. A Party may take measures in addition to those specified in paragraphs 1 and 2 of this Article that are consistent with international law where there is evidence that a vessel has engaged in one or more of the activities set forth in paragraph 1, provided that :

(a) the measures are provided for in its national laws and regulations;

(b) the flag State of the vessel has consented to the taking of such measures or requested such measures to be taken, or a relevant coastal State has requested the taking of such measures in respect of a violation that has occurred in an area under its national jurisdiction;

[1] Other qualifiers to be considered: in general; depending on the gravity of the activities; with the exception of minor violations; unless the port State is satisfied that the flag State has taken or will take adequate action.

(c) the vessel is without nationality; or

(d) the additional measures gives effect to a decision of a regional fisheries management organization or is taken pursuant to other international agreements.]

[Article 18
Appeals concerning actions by the port State

A Party shall ensure that the owner, operator or representative of a vessel that has been the subject of port State measures taken pursuant to Articles 9 and 17 of this Agreement may appeal the decision. An appeal will not cause such measures to be suspended while the appeal is pending. The master of the vessel shall be informed of the right of appeal.

Article 19
Compensation

Each Party shall ensure that the owner or operator of a vessel is entitled to compensation for any loss or damage suffered as a consequence of undue delay. In any instance of alleged delay, the burden of proof lies with the owner or operator of the vessel.]

PART 5

ROLE OF FLAG STATES

Article 21
Role of flag States

1. Each Party shall require the vessels entitled to fly its flag to cooperate with the port State in inspections carried out pursuant to this Agreement.

2. When a Party has clear grounds to believe that a vessel entitled to fly its flag has engaged in illegal, unreported and unregulated fishing or fishing related activities and is seeking entry to or is in the port of another State, it shall, as appropriate, request that State to inspect the vessel or to take other measures consistent with this Agreement.

3. Each Party shall encourage vessels entitled to fly its flag to land, transship and process fish, and use other port services, in ports of States that are acting in accordance with, or in a manner consistent with this Agreement. Parties are encouraged to develop, including through regional fisheries management organizations and FAO, fair, transparent and non-discriminatory procedures for identifying any States that may not be acting in accordance with, or in a manner consistent with, this Agreement.

3*bis* Where, following port State inspection, a flag State Party receives an inspection report indicating that there are clear grounds to believe that a vessel entitled to fly its flag has engaged in illegal, unreported and unregulated fishing or fishing related activities, it shall immediately and fully investigate the matter and shall, upon sufficient evidence, take enforcement action without delay in accordance with its laws.

4. Each Party shall, in its capacity as a flag State, report to relevant port States and, as appropriate, other relevant States, regional fisheries management organizations and FAO on actions it has taken in respect of vessels entitled to fly its flags that, as a result of port State measures taken under this Agreement, have been determined to have engaged in illegal, unreported and unregulated fishing or fishing related activities.

4bis Each Party shall ensure that measures applied to vessels flying its flag are at least as effective to prevent, deter, and eliminate illegal, unreported, and unregulated fishing as measures applied to vessels referred to in paragraph 1 of Article 3.

PART 6

REQUIREMENTS OF DEVELOPING STATES

Article 22
Requirements of developing States

1. Parties shall give full recognition to the special requirements of developing States in relation to the implementation of port State measures consistent with this Agreement. To this end, Parties shall, either directly or through FAO, other specialized agencies of the United Nations and other appropriate international organizations and bodies, including regional fisheries management organizations, provide assistance to developing States in order to, *inter alia*:

(a) enhance their ability, in particular the least-developed among them and small island developing States, to develop a legal basis and capacity for the implementation of effective port State measures;

(b) facilitate their participation in any international organizations that promote the effective development and implementation of port State measures; and

(c) facilitate technical assistance to strengthen the development and implementation of port State measures by them, in coordination with relevant international mechanisms.

2. Parties shall give due regard to the special requirements of developing port States to ensure that a disproportionate burden resulting from the implementation of this Agreement is not transferred directly or indirectly onto them.

3. Parties shall, either directly or through FAO, assess the special requirements of developing States concerning the implementation of this Agreement.

4. Parties shall cooperate to establish appropriate funding mechanisms to assist developing States in the implementation of this Agreement. These mechanisms shall, *inter alia*, be directed specifically towards:

(a) developing national and international port State measures;

(b) developing and enhancing capacity, including for monitoring, control and surveillance and for training at the national and regional levels of port managers, inspectors, and enforcement and legal personnel;

(c) monitoring, control, surveillance and compliance activities relevant to port State measures, including access to technology and equipment; and

(d) assisting developing States Parties with the costs involved in any proceedings for the settlement of disputes that result from action they have taken pursuant to this Agreement.

5. Cooperation with and among developing States for the purposes set out in this Article may include the provision of technical and financial assistance through bilateral, multilateral and regional channels, including South-South cooperation.

[6. The extent to which developing port States Parties will effectively implement their commitments under this Agreement will depend on the effective implementation of paragraphs 4 and 5 of this Article related to financial resources.]

PART 7

DISPUTE SETTLEMENT

Article 23
Peaceful settlement of disputes

1. Any Party may seek consultations with any other Party or Parties on any dispute with regard to the interpretation or application of the provisions of this Agreement with a view to reaching a mutually satisfactory solution as soon as possible.

2. In the event that the dispute is not resolved through these consultations within a reasonable period of time, the Parties in question shall consult among themselves as soon as possible with a view to having the dispute settled by negotiation, inquiry, mediation, conciliation, [arbitration, judicial settlement] or other peaceful means of their own choice.

[3. Any party to a dispute of this character not so resolved shall, with the consent of all Parties to the dispute, be referred for settlement to the International Court of Justice, to the International Tribunal for the Law of the Sea or to arbitration. In the case of failure to reach agreement on referral to the International Court of Justice, to the International Tribunal for the Law of the Sea or to arbitration, the Parties shall continue to consult and cooperate with a view to reaching settlement of the dispute in accordance with the rules of international law relating to the conservation of living marine resources.]

PART 8

NON-PARTIES

Article 24
Non-Parties to this Agreement

1. Parties shall encourage non-Parties to this Agreement to become Parties thereto and to adopt laws and regulations and implement measures consistent with its provisions.

2. Parties shall take fair, non-discriminatory and transparent measures consistent with this Agreement and other applicable international law to deter the activities of non-Parties which undermine the effective implementation of this Agreement.

PART 9

MONITORING AND REVIEW

Article 25
Monitoring and review

Parties shall, within the framework of FAO and its relevant Bodies, ensure the regular and systematic monitoring of the implementation of this Agreement and the assessment of the progress made towards achieving its objective.

PART 10

FINAL PROVISIONS

Article 26
Signature

This Agreement shall be open for signature at ** from ** until **, by all States and regional economic integration organizations.

Article 27
Ratification, acceptance or approval

1. This Agreement shall be subject to ratification, acceptance or approval by the signatories.

2. Instruments of ratification, acceptance or approval shall be deposited with the Depositary.

Article 28
Accession

1. After the period in which this Agreement is open for signature, it shall be open for accession by any State or regional economic integration organization.

2. Instruments of accession shall be deposited with the Depositary.

Article 29
Regional Economic Integration Organizations

[1. In cases where [a regional economic integration organization] does not have competence over all the matters governed by the this Agreement, Annex IX to the Convention shall apply *mutatis mutandis* to participation by such organization in this Agreement, except that the following provisions of that Annex shall not apply:

(a) article 2, first sentence; and
(b) article 3, paragraph 1.

2. In cases where [a regional economic integration organization] has competence over all the matters governed by this Agreement, the following provisions shall apply to participation by such organization in this Agreement:

(a) at the time of signature or accession, such organization shall make a declaration stating:

(i) that it has competence over all the matters governed by this Agreement;
(ii) that, for this reason, its member States shall not become States Parties, except in respect of their territories for which the international organization has no responsibility; and
(iii) that it accepts the rights and obligations of States under this Agreement;

(b) participation of such an organization shall in no case confer any rights under this Agreement on member States of the organization;

(c) in the event of a conflict between the obligations of [a regional economic integration organization] under this Agreement and its obligations under the Agreement establishing the organization or any acts relating to it, the obligations under this Agreement shall prevail.]

Article 30
Entry into force

1. This Agreement shall enter into force thirty days after the date of deposit with the Depositary of the twenty-fifth instrument of ratification, acceptance, approval or accession in accordance with Article 27 or 28.

2. For each signatory which ratifies, accepts or approves this Agreement after entry into force, this Agreement shall enter into force thirty days after the date of the deposit of its instrument of ratification, acceptance or approval.

3. For each State or regional economic integration organization which accedes to this Agreement after its entry into force, this Agreement shall enter into force thirty days after the date of the deposit of its instrument of accession.

4. For the purposes of this Article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by its Member States.

[Article 31
Reservations and exceptions

No reservations or exceptions may be made to this Agreement.]

Article 32
Declarations and statements

Article 31 does not preclude a State or regional economic integration organization, when signing, ratifying, accepting, approving or acceding to this Agreement, from making a declaration or statement, however phrased or named, with a view to, *inter alia*, the harmonization of its laws and regulations with the provisions of this Agreement, provided that such declaration or statement does not purport to exclude or to modify the legal effect of the provisions of this Agreement in their application to that State or regional economic integration organization.

Article 33
Provisional application

1. This Agreement shall be applied provisionally by States or regional economic integration organizations which consent to its provisional application by so notifying the Depositary in writing. Such provisional application shall become effective from the date of receipt of the notification.

2. Provisional application by a State or regional economic integration organization shall terminate upon the entry into force of this Agreement for that State or regional economic integration organization or upon notification by that State or regional economic integration organization to the Depositary in writing of its intention to terminate provisional application.

Article 34
Amendments

Where the Agreement is concluded outside FAO and FAO acts as a Depositary.

[1. This Agreement may be amended by a [two-thirds majority of the Parties].

2. Any Party may propose an amendment to the Agreement by providing to the Depositary the text of a proposed amendment.

3. Amendments to this Agreement shall enter into force [ninety (90)] days after notification of acceptance or approval to the Depositary by [two-thirds] of the Parties.

4. States or regional economic integration organizations that become Parties after the entry into force of amendments to this Agreement shall be considered to be Party to the Agreement as amended.]

Where the Agreement is concluded under Art. XIV of the FAO Constitution.

[1. Any proposal by a Party for the amendment of this Agreement shall be communicated to the Director General.

2. Any proposed amendment of this Agreement received by the Director General from a Party shall be presented to a regular or special session of the Conference for approval and, if the amendment involves important technical changes or imposes additional obligations on the Parties, it shall be considered by an advisory committee of specialists convened by FAO prior to the Conference.

3. Notice of any proposed amendment of this Agreement shall be transmitted to the Parties by the Director General not later than the time when the agenda of the session of the Conference at which the matter is to be considered is dispatched.

4. Any such proposed amendment of this Agreement shall require the approval of the Conference and shall come into force as from the thirtieth day after acceptance by two thirds of the Parties. Amendments involving new obligations for Parties, however, shall come into force in respect of each Party only on acceptance by it and as from the thirtieth day after such acceptance. Any amendment shall be deemed to involve new obligations for Parties unless the Conference. in approving the amendment, decides otherwise by consensus.

5. The instruments of acceptance of amendments involving new obligations shall be deposited with the Director General, who shall inform all Parties of the receipt of acceptance and the entry into force of amendments.

6. For the purpose of this Article, an instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by Member States of such an organization.]

Article 35
Annexes

1. The Annexes form an integral part of this Agreement, and a reference to this Agreement shall constitute a reference to the Annexes.

Where the Agreement is concluded outside FAO and FAO acts as a Depositary.

[2. The Annexes may be revised from time to time by Parties. Notwithstanding the provisions of Article 34, if a revision to an Annex is adopted by consensus at a meeting of Parties, it shall be incorporated in this Agreement and shall take effect from the date of its adoption or from such other date as may be specified in the revision. If a revision to an Annex is not adopted by consensus, the amendment procedures set out in Article 34 shall apply.]

[2. An Annex may be amended or a new Annex may be added from time to time by consensus of the Parties. An amendment to an Annex or addition of a new Annex shall be incorporated in this Agreement and shall from the date at which the Depositary receives notification of acceptance from one third of the Parties enter into force for those Parties that have signified their acceptance. The amendment or new Annex shall thereafter enter into force for each remaining Party upon receipt by the Depositary of its acceptance.]

Article 36
Withdrawal

Any Party may withdraw from this Agreement at any time after the expiry of [two years] from the date upon which the Agreement entered into force with respect to that Party, by giving written notice of such withdrawal to the Depositary. Withdrawal shall become effective [** days/months] after receipt of the notice of withdrawal by the Depositary.

Article 37
The Depositary

The Director-General of the Food and Agriculture Organization of the United Nations shall be the Depositary of this Agreement. The Depositary shall:

(a) transmit certified copies of this Agreement to each signatory and Party;

(b) register this Agreement, upon its entry into force, with the Secretariat of the United Nations in accordance with Article 102 of the Charter of the United Nations;

(c) promptly inform all signatories of and Parties to this Agreement of all:

(i) signatures and instruments of ratification, acceptance, approval and accession deposited under Articles 26, 27 and 28;
(ii) the date of entry into force of this Agreement in accordance with Article 30;
(iii) proposals for amendment to this Agreement and their entry into force in accordance with Article 34;
(iv) proposals for amendment to the Annexes in accordance with Article 35; and
(v) withdrawals from this Agreement in accordance with Article 36.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, having been duly authorized by their respective Governments, have signed this Agreement.

DONE at **, on this ** day of **, 200*, in Arabic, Chinese, English, French, Russian and Spanish.

ANNEX A

Information to be provided in advance by vessels requesting port entry

1. Intended port of call	
2. Port State	
3. Estimated date and time of arrival	
4. Purpose(s)	
5. Port and date of last port call	
6. Name of the vessel	
7. Flag State	
8. Type of vessel	
9. International Radio Call Sign	
10. Vessel contact information	
10*bis* Vessel owner(s)	
11. Certificate of registry ID	
12. IMO ship ID, if available	
13. External ID, if available	
14. RFMO ID, if applicable	

14 bis. VMS	No	Yes: National	Yes: RFMO(s)	Type:

14 tris. Vessel dimensions	Length		Beam		Draft	

15. Vessel master name and nationality	

16. Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

17. Relevant transhipment authorization(s)

Identifier		*Issued by*		*Validity*	
Identifier		*Issued by*		*Validity*	

18. Transhipment information concerning donor vessels

Date	*Location*	*Name*	*Flag State*	*ID number*	*Species*	*Product form*	*Catch area*	*Quantity*

19. Total catch onboard				**20. Catch to be offloaded**
Species	*Product form*	*Catch area*	*Quantity*	*Quantity*

ANNEX B

Port State inspection procedures

The inspector(s) shall:

a) verify, to the extent possible, that the vessel identification documentation onboard and information relating to the vessel owner is true, complete and correct, including through appropriate contacts with the flag State or international records of vessels if necessary;

b) verify that the vessel's flag and markings (e.g. name, external registration number, International Maritime Organization ship identification number, international radio call sign and other markings, main dimensions) are consistent with information contained in the documentation;

c) verify, to the extent possible, that the authorization(s) for fishing and fishing related activities is/are true, complete and correct and consistent with the information provided in accordance with Annex A;

d) review all other relevant documentation and records held onboard, including, to the extent possible, those in electronic format and VMS data from the flag State or relevant regional fisheries management organizations (RFMOs). Relevant documentation may include logbooks, catch, transshipment and trade documents, crew lists, stowage plans and drawings, descriptions of fish holds, and documents required pursuant to the Convention on International Trade in Endangered Species of Wild Fauna and Flora;

e) examine, to the extent possible, all relevant fishing gear onboard, including any gear stowed out of sight as well as related devices, and to the extent possible, verify that they are in conformity with the conditions of the authorization(s). The fishing gear shall, to the extent possible, also be checked to ensure that features such as the mesh and twine size(s), devices and attachments, dimensions and configuration of nets, pots, dredges, hook sizes and numbers are in conformity with applicable regulations and that the markings correspond to those authorized for the vessel;

f) determine, to the extent possible, whether the fish on board was harvested in accordance with the applicable authorization(s);

g) examine the fish to determine its quantity and composition, including by sampling. In doing so, the inspector(s) may open containers where the fish has been pre-packed and move the catch or containers to ascertain the integrity of fish holds. Such examination may include inspections of product type and determination of nominal weight;

h) evaluate whether there is clear evidence for believing that a vessel has engaged in illegal, unreported and unregulated fishing or fishing related activities;

i) provide the report containing the result of the inspection to the master of the vessel including possible measures that could be taken, to be signed by the inspector and the master. The master's signature of the report shall serve only as

acknowledgment of the receipt of a copy of the report. The master shall be given the opportunity to add any comments or objection to the report, and, as appropriate, to contact the relevant authorities of the flag State in particular where the Master has serious difficulties in understanding the content of the report. A copy of the report shall be provided to the Master.

j) arrange, where necessary and possible, for a translation of relevant documentation.

ANNEX C

Report of the results of the inspection

1. Inspection report no **2. Port State**

3. Inspecting Authority

4. Name of Principal Inspector **ID**

5. Port of inspection

6. Commencement of inspection *YYYY* *MM* *DD* *HH*

7. Completion of inspection *YYYY* *MM* *DD* *HH*

8. Advanced notification received *Yes* *No*

9. Purpose(s) *LAN* *TRX* *PRO* *OTH (specify)*

10. Port and State and date of last port call *YYYY* *MM* *DD*

11. Vessel name

12. Flag State

13. Type of vessel

14. International Radio Call Sign

15. Certificate of registry ID

16. IMO ship ID, if available

17. External ID , if available

18. Port of registry

19. Vessel owner(s)

20. Vessel beneficial owner(s), if known and different from vessel owner

21. Vessel operator(s), if different from vessel owner

22. Vessel master name and nationality

23. Fishing master name and nationality

24. Vessel agent				
25. VMS	*No*	*Yes: National*	*Yes: RFMOs*	Type:

26. Status in RFMO areas where fishing or fishing related activities have been undertaken, including any IUU vessel listing

Vessel identifier	*RFMO*	*Flag State status*	*Vessel on authorized vessel list*	*Vessel on IUU vessel list*

27. Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

28. Relevant Transshipment authorization(s)

Identifier *Issued by* *Validity*

Identifier *Issued by* *Validity*

29. Transshipment information concerning donor vessels

Name	*Flag State*	*ID no.*	*Species*	*Product form*	*Catch area(s)*	*Quantity*

30. Evaluation of offloaded catch (quantity)					
Species	*Product form*	*Catch area(s)*	*Quantity declared*	*Quantity offloaded*	*Difference between quantity declared and quantity determined, if any*

31. Catch retained onboard (quantity)					
Species	*Product form*	*Catch area(s)*	*Quantity declared*	*Quantity retained*	*Difference between quantity declared and quantity determined, if any*

32. Examination of logbook(s) and other documentation	*Yes*	*No*	*Comments*
33. Compliance with applicable catch documentation scheme(s)	*Yes*	*No*	*Comments*
34. Compliance with applicable trade information scheme(s)	*Yes*	*No*	*Comments*
35. Type of gear used			
36. Gear examined in accordance with paragraph e) of Annex B	*Yes*	*No*	*Comments*

37. Findings by inspector(s)
38. Apparent infringement(s) noted including reference to relevant legal instrument(s)
39. Comments by the master
40. Action taken
41. Master signature
42. Inspector signature

ANNEX D

Information systems on port State measures

In implementing this Agreement, each Party shall:

a) seek to establish computerized communication in accordance with Article X, paragraph X and Article X of this Agreement;

b) establish, to the extent possible, websites to publicize the list of ports designated in accordance with Article X of this Agreement and the actions taken in accordance with Article X of this Agreement;

c) identify, to the greatest extent possible, each inspection report by a unique reference number starting with 3-alpha code of the port State and identification of the issuing agency;

d) utilize, to the extent possible, the international coding system below in Annexes A and C and translate any other coding system into the international system.

countries/territories:	ISO-3166 3-alpha Country Code
species:	ASFIS 3-alpha code (known as FAO 3-alpha code)
vessel typesISSCFV code (known as FAO alpha code)	
gear types:	ISSCFG code (known as FAO alpha code)

ANNEX E

Guidelines for the training of inspectors

Elements of a training programme for port State inspectors should include at least the following areas:

1. Ethics;

2. Health, safety and security issues;

3. Applicable national laws and regulations, areas of competence and conservation and management measures of relevant regional fisheries management organizations, and applicable international law;

4. Collection, evaluation and preservation of evidence;

5. General inspection procedures such as report writing and interview techniques;

6. Analysis of information, such as logbooks, electronic documentation and vessel history (name, ownership and flag), required for the validation of information given by the master of the vessel;

7. Vessel boarding and inspection, including hold inspections and calculation of vessel hold volumes;

8. Verification and validation of information related to landings, transshipments, processing and catch remaining onboard, including utilizing conversion factors for the various species and products;

9. Identification of fish species and the measurement of length and other biological parameters;

10. Identification of vessels and gear and techniques for the inspection and measurement of gear;

11. Equipment and operation of VMS and other electronic tracking systems;

12. Actions to be taken following an inspection, and

Appendix C – Annex A: 2008 draft of the FAO Port State Measures Agreement

ANNEX A

Information to be provided in advance by vessels

1. Intended port of call								**2. Country**			
3. Estimated date and time of arrival			*YYYY*	*MM*		*DD*		*HH*		*MM*	
4. Purpose(s)	*LAN*	*TRA*	*PRO*	*OTH (specify)*							
5. Port and date of last port call						*YYYY*		*MM*		*DD*	
6. Port and date of next port call						*YYYY*		*MM*		*DD*	
7. Name of the vessel											
8. Flag State		**9. Type of vessel**					**10. IRCS**				
11. Global Record ID					**12. IMO ship ID**						
13. External ID					**14. Other ID**						
15. MMSI ID				**16. Home port**							
17. LOA				**18. Moulded depth**							
19. GT				**20. Beam**							
21. Engine(s) power				**22. Construction year**		*YYYY*					
23. Construction place											
24. Vessel owner(s)											
25. IMO company ID(s)											
26. Vessel beneficial owner(s)											
27. Vessel operator(s)											
28. Master											
29. Fishing master											
30. Vessel agent											
31. VMS	*No*	*Yes: National*		*Yes: RFMOs*							
32. AIS	*No*	*Yes*	**33. LRIT**	*Yes*		*No*					
34. Previous name(s)						*Date(s)*					
						YYYY		*MM*		*DD*	
						YYYY		*MM*		*DD*	
35. Previous flag(s)						*Date(s)*					
						YYYY		*MM*		*DD*	
						YYYY		*MM*		*DD*	
36. Previous owner(s)						*Date(s)*					
						YYYY		*MM*		*DD*	
						YYYY		*MM*		*DD*	
37. Fishing license reference						*Issue date(s)*					
						YYYY		*MM*		*DD*	
						YYYY		*MM*		*DD*	

38. License scope	*Period of validity*							
Quota				*Effort*				
Issuing authority				*Country(ies)*				
Target Species				*Gear*				
Fishing area(s)								
39. Transshipment documents								
Species	*Product*	*Area*	*Quantity*	*TRX from*	*TRX to*	*Date*		
						YYYY	*MM*	*DD*
						YYYY	*MM*	*DD*
40. Transshipping authorizations								
Issued by				*Number*		*Date*	*YYYY*	*MM*	*DD*
41.Trip starting	*Date*	YYYY	MM	DD	*Time*	HH	MM	
42. Fish onboard at start of trip								
Species		*Product*		*Quantity*				
Species		*Product*		*Quantity*				
43. Areas visited								

44. Total fish onboard				**45. Landed/trx**	**46. Retained**
Species	*Product*	*Catch area*	*Quantity*	*Quantity*	*Quantity*

47. Flag State status in RFMO(s)	*Party*	*Coop. non-Party*	*Non-Party*

48. Fishing logbook	*Yes*	*No*	
49. Production/processing logbook	*Yes*	*No*	
50. Catch receiver (landed)			
51. Catch receiver (transshipped)			
52. Catch destination			
53. Catch documentation scheme			
54. Trade information scheme			

Appendix D – Annex A: February 2009 draft of the FAO Port State Measures Agreement

ANNEX A

Information to be provided in advance by vessels requesting port entry

1. Intended port of call	
2. Port State	
3. Estimated date and time of arrival	
4. Purpose(s)	
5. Port and date of last port call	
6. Name of the vessel	
7. Flag State	
8. Type of vessel	
9. International Radio Call Sign	
10. Vessel contact information	
10*bis* Vessel owner(s)	
11. Certificate of registry ID	
12. IMO ship ID, if available	
13. External ID, if available	
14. RFMO ID, if applicable	

14 bis. VMS	No		Yes: National		Yes: RFMO(s)	Type:
14 tris. Vessel dimensions	Length		Beam		Draft	

15. Vessel master name and nationality	

16. Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

17. Relevant transhipment authorization(s)

Identifier		*Issued by*		*Validity*	
Identifier		*Issued by*		*Validity*	

18. Transhipment information concerning donor vessels	

Date	*Location*	*Name*	*Flag State*	*ID number*	*Species*	*Product form*	*Catch area*	*Quantity*

19. Total catch onboard				**20. Catch to be offloaded**
Species	*Product form*	*Catch area*	*Quantity*	*Quantity*

Bibliography

Books

Andrews-Chouicha, Emily and Gray, Kathleen (eds). 2005. *Why fish piracy persists: The economics of illegal, unreported, and unregulated fishing.* Organisation for Economic Co-operation and Development. OECD Publishing. 291pp.

Baird, Rachel J. 2006. *Aspects of illegal, unreported, and unregulated fishing in the Southern Ocean.* Vol. 5. Series: Reviews: Methods and Technologies in Fish Biology and Fisheries. Springer. Dordrecht. The Netherlands. 286pp.

Brown-Weiss, Edith. 1989. *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity.* Transnational Publishers. 385pp.

Burton, Bob. 2008. *Inside Spin: The Dark Underbelly of the PR Industry.* Allen & Unwin Academic. Crow's Nest, NSW. 324pp.

Cameron, J., Werksman, J., and Roderick, P. 1996. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. 360pp.

Caron, David D. and Scheiber, Harry N. 2004. *Bringing New Law to Ocean Waters.* Martinus Nijhoff Publishers. Leiden. Boston. 497pp.

Cashore, Benjamin, Auld, Graeme and Newsom, Deanna. 2004. *Governing Through Markets: Regulating Forestry through Non-State Environmental Governance.* Yale University Press. New Haven. 327pp.

Dixon, Martin and McCorquodale, Robert. 1991. *Cases and Materials on International Law.* Blackstone Press Ltd. London. 553pp.

Dixon, Martin. 2007. *Textbook on International Law.* 6th Edition. Oxford University Press. Oxford. New York. 400pp.

Gabriel, Otto, von Brandt, Andres, Lange, Klaus, Dahm, Erdmann, Wendt, Thomas. 2005. *Fish catching methods of the world.* 4th Edition. Wiley-Blackwell. Oxford. 523pp.

Harris, Michael. 1998. *Lament for an Ocean: The Collapse of the Atlantic Cod Fishery. A True Crime Story.* McClelland & Stewart Inc. Toronto. 342pp.

Helfman, Gene S. 2007. *Fish Conservation: A Guide to Understanding and Restoring Global Aquatic Biodiversity and Fishery Resources.* Island Press. Washington. 584pp.

Hermina, Gesina and Molen, Johanna. 1937. Alberico Gentili and the development of international law: His life, work and times. Amsterdam. Paris. 342pp.

Kaye, Stuart M. 2001. *International Fisheries Management.* Kluwer Law International. The Hague. London. Boston. 606pp.

Kwiatkowska, Barbara and Dotinga, Harm. 2002. *International Organisations and the Law of the Sea: Documentary Yearbook 1988.* Martinus Nijhoff Publishers. Boston. 1188pp.

Nordquist, Myron H., and Moore, John Norton. 1999. *Current Maritime Issues and the International Maritime Organization.* University of Virginia Center for Oceans Law and Policy. Martinus Nijhoff Publishers. The Hague. Boston. 433pp.

Rayfuse, Rosemary Gail. 2004. *Non-flag state enforcement in high seas fisheries.* Martinus Nijhoff Publishers. Leiden. Boston. 439pp.

Roberts, Callum. 2007. *The unnatural history of the sea.* Island Press. Washington DC, USA. 435pp.

Shapley, D. 1985. *The Seventh Continent: Antarctica in a Resource Age.* Resources for the Future. Washington DC. Distr. Johns Hopkins University Press. 315pp.

Simmons, P. J. and de Jonge Oudraat, Chantal. 2001. *Managing Global Issues: Lessons Learned.* Published by Carnegie Endowment for International Peace. Washington DC. 771pp.

Soulé, Michael E., and Terborge, John (eds). 1999. *Continental Conservation: Scientific Foundations of Regional Reserve Networks.* Island Press. Washington, D.C. 227pp.

Wilder, Martijn. 1992. *Antarctica: An economic history of the last continent.* Department of Economic History. The University of Sydney. Sydney. 155pp.

Book chapters

Agnew, David J., and Barnes, Colin T. 2004. "Economic Aspects and Drivers of IUU Fishing: Building a Framework." OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. pp.169–200.

Balton, David A. 2004. "Dealing with 'Bad Actors' of Ocean Fisheries." OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. pp.57–64.

Haas, Peter M. 2001. "Environmental Pollution." In Simmons, P. J. and de Jonge Oudraat, Chantal. *Managing Global Issues: Lessons Learned.* Carnegie Endowment for International Peace. pp.310–353.

Haward, M. 2004. ""IUU fishing: Contemporary practice." Chapter 5. In Oude Elferink, Alex G., and Rothwell, Donald (eds). *Oceans management in the 21st century.* Martinus Nijhoff Publishers. Leiden. Boston. 391pp.

Jenkins, Leesteffy. "Trade sanctions: Effective enforcement tools." In Cameron, J., Werksman, J., and Roderick, P. 1996. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. pp.221–228.

Juda, Lawrence. 2001. "The United Nations Fish Stocks Agreement." In *Yearbook of International Co-operation on Environment and Development 2001/02.* Earthscan/The Fridtjof Nansen Institute. London. pp.53–58.

Lugten, Gail. 2009. "The FAO Global Record of Fishing Vessels: Issues for Pacific Island States and the Forum Fisheries Agency." Chapter four. Tsamenyi, B.K.M., and Hanich Q. (eds). *Legal and policy trends in the implementation of international fisheries instruments in the Western and Central Pacific Region.* Kluwer Publishing. The Netherlands. In press.

Miller, Denzil G.M. 2004. "Patagonian toothfish: The storm gathers." OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. pp.105–146.

Plaza, Fernando. 1999. "Flag state implementation and port state control." In Nordquist, Myron H., and Moore, John Norton. *Current Maritime Issues and the International Maritime Organization.* University of Virginia. Center for Oceans Law and Policy. Martinus Nijhoff Publishers. Leiden. Boston. pp.199–218.

Rigg, Kelly, Parmentier, Rémi and Currie, Duncan. "Halting IUU Fishing: Enforcing International Fisheries Agreements." OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. 2004. pp.369–400.

Rose, Gregory and Paleokrassis, George. 1996. "Compliance with International Environmental Obligations: A case study of the International Whaling Commission." In Cameron, J., Werksman, J., and Roderick, P. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. pp.148–175

Sands, Philippe. 1996. "Compliance With International Environmental Obligations: Existing International Legal Arrangements." In Cameron, J., Werksman, J., and Roderick, P. 1996. *Improving Compliance With International Environmental Law.* Earthscan Publications Limited. London, UK. pp.48–63.

Seyfang, Gill and Jordan, Andrew. 2002. "The Johannesburg Summit and Sustainable Development: How Effective Are Environmental Conferences?". In Stokke, Olav Schram and Thommessen, Øystein B. (eds.). *Yearbook of International Co-operation on Environment and Development 2002/2003.* Earthscan Publications. London, UK. pp.19–39.

Stokke, O.S. and Vidas, D. 2004. "Regulating IUU fishing or combating IUU operations?" OECD. *Fish piracy: Combating Illegal, Unreported and Unregulated fishing.* OECD environment and sustainable development. pp.19–47.

Stokke, Olav Schram. 2001. "The Loophole of the Barents Sea Fisheries Regime." In O.S. Stokke (ed). 2001. *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes.* Oxford University Press. pp.273–301

Stokke, O.S. 2001. "Conclusions." In Stokke, Olav Schram (ed). *Governing high seas fisheries: The interplay of global and regional regimes.* Oxford University Press. pp.329–360.

Taylor, Annie. 1999. "The Trade and Environment Debate." In Taylor, Annie, Thomas, Caroline (eds). *Global trade and global social issues.* Routledge. London. New York. pp.72–90.

Tsamenyi, Martin and Aqorau, Transform. 1996. "Fishing rights and Responsibilities at Sea: Analysis of Relevant Provisions of the United Nations Convention on the Law of the Sea." In Tsamenyi, M. and Herriman, M. (eds.) *Rights and Responsibilities in the Maritime Environment: National and International Dilemmas.* Maritime Policy Issues Conference, 1995. Centre for Maritime Policy. University of Wollongong. Wollongong, Australia. No. 5. pp.67–81.

Wagner, Brandt. 2004. "ILO submission to the workshop on IUU fishing activities." In OECD. *Fish piracy: Combating illegal, unreported and unregulated fishing.* Committee for Fisheries. OECD Publishing. pp.281–283.

Worm, Boris, Lotze, Heike K., and Myers, Ransom. 2006. "Ecosystem effects of fishing and whaling in the North Pacific and Atlantic Oceans." In Estes, James A., Demaster, Douglas P., Doak, Daniel F., Williams, Terrie M., and Brownell Jr, Robert L. *Whales, whaling, and ocean ecosystems.* University of California Press. pp.335–343.

Journal articles

Agnew, D.J. and Kirkwood, G.P. 2005. "A statistical method for estimating the level of IUU fishing: Application to CCAMLR Subarea 48.3." *CCAMLR Science.* Vol. 12. pp.119–141.

Agnew, David J. 2000. "The Illegal and Unregulated Fishery for Toothfish in the Southern Ocean and the CCAMLR catch documentation scheme." *Marine Policy.* Vol. 24. pp.361–374.

B.R. Murphy. 1991. "The Antarctic Treaty System – Does the Minerals Regime Signal the Beginning of the End?" *Suffolk Transnational Law Journal.* 14. pp.539–540

Babbitt, Bruce. 1993. "Lecture: The future environmental agenda for the United States." *University of Colorado Law Review.* Vol. 64. No. 2. pp.513–522.

Baird, Rachel J. 2005. "CCAMLR Initiatives to Counter Flag State Non-Enforcement in Southern Ocean Fisheries." *Victoria University of Wellington Law Review.* Vol. 36. pp.733–755.

Baird, Rachel. 2004. "Illegal, Unreported and Unregulated Fishing: An analysis of the legal, economic and historical factors relevant to its development and persistence." *Melbourne Journal of International Law.* Vol. 5. Iss. 2. October. pp.299–334

Balton, David A., and Koehler, Holly R. 2006. "Reviewing the United Nations Fish Stocks Treaty." *Sustainable Development Law & Policy.* Vol. VII. Issue 1. Fall 2006. pp.5–9.

Bender, P., and Lugten, G. 2007. "Taxing Illegal Fishing (A Proposal for Using Taxation Law to Reduce Profiteering From IUU Fishing Offences)." *The International Journal of Marine and Coastal Law.* Vol. 22. No. 4. Koninklijke Brill NV. pp.517–544.

Bess, Randall. 2005. "Expanding New Zealand's quota management system." *Marine Policy.* Vol. 29. Iss. 4. July. pp.339-347.

Bestor, Theodore C. Nov – Dec 2000. "How sushi went global." *Foreign Policy.* No. 121. pp.54–63.

Blake, Donald, Guppy, Neil and Urmetzer, Peter. 1997. "Canadian Public Opinion and Environmental Actions: Evidence from British Columbia." *Canadian Journal of Political Science.* Vol. 30. Iss. 3. September. pp.451–472.

Blay, S.K.N. Piotrowicz, R.W., and Tsamenyi, B.M. 1991. "Problems with the Implementation of the Third United Nations Law of the Sea Convention: The Question of Reservations and Declarations." *Australian Year Book of International Law.* Vol. 11. pp.67–107.

Bloor, Michael, Datta, Ramesh, Gilinskiy, Yakov, Horlick-Jones, Tom. 2006. "Unicorn among the Cedars: On the Possibility of Effective 'Smart Regulation' of the Globalized Shipping Industry." *Social & Legal Studies.* London. December. Vol. 15. Iss. 4. pp.534–551.

Bonucci, Nicola. "Towards an International Code of Conduct for Responsible Fishing." *Review of European Community & International Environmental Law.* Vol. 2. No. 3. Cambridge, Mass. 1993. pp.245–251.

Bown, Chad P. 2005. "Participation in WTO dispute settlement: Complainants, interested parties and free riders." *The World Bank Economic Review.* Vol. 19. No. 2. pp.287–310.

Brack, Duncan. 1995. "Balancing trade and the environment." *International Affairs.* Vol. 71. No. 3. Ethics, the Environment and the Changing International Legal Order. July 1995. pp.497–514.

Campbell, David, Brown, Debbie and Battaglene, Tony. "Individual trabsferable catch quotas: Australian experience in the southern bluefin tuna fishery." *Marine Policy.* Vol. 24. pp.109-117.

Cashore, Benjamin, Egan, Elizabeth, Auld, Graeme and Newsom, Deanna. 2007. "Revising Theories of Nonstate Market-Driven (NSMD) Governance: Lessons from the Finnish Forest Certification Experience." *Global Environmental Politics.* Vol. 7. No. 1. February. Massachusetts Institute of Technology. pp.1–44.

Charnovitz, Steve. 1995. "Regional trade agreements and the environment." *Environment.* July. Vol. 37. Iss. 6. Washington. pp.16–27.

Chavez, Carlos and Salgado, Hugo. 2005. "Individual Transferable Quota Markets under Illegal Fishing." *Environmental and Resource Economics.* Vol. 31. pp.303-324.

Cheyne, I. 2000. "Law and ethics in the trade and environment debate: tuna, dolphins and turtles." *Journal of Environmental Law.* Vol. 12. No. 3. pp.293–316.

Cochrane, Kevern, L., and Doulman, David J. 2005. "The rising tide of fisheries instruments and the struggle to keep afloat." *Philosophical Transactions of the Royal Society B.* Vol. 360. pp.77–94.

Crean, Kevin and Wisher, Steve J. 2000. "Is there a will to manage fisheries at a local level in the European Union? A case study from Shetland." *Marine Policy.* Vol. 24. pp.471-481.

De la Fayette, Louise and Evans, Malcolm D. 1999. "The Fisheries Jurisdiction Case (Spain v. Canada), Judgment on Jurisdiction of 4 December 1998." *The International and Comparative Law Quarterly.* Vol. 48. No. 3. July. pp.664–672.

Di Leva, Charles E. 2002. "The Conservation of Nature and Natural Resources through Legal and Market-Based Instruments." *Review of European Community & International Environmental Law.* Vol. 11. No. 1. pp.84–95.

Dodds, Klaus. 2000. "Geopolitics, Patagonian Toothfish and Living Resource Regulation in the Southern Ocean." *Third World Quarterly.* Vol. 21. No. 2. pp.229–246.

Erceg, Diane. 2006. "Deterring IUU fishing through state control over nationals." *Marine Policy.* Vol. 30. pp.173–179.

Gallic, Bertrand L., and Cox, Anthony. 2006. "An economic analysis of illegal, unreported and unregulated (IUU) fishing: key drivers and possible solutions." *Marine Policy.* Vol. 30. pp.689–695.

Gewin, Virginia. "Troubled Waters: The Future of Global Fisheries." *PLoS Biol.* Vol. 2. Issue 4. April 2004. pp.422–427.

Gibbs, Mark. 2007. "Lesser-known consequences of managing marine fisheries using individual transferable quotas." *Marine Policy.* Vol. 31. Iss. 2. pp.112-116.

Griggs, L. and Lugten, G. 2007. "Veil over the nets: Unravelling corporate liability for IUU fishing offences." *Marine Policy*. Volume 31. Issue 2. March. pp.159–168.

Gulbrandsen, Lars H. 2009. "The emergence and effectiveness of the Marine Stewardship Council." *Marine Policy*. Vol. 33. pp.654–660.

Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science*. Vol. 162. pp.1243–1248.

Higginson, Charles. 1993. "The UN Conference on High Seas Fishing." *Review of European Community & International Environmental Law*. Cambridge, Mass. Vol. 2 No. 3. pp.237–243.

Hollick, Ann L. 1977. "Notes and Comments: The Origins of 200-mile Offshore Zones". *The American Journal of International Law*. Vol. 77. No. 3. July. pp.494–500.

Hu, Nien-Tsu Alfred. 2006. "Introduction to the Special Issue." *Ocean Development and International Law*. Vol. 37. pp.113–115.

Jacquet, Jennifer L., and Pauly, D. 2007. "The rise of seafood awareness campaigns in an era of collapsing fisheries." *Marine Policy*. Vol. 31. pp.308–313.

Jentoft, Svein. 2000. "The community: A missing link of fisheries management." *Marine Policy*. Vol. 24. pp.53-59.

Jessup, Philip C. 1959. "United Nations Conference on the Law of the Sea." *Columbia Law Review*. Vol. 59. No. 2. February. pp.234–268.

Joyner, Christopher C. 1981. "The Exclusive Economic Zone and Antarctica." *Virginia Journal of International Law*. Vol. 21. No. 4. pp.691–725.

Joyner, Christopher C. 1998. "Compliance and Enforcement in New International Fisheries Law." *Temple International and Comparative Law Journal*. Vol. 12. No. 2. pp.271–300.

Joyner, Christopher C. and Martell, Elizabeth A. 1996. "Looking Back to See Ahead: UNCLOS III and Lessons for Global Commons Law." *Ocean Development & International Law*. Vol. 27. pp.73–95.

Kaiser, MJ and Dwards-Jones, G. 2006. "The role of ecolabeling in fisheries management and conservation." *Conservation Biology*. Vol. 20. No. 2. pp.392–398.

Kellow, Aynsley. 2000. "Norms, interests and environment NGOs: The limits of cosmopolitanism." *Environmental Politics*. Vol. 9. No. 3. Autumn. pp.1–22

Knapp, Sabine and Franses, Philip Hans. 2007. "Econometric analysis on the effect of port state control inspections on the probability of casualty: Can targeting of

substandard ships for inspections be improved?" *Marine Policy.* Vol. 31. pp.550–563.

Koch, Michael. 1984. "The Antarctic challenge: conflicting interests, co-operation, environmental protection and economic development." *Journal of Maritime Law and Commerce.* Vol. 15. No. 1. January. pp.117–126.

Kuperan, K., and Sutinen, Jon G. 1998. "Blue water crime: Deterrence, legitimacy, and compliance in fisheries." *Law & Society Review.* Amherst. Vol. 32. Issue 2. pp.309–338.

Leadbitter, Duncan, Gomez, Guillermo, McGilvray, Frazer. 2006. "Sustainable fisheries and the East Asian seas: Can the private sector play a role?" *Ocean & Coastal Management.* Vol. 49. pp.662–675.

Leigh, Kathy. 1993. "Liability for Damage to the Global Commons." *Australian Year Book of International Law.* Vol. 14. pp.129–156.

Lindblom, Charles E. 1982. "The Market as Prison." *The Journal of Politics.* Vol. 44. pp.324–336

Llácer, Francisco, J. 2003. "Open registers: past, present and future." *Marine Policy.* Vol. 27. pp.513–523.

Lugten, G.L. 2006. "Soft Law with Hidden Teeth: The Case for a FAO International Plan of Action on Sea Turtles." *Journal of International Wildlife Law & Policy.* Vol. 9. No. 2. pp.155–173

Magraw, Daniel, Charnovitz, Steve. 1994. "NAFTA's reprecussions: Is green trade possible?" *Environment.* Washington: Mar 1994.Vol.36, Iss. 2. 14pp.

Hebblewhite, Mark, White, Clifford A., Nietvelt, Clifford G., McKenzie, John A., Hurd, Tomas E., Fryxell, John M., Bayley, Suzanne E., and Paquet, Paul C. 2005. "Human activity mediates a trophic cascade caused by wolves." *Ecology.* Vol. 86. No. 8. pp.2135–2144.

McCormick, Rachel. 2006. "A Qualitative Analysis of the WTO's Role on Trade and Environment Issues." *Global Environmental Politics.* February. Vol.6. No.1. pp.102–124.

Midson, David. 2009. "A New Global Record for an Old Threat." *Australian and New Zealand Maritime Law Journal.* Vol. 23. Forthcoming.

Molenaar, Erik Jaap. "Book Review – Rayfuse, Rosemary Gail. 2004. *Non-flag state enforcement in high seas fisheries.*" *The International Journal of Marine and Coastal Law.* Vol. 19. No. 2. Koninklijke Brill NV. pp.203–206.

Molenaar, Erik Jaap. 2007. "Port State jurisdiction: Towards comprehensive, mandatory and global coverage." *Ocean Development & International Law.* Vol. 38. No. 1. pp.225–257.

Molenaar, Erik Jaap. 2004. "Multilateral hot pursuit and illegal fishing in the Southern Ocean: The pursuits of the *Viarsa 1* and the *South Tomi*." *The International Journal of Marine and Coastal Law.* Vol. 19. No.1. Koninklijke Brill NV. pp.19–42.

Murphy, B.R. 1991. "The Antarctic Treaty System – Does the Minerals Regime Signal the Beginning of the End?" *Suffolk Transnational Law Journal.* 14. pp.539–540.

Myers, Ransom A. and Worm, Boris. 2003. "Rapid worldwide depletion of predatory fish communities." 15 May 2003. *Nature.* Vol. 423. pp.280–283.

Oxman, Bernard H. 1986. "Antarctica and the New Law of the Sea." *Cornell International Law Journal.* Vol. 19. pp.211–247.

Parson, Edward A, Haas, Peter M, Levy, Marc A. "A Summary of the Major Documents Signed at the Earth Summit and the Global Forum." *Environment.* Washington. Oct 1992. Vol. 34. Iss. 8. pp.12–19.

Pauly, Daniel. 2002. "Towards sustainability in world fisheries." *Nature.* 8 August. Vol. 418. pp.689–695.

Pauly, Daniel. 1995. "Anecdotes and the Shifting Baseline Syndrome of Fisheries." *Trends in Ecology and Evolution.* Vol. 10. p.430.

Pauly, D., Christensen, V., Dalsgaard, J., Froese, R., Torres Jr, F. "Fishing down marine food webs." *Science.* 6 February 1998. Vol. 279. No 5352. pp.860–863.

Pitcher, Tony J. 2001. "Fisheries Managed to Rebuild Ecosystems?: Reconstructing the Past to Salvage the Future." *Ecological Applications.* Vol. 11. No. 2. April. pp. 601–617.

Politakis, George P. 2008. "From Tankers to Trawlers: The International Labour Organization's New Work in Fishing Convention." *Ocean Development & International Law.* Vol. 39. pp.119–128.

Powell, Darry. "Antarctic fishing and its likely development." *Significant Speeches.* 1993. Winter. pp.50–55.

Rayfuse, Rosemary. 2005. "To Our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *The International Journal of Marine and Coastal Law.* Vol. 20. Nos. 3–4. Koninklijke Brill NV. pp.509–532.

Rayfuse, Rosemary. 2007. "Regional Allocation Issues or Zen and the Art of Pie Cutting." *University of New South Wales Faculty of Law Research Series.* Vol. 10.

Roheim Wessells, Cathy. 2002. "The economics of information: Markets for seafood attributes." *Marine Resource Economics.* Vol. 17. Marine Resources Foundation. pp.153–162.

Rose, Gregory. 1999. "Marine Biodiversity Protection through Fisheries Management – International Legal Developments." *Review of European Community & International Environmental Law.* Oxford, UK. Vol. 8. Issue 3. pp.284–290.

Rosenberg, Andrew A. 1998. "Controlling Marine Fisheries 50 Years from Now." *J. Northw. Atl. Fish. Sci.*, Vol. 23. pp.95–103.

Russ, G.R., and Zeller, D.C. 2003. "From Mare Liberum to Mare Reservarum." *Marine Policy.* Vol. 27. pp.75–78.

Sage, Bénédicte. 2005. "Identification of 'High Risk Vessels' in coastal waters." *Marine Policy.* Vol. 29. Issue 4. July 2005. pp.349–355.

Samson, Helen, and Bloor, Michael. 2007. "When Jack gets out of the box: the problems of regulation a global industry." *Sociology.* Vol. 41. No.3. pp.551–569.

Sand, Peter H. 1996. "International economic instruments for sustainable development: sticks, carrots, and games." *Indian Journal of International Law.* Vol. 36. No. 2. pp.1–16.

Sand, Peter H. 2006. "Labelling Genetically Modified Food: The Right to Know." *Review of European Community & International Environmental Law.* Vol. 15. No. 2. pp.185–192.

Schachte, William L. Jr. 1992. "Comment: The Value of the 1982 UN Convention on the Law of the Sea: Preserving our Freedoms and Protecting the Environment." *Ocean Development & International Law.* Vol. 23. pp.55–69.

Schofield, Clive, Tsamenyi, Martin and Palma, Mary Ann. 2008. "Securing Maritime Australia: Developments in Maritime Surveillance and Security." *Ocean Development & International Law.* Vol. 39. pp.94–112.

Schwartz, Risa. 2000. "Trade Measures Pursuant to Multilateral Environmental Agreements – Developments from Singapore to Seattle." *Review of European Community & International Environmental Law.* Vol. 9. No. 1. pp.63–70.

Steinberg, Philip E. 1999. "Line of Division, Lines of Connection: Stewardship in the World Ocean." *Geographical Review.* Vol. 89. No. 2. April 1999. Oceans Connect. pp.254–264.

Stewart, Taimoon. 1998. "The United States embargo on shrimp imports: Legal and economic considerations." Policy Options. *Environment and Development Economics.* Vol. 3. Cambridge University Press. pp.197–219.

Stokke, Olav Schram. 1991. "Symposium report: the Antarctic Treaty System in World Politics." *International Challenges.* Vol. 11. No. 2. pp.59–66.

Suganami, Hidemi. 1978. "A Note on the Origin of the Word 'International'." *British Journal of International Studies.* Vol. 4. No. 3. October. pp.226–232.

Swan, Judith. 2006. "Port State Measures to Combat IUU Fishing: International and Regional Developments." *Sustainable Development Law & Policy*. Vol. VII. Issue 1. Fall 2006. pp.38–43.

Thomas, Chantal. 2002. "Trade-related Labour and Environmental Agreements?" *Journal of International Economic Law*. Vol. 5. No. 4. pp.791–819.

Trondsen, Torbjorn, Matthiasson, Thorolfur and Young, James. 2006. "Towards a market-oriented management model for straddling fish stocks." *Marine Policy*. Vol. 30. pp.199-206.

Tsamenyi, Martin. 2006. "The legal substance and status of fishing entities in international law: A note." *Ocean Development and International Law*. Vol. 37. pp.123–131.

Tyedmers, Peter H., Watson, Reg and Pauly, Daniel. 2005. "Fueling Global Fishing Fleets." *Ambio*. Stockholm. December. Vol. 34. Iss. 8. pp.635–639.

Wade, Halina. 1997. "Trade and Environment Issues in Voluntary Eco-labelling and Life Cycle Analysis." *Review of European Community & International Environmental Law*. Vol. 6. No. 2. pp.139–147.

Weinstein, Michael M., and Charnovitz, Steve. 2001. "The Greening of the WTO." *Foreign Affairs*. Nov/Dec. Vol. 80. No. 6. New York. pp.147–157.

West, Mary Beth. 1998. "The Future of the International Law of Capture Fisheries." *J. Northw. Atl. Fish. Sci.* Vol. 23. pp.19–25.

Ripple, William J., Larsen, Eric J., Renkin, Roy A., and Smith, Douglas W. 2001. "Trophic cascades among wolves, elk and aspen on Yellowstone National Park's northern range." *Biological Conservation*. Vol. 102. No. 3. December. pp.227–234.

Wilson, Edward O. 2000. "On the Age of the Environment." *Foreign Policy*. No.119. Summer. pp.34–37.

Wolfrum, Rüdiger. 2006. "Review: Bringing New Law to Ocean Waters by David D. Caron and Harry N. Scheiber." *The American Journal of International Law*. Vol. 100. No. 1. January 2006. pp.270–273.

Worm, Boris, Barbier, Edward B., Beaumont, Nicola, Duffy, J. Emmett, Folke, Carl, Halpern, Benjamin S., Jackson, Jeremy B.C., Lotze, Heike K., Micheli, Fiorenza, Palumbi, Stephen R., Sala, Enric, Selkoe, Kimberley A., Stachowicz, John J., Watson, Reg. 2006. "Impacts of Biodiversity Loss on Ocean Ecosystem Services." *Science*. 3 November 2006. Vol. 314. No. 5800. pp.787–790.

Young, Oran R. May 2000. "Book Review – Fish, Markets, and Fishermen: The Economics of Overfishing by Suzanne Iudicello, Michael Weber and Robert Wieland, 1999." *Environment*. Vol. 42. Iss. 4. p.34.

Zeller, Dirk. 2005. "From Mare Liberum to Mare Reservarum: Canada's Opportunity for Global Leadership in Ocean Resource Governance." *Ocean Yearbook.* Vol. 19. University of Chicago. pp.1–18.

Unpublished theses and research papers

Crowder, Cassandra. 1998. *Freedom of the sea to fishery conservation: An evolving ocean management regime.* MA Thesis. Memorial University of Newfoundland. Canada.

Mee, Ben. 2008. *Filtering Out IUU Fishing with the Global Record: Black and White or Shades of Grey?* Unpublished research paper. School of Law. University of Tasmania.

Williamson, Angela. 2001. *The Development, Management Response and Economic Consequences of IUU Fishing for Patagonian toothfish.* Unpublished Honours thesis.

Reports and papers

Antarctic and Southern Ocean Coalition. "Meeting Report. CCAMLR XXII. 24 October–7 November, 2003. Hobart, Australia." November 2003. http://www.asoc.org/Portals/0/ASOC%20final%20report%20CCAMLR%20XXII,%20Dec%2003.pdf. Accessed 26 May 2009.

Almaani, Mutaz. 2004. "Retailers' communication to promote sustainable consumption." In Audit marketing project. UNEP Division of Technology, Industry and Economics. HEC School of Management. http://www2.medioambiente.gov.ar/ciplycs/documentos/archivos/Archivo_126.pdf. 32pp.

Bache, Sali Jayne, Haward, Marcus, Dovers, Steve. 2000. *The impact of economic, environmental, and trade instruments on Australian fisheries policy and management.* Report prepared for Fisheries and Aquaculture Branch, Department of Agriculture, Fisheries and Forestry, Australia. 104pp.

Baird, Rachel. 2008. "The development of a comprehensive Global Record for fishing vessels, refrigerated transport vessels and supply vessels: An analysis of the practice of regional fishery bodies." Appendix G. FAO. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. pp.25–36.

Bergin, Anthony and Haward, Marcus. June 2003. *It's not just about fish: A strategic approach to Australia's external fisheries engagement.* Fisheries Resources Research Fund Project. 63pp.

Booth, Shawn and Zeller, Dirk. 2008. *Marine fisheries catches in Arctic Alaska.* Fisheries Centre Research Report 16(9). University of British Columbia, Canada. 59pp.

Bostock, Tim. 2008. "Opening Statement." Appendix E. *FAO regional workshop in port state measures to combat IUU fishing. Workshop Report.* Cape Town. 28–31 January 2008. pp.32-33.

Cacaud, Philippe. 2007. "Vessel Monitoring Systems, Use of Electronic Reporting Systems and Remote Sensing (VDS): Legal Aspects, Trends and Options." Appendix E. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome. 24–26 October 2006. FAO Fisheries Report No. 815. Food and Agriculture Organization of the United Nations. Rome, Italy. pp.19-38.

Crothers, G.T. and Nelson, Lindie. *High seas fisheries governance: A framework for the future?* (not in wide distribution). 10pp.

Brack, Duncan and Hayman, Gavin. 2002. "International Environmental Crime: The Nature and Control of Environmental Black Markets." *Background paper for RIIA workshop.* 27–28 May 2002. Sustainable Development Programme, Royal Institute of International Affairs. 21pp.

Bray, Kevin. 2000. "Illegal, Unreported and Unregulated (IUU) Fishing." International Conference on Fisheries Monitoring, Control and Surveillance. Brussels, Belgium. 24–27 October 2000. http://ec.europa.eu/fisheries/press_corner/autres/control/bray.pdf. 14pp.

Center for International Environmental Law. *The Brazil – Retreaded tires case.* Background paper. March 2006. http://www.ciel.org/Publications/Brazil_Tires_3Apr06.pdf. Accessed 24 November 2008. 8pp.

Chaves, Linda, A. 2000. "Illegal, Unreported and Unregulated Fishing: WTO-consistent trade related measures to address IUU fishing." *Expert consultation on Illegal, Unreported and Unregulated fishing organized by the Government of Australia in cooperation with FAO.* Sydney, Australia. 15–19 May 2000. http://www.fao.org/docrep/005/Y3274E/y3274e0i.htm#bm18. 10pp.

Clark, C.W., Munro, G, and Sumaila, U.R. 2003. "Subsidies, buy-backs and sustainable fisheries." *Three essays on the economics of fishing.* Sumaila, U.R. (ed). Fisheries Centre Research Report. Vol. 11. No. 3. The Fisheries Centre. University of British Columbia. pp.4–18.

Doulman, David J. August 2003. "Global overview of illegal, unreported and unregulated fishing and its impacts on national and regional efforts to sustainably manage fisheries: The rationale for the conclusion of the 2001 FAO International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing." Appendix D. FAO. 2004. *Report of the Expert Consultation on fishing vessels operating under open registries and their impact on illegal, unreported and unregulated fishing.* Miami, Florida, United States of America, 23–25 September 2003. FAO Fisheries Report No. 722. FIP/R722. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/fi/document/Ec-OpenRegistries/doulman.pdf. 20pp.

Conference on the Governance of High Seas Fisheries and the UN Fish Agreement: Moving from Words to Action St. John's, Newfoundland and Labrador, Canada. 1–5 May 2005. *Conference Report.* 1 June 2005. http://www.dfo-mpo.gc.ca/fgc-cgp/conf_report_e.pdf. 27pp.

Cruz, Marcos Orellana. 2000. "The Swordfish in Peril: the EU Challenges Chilean Port Access Restrictions at the WTO." *Bridges Monthly Review.* Comment. Issue 1. pp.11–12.

Department of Foreign Affairs. "Antarctica: A continent of harmony?" *Australian Foreign Affairs Record.* February 1980. Vol. 51. No. 2 . Australian Government Publishing Service. NSW, Australia.

Doulman, David J..October 2000. *Events leading to the elaboration of an International Plan of Action to Combat Illegal, Unreported and Unregulated Fishing.* International Conference on Fisheries Monitoring, Control and Surveillance. Brussels, Belgium. 24–27 October 2000. 10pp. http://ec.europa.eu/fisheries/press_corner/autres/control/doulman.pdf

Everett, G.V. 2002. "Fishery Monitoring, Control and Surveillance (MCS) and the Control of Illegal Fishing." *Regional Workshop on Marine Fisheries Management and Enforcement. Port Louis, Mauritius.* Fishery Policy and Planning Division. FAO. Rome. April 8–12, 2002. pp.1-9.

Fabra, Adriana, Gascón, Virginia and Werner, Rodolfo. (No date). *The use of port State measures to improve fisheries compliance: Issues and instruments.* http://www.illegal-fishing.info/uploads/Fabra-use-of-port-state-measures.pdf. 8pp.

FAO Conference. 2003. *Progress Report on the Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing.* Thirty-second session. Rome, Italy. 29 November–10 December 2003. FAO Fisheries Report No. 555. FIDI/R555. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/meeting/007/J0403e.htm. Accessed 3 July 2008.

FAO. 1981. *Report on an Expert Consultation on Monitoring, Control and Surveillance Systems for Fisheries Management.* Rome, Italy. 27–30 April 1981. FAO, FAO/Norway Cooperative Programme FAO/GCP/INT/344/NOR. Food and Agriculture Organization of the United Nations. 115pp.

FAO. 1981. *Summary Report of the Expert Consultation on Monitoring, Control and Surveillance Systems for Fisheries Management.* Rome, Italy. 27–30 April 1981. FAO COFI/81/4. Food and Agriculture Organization of the United Nations. Rome, Italy. 5pp.

FAO. 1997. *Report of the Seventeenth Session of the Coordinating Working Party on Fishery Statistics.* Hobart, Tasmania. 3–7 March 1997. FAO Fisheries Report No. 555. FIDI/R555. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/FI/document/cwp/cwp-17-report.pdf.

FAO. 1998. "Experience in Eco-labelling of Food and Forest Products." *Technical Consultation On The Feasibility Of Developing Non-Discriminatory Technical Guidelines For Eco-Labelling Of Products From Marine Capture Fisheries.* FI:EMF/98/Inf.5. Rome, Italy. 21-23 October 1998. http://www.fao.org/docrep/005/x0881t/x0881t00.htm.

FAO. 1999. *Report of the Meeting of FAO and non-FAO Regional Fishery Bodies or Arrangements.* 11–12 February 1999. Rome, Italy. Fisheries Report No. 597. Food and Agriculture Organization of the United Nations. Rome, Italy. 53pp. http://www.fao.org/DOCREP/006/X1840E/X1840E00.HTM.

FAO. 2001. *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing.* Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/DOCREP/003/y1224e/y1224e00.HTM

FAO. 2001. *Product certification and ecolabelling for fisheries sustainability.* FAO Fisheries Technical Paper No. 422. Food and Agriculture Organization of the United Nations. Rome, Italy. 83pp.

FAO. 2001. *Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* Rome, Italy. 9–11 October 2000. FAO Fisheries Report No. 637. FIIT/R637. Food and Agriculture Organization of the United Nations. Rome, Italy. 24pp. ftp://ftp.fao.org/docrep/fao/005/x9436e/x9436e00.pdf.

FAO. 2001. *Report of the Nineteenth Session of the Coordinating Working Party on Fishery Statistics.* Nouméa, New Caledonia. 10–13 July 2001. FAO Fisheries Report No. 656. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/007/y2606e/y2606e00.pdf 28pp.

FAO. 2001. *Summary of the Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* Rome, 9–11 October 2000. Committee on Fisheries. Twenty-fourth Session. Rome, Italy. 26 February–2 March 2001. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/DOCREP/MEETING/003/X9349E.HTM

FAO. 2003. *Report of the Expert Consultation to Review Port State Measures to Combat Illegal, Unreported and Unregulated Fishing.* Rome, 4–6 November 2002. FAO Fisheries Report No. 692 FIPL/R692. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/005/y8104e/Y8104e00.pdf. 22pp.

FAO. 2003. *Report of the Twentieth Session of the Coordinating Working Party on Fishery Statistics.* Victoria, Seychelles. 21–24 January 2003. FAO Fisheries Report No. 709. FIDI/R709. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/006/y4922e/y4922e00.pdf. 65pp.

FAO. 2003. *Review of Recommendations from CWP-19.* Coordinating Working Party on Fishery Statistics. CWP-20/4. Twentieth Session. Victoria, Seychelles, 21–24 January 2003. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/fi/DOCUMENT/cwp/cwp_20/4ReviewofRecommendations.pdf. 9pp.

FAO. 2004. "Action Taken by FAO Members and FAO to Implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)". *FAO Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity.* Rome, Italy. 24–29 June 2004. TC IUU-CAP/2004/Inf.3. Food and Agriculture Organization of the United Nations. Rome, Italy. 30pp.

FAO. 2004. "Executive Summary: Action Taken by FAO Members and FAO to Implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)". *Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity.* TC IUU-CAP/2004/2. Rome, Italy. 24–29 June 2004. 11pp.

FAO. 2004. "Implementation of the International Plan of Action for the Management of Fishing Capacity: Review and Main Issues." *Technical Consultation to Review Progress and Promote the Full Implementation of the IPOA to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management Of Fishing Capacity.* Rome, Italy, 24–29 June 2004. TC IUU-CAP/2004/4. Food and Agriculture Organization of the United Nations. Rome, Italy. 15pp.

FAO. 2004. "Programmes of assistance to facilitate human resource development and institutional strengthening in developing countries so as to promote the full and effective implementation of port state measures to combat illegal, unreported and unregulated fishing." *Technical consultation to review port state measures to combat illegal, unreported and unregulated fishing.* Rome, Italy. 31 August–2 September 2004. TC PSM/2004/3. Food and Agriculture Organization of the United Nations. Rome, Italy. 3pp.

FAO. 2004. *Report of the Expert Consultation on fishing vessels operating under open registries and their impact on illegal, unreported and unregulated fishing.* Miami, Florida, United States of America, 23–25 September 2003. FAO Fisheries Report No. 722. FIP/R722. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/007/y5681e/y5681e00.pdf. 52pp.

FAO. 2004. *Report. Coordinating Working Party on Fishery Statistics.* Intersessional Meeting of CWP Agencies. Rome, Italy. 3 and 5 February 2004. Food and Agriculture Organization of the United Nations. Rome, Italy ftp://ftp.fao.org/docrep/fao/006/ad659e/ad659e00.pdf. 12pp.

FAO. 2005. *Achievements of Major Programme: 2.3 Fisheries, 2002-2003.* Committee on Fisheries. Twenty-sixth Session. Rome, Italy. 7–11 March 2005. COFI/2005/Inf.6. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/009/j4203e.pdf. 14pp.

FAO. 2005. *Guidelines for the ecolabelling of fish and fishery products from marine capture fisheries.* Twenty-sixth session of COFI. Rome, 7-11 March 2005. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/008/a0116t/a0116t00.htm#Contents.

FAO. 2005. *Report of the Twenty-First Session of the Coordinating Working Party on Fishery Statistics.* Copenhagen, Denmark. 1–4 March 2005. FAO Fisheries Report 777. FIDI/R777. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/008/a0036e/a0036e00.htm

FAO. 2005. *Report of the twenty-sixth session of the Committee on Fisheries.* 7–11 March 2005. FAO Fisheries Report No. 780 FIPL/R780. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/008/a0008e/a0008e01.htm. 113pp.

FAO. 2007. "Combating Illegal, Unreported and Unregulated Fishing through Monitoring, Control and Surveillance, Port State Measures and other means." *COFI. Twenty-seventh session.* Rome, Italy. 5–9 March 2007. COFI/2007/7. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/011/j8989e.pdf. 12pp.

FAO. 2007. "Progress in the Implementation of the 1995 Code of Conduct for Responsible Fisheries, related International Plans of Action and Strategy." *COFI. Twenty-seventh session.* Rome, Italy. 5–9 March 2007. COFI/2007/2. Food and Agriculture Organization of the United Nations. Rome, Italy.

FAO. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome, Italy. 24–26 October 2006. Fisheries Report No. 815. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/009/a0959e/a0959e00.pdf 68pp.

FAO. 2007. *Report of the Expert Consultation to Draft a Legally-Binding Instrument on Port State Measures.* Washington DC., USA. 4–8 September, 2007. FAO Fisheries Report No. 846. FIEL/R846. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/010/a1375e/a1375e00.pdf. 22pp.

FAO. 2007. *Report of the Twenty-Second Session of the Coordinating Working Party on Fishery Statistics. Rome, 27 February–2 March 2007.* Fisheries Report No. 834 FIES/R834. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/010/a1238e/a1238e00.pdf. 46pp.

FAO. 2007. *Report of the Twenty-Seventh session of the Committee on Fisheries.* Rome, Italy. 5–9 March 2007. FAO Fisheries Report No. 830. FIEL/R830. Food and

Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/010/a1160e/a1160e00.pdf. 75pp.

FAO. 2007. *Report on the Development of a Comprehensive Record of Fishing Vessels.* FAO Committee on Fisheries. Twenty-seventh session. Rome, Italy, 5–9 March 2007. COFI/2007/Inf.12. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/011/j8870e.pdf. 5pp.

FAO. 2007. *The state of world fisheries and aquaculture 2006.* FAO Fisheries and Aquaculture Department. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/009/a0699e/a0699e.pdf. 164pp. (This is referred to in the dissertation as FAO. SOFIA. 2006.)

FAO. 2008. "Draft Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing." *Technical Consultation to Draft a Legally-binding Instrument on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing.* Rome, Italy. 23–27 June 2008. TC-PSM/2008/2. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/FI/DOCUMENT/tc-psm/2008/2e.pdf. 24pp.

FAO. 2008. "Draft international guidelines for the Management of Deep-Sea Fisheries in the High Seas (including amendments from the first session of the Technical Consultation." *Second Session – Technical Consultation on the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.* Rome, Italy. 25–29 August 2008. TC: DSF2/2008/2.

FAO. 2008. "Trade related measures for sustainability: progress on a binding instrument on port state measures." COFI. Sub-Committee on Fish Trade. Eleventh Session. Bremen, Germany. 2–6 June 2008. COFI:FT/XI/2008/6. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/013/k1995e.pdf. 4pp.

FAO. 2008. *FAO regional workshop in port state measures to combat IUU fishing.* "Workshop Report." Cape Town. 28–31 January 2008. FAO Fisheries Report No. 859. FIEL/R859. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/010/i0049e/i0049e00.pdf. 42pp.

FAO. 2008. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* FAO Fisheries Report No. 865. FIIT/R865. Rome, Italy. 25–28 February 2008. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/010/i0149e/i0149e00.pdf. 59pp.

FAO. 2009. *The state of world fisheries and aquaculture 2008.* FAO Fisheries and Aquaculture Department. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/011/i0250e/i0250e.pdf. 176pp. (This is referred to in the dissertation as FAO. SOFIA. 2008.)

FAO. COFI. 2008. *Analysis of the implementation and impact of the FAO Code of Conduct for Responsible Fisheries since 1995.* Meeting document for Twenty-

Eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/Inf.10. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/015/k3845e.pdf. 3pp.

FAO. COFI. 2008. *Combating Illegal, Unreported and Unregulated Fishing, including through a Legally Binding Instrument on Port State Measures and the Establishment of a Global Record of Fishing Vessels.* Twenty-eighth Session. Rome, Italy. 2–6 March 2009. COFI/2009/6. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/015/k3898e.pdf. 9pp.

FAO. COFI. March 2008. *Review of market access requirements.* Sub-Committee on Fish Trade. Eleventh Session. Bremen, Germany. June 2–6 2008. COFI:FT/XI/2008/8. Food and Agriculture Organization of the United Nations. Rome, Italy. ftp://ftp.fao.org/docrep/fao/meeting/013/k2256e.pdf. 6pp.

Fitzpatrick, John. 2000. *Measures to enhance the capability of a flag state to exercise effective control over a fishing vessel.* Presented at the Expert Consultation on Illegal, Unreported and Unregulated Fishing. Government of Australia in cooperation with FAO. Sydney, Australia. 15-19 May 2000. Document AUS:IUU/2000/11.

Flewwelling, Peter, Cullinan, Cormac, Balton, David, Sautter, Raymond P., and Reynolds, J. Eric. 2003. *Recent Trends in Monitoring, Control and Surveillance Systems for Capture Fisheries.* FAO Fisheries Technical Paper 415. Rome, Italy. 200pp.

Gallagher, Robert. 2007. "Current Status of Vessel Monitoring Systems, Satellites and other Technologies for Fisheries Monitoring, Control and Surveillance." Appendix F. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome. 24–26 October 2006. FAO Fisheries Report No. 815. Food and Agriculture Organization of the United Nations. Rome, Italy. pp.39-68.

Gianni, Matthew and Simpson, Walt. 2005. *The changing nature of high seas fishing: how flags of convenience provide cover for illegal, unreported and unregulated fishing.* Australian Department of Agriculture, Fisheries and Forestry, International Transport Workers' Federation, and WWF International. 83pp.

Global Fishing Vessel Information System (FishVis). November 2006. *Feasibility Study.* www.closingthenet.info/project_establish.htm 16pp.

Government of Canada. Department of Fisheries and Oceans. September 1994. "Greenland Halibut (Turbot) in the Northwest Atlantic." *Backgrounder.*

Gréboval, Dominique F. 2000. "The FAO International Plan of Action for the Management of Fishing Capacity." Paper given to International Institute of Fisheries Economics and Trade conference. July 2000. Conference website: http://oregonstate.edu/dept/IIFET/2000/. Accessed 2 July 2008. 7pp.

High Seas Task Force. *How to get better information about high seas fishing vessels.* Meeting of the High Seas Task Force. Paris, France. 9 March 2005. 14pp.

High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas.* Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. http://www.high-seas.org/docs/HSTFfinal/HSTFFINAL_web.pdf. 114pp.

Hoppe, Heike. "Port State Control of Fishing Vessels." Annex E. FAO. *Report of the Joint FAO/IMO ad hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters.* FAO Fisheries Report No. 637. FIIT/R637. Rome. 9-11 October, 2000. Food and Agriculture Organization of the United Nations. Rome, Italy. p.18.

Hoppe, Heike. *Port State Control – an update on IMO's work (2000).* Maritime Safety Division, IMO. http://www.imo.org/InfoResource/mainframe.asp?topic_id=406&doc_id=1079. Accessed 19 September 2008.

Ichiro, Nomura. 2004. "State of world fisheries and future sustainability issues." The Twelfth Biennial Conference of the International Institute of Fisheries Economics and Trade. *What Are Responsible Fisheries?* IIFET 2004. July 2004. FAO. Rome, Italy. ftp://ftp.fao.org/FI/speeches/IIFET_200.pdf. 14pp.

International Maritime Organization. Sub-Committee on Flag State Implementation. 13 February 2005. 13th Session. Agenda item 6. FSI 13/6. "Progress report on regional PSC agreements: Note by the Secretariat." *Regional co-operation on Port State Control.* http://www.sjofartsverket.se/upload/5506/13-6.pdf. 5pp.

Koh, Tommy T.B. 1982. *A Constitution for the Oceans.* http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf. 5pp.

Maguire, Jean-Jacques, Sissenwine, Michael, Csirke, Jorge, Grainger, Richard, Garcia, Serge. *The state of world highly migratory, straddling and other high seas fishery resources and associated species.* 2006. FAO. Rome, 2006. 13pp.

Malvarosa, Loretta. *The fish trade of North African Mediterranean countries: Intra-regional trade and import-export with the European Union.* FAO Fisheries Circular No. 978 FIIT/C978. Food and Agriculture Organization of the United Nations. Rome, Italy. 2002. ftp://ftp.fao.org/docrep/fao/005/y4326e/y4326e00.pdf. 88pp.

Lack, M and Sant, G. 2001. "Patagonian toothfish: Are conservation and trade measures working?" *TRAFFIC Bulletin.* Vol. 19. No. 1. 19pp.

Løbach, Terje. 2000. "Measures to be Adopted by the Port State in Combating IUU Fishing." *FAO Expert Consultation on Illegal, Unreported and Unregulated Fishing Organized by the Government of Australia in Cooperation with FAO.* Sydney, Australia. 15-19 May 2000. US:IUU/2000/15. http://www.fao.org/docrep/005/Y3274E/y3274e0h.htm.

Løbach, Terje. 2006. "Port State Measures to Combat IUU Fishing: the FAO Model Scheme on Port State Measures." *FAO/FFA regional workshop to promote the*

full and effective implementation of port state measures to combat IUU fishing. 28 August – 1 September 2006. Mocambo Hotel. Nadi, Fiji. ftp://ftp.fao.org/FI/DOCUMENT/tc-psm/Reg_Workshop_2006/Lobach_FAO_Model_Scheme.pdf. 13pp.

Lodge, Michael and Meere, Frank. March-April 2005. "High Seas Governance: Meeting of the High Seas Task Force." Maritime Studies. Paris, France. 9 March 2005. 15pp.

Lodge, Michael W., Anderson, David, Løbach, Terje, Munro, Gordon, Sainsbury, Keith, Willock, Anna. 2007. *Recommended Best Practices for Regional Fisheries Management Organisations: Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organisations.* The Royal Institute of International Affairs. Chatham House. 141pp.

Lugten, Gail L. April 1999. *A review of measures taken by regional marine fishery bodies to address contemporary fishery issues.* FAO Fisheries Circular No.940. FAO Fisheries Department. Food and Agriculture Organization of the United Nations. Rome, Italy. http://www.fao.org/docrep/X1051E/X1051E00.htm

Lugten, G.L. 2008. "Legal consultation for the Food and Agriculture Organization of the United Nations – Development of a comprehensive Global Record of fishing vessels, refrigerated carriers and support vessels." Appendix H. *Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels.* Rome, Italy. 25–28 February 2008. pp.37-59.

Lugten, Gail. 2008. "Current legal developments: Food and Agriculture Organization: The FAO Global Record of Fishing Vessels, Refrigerated Vessels and Fishing Support Vessels." *International Journal of Marine and Coastal Law.* Vol. 23. No. 4. Koninklijke Brill NV. pp.761-767.

Matthews, Emily and Hammond, Allen. 1999. *Critical Consumption Trends and Implications Degrading Earth's Ecosystems.* World Resources Institute. pp1-72.

Michigan State University College of Law. Animal Legal and Historical Center. "United States District Court, Southern District of New York. United States v. Bengis." http://www.animallaw.info/cases/causfd2006wl3735654.htm. Accessed 14 November 2008.

Milazzo, M. 1998. "Subsidies in World Fisheries: A re-examination." *World Bank Technical Paper No. 406.* Fisheries Series. The World Bank. Washington D.C. 86pp.

Miyake, Makoto Peter, Miyabe, Naozumi, and Nakano, Hideki. 2004. *Historical trends of tuna catches in the world.* FAO Fisheries Technical Paper No. 467. Food and Agriculture Organization of the United Nations. Rome. Available at http://www.fao.org/docrep/007/y5428e/y5428e00.htm.

MRAG and Fisheries Ecosystems Restoration Research, Fisheries Centre, University of British Columbia. April 2008. *The Global Extent of Illegal Fishing: Final report.* http://www.mrag.co.uk/Documents/ExtentGlobalIllegalFishing.pdf. 32pp.

MRAG. July 2005. *Review of Impacts of Illegal, Unreported and Unregulated Fishing on Developing Countries: Synthesis Report.* Marine Resources Assessment Group, Ltd. London, UK. 16pp.

New, Michael B. and Wijkström, Ulf N. *Use of fishmeal and fish oil in aquafeeds: Further thoughts on the fishmeal trap.* Food and Agriculture Organization of the United Nations. Rome, 2002. 61pp.

Nightingale, Stephen D. 2005. *Prospects for embedded identifiers in food chain management.* Paper presented at the Food Security & Quality workshop. 2005 World Food & Agribusiness Conference. Chicago, USA. 15pp.

Nomura, Ichiro. 2007. Assistant Director-General, FAO Fisheries and Aquaculture Department. "Opening statement." Appendix D, FAO Fisheries Report No. 815. 2007. *Report of the Expert Consultation on the Use of Vessel Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance.* Rome. 24-26 October 2006.

Nomura, Ichiro. 2008. "Opening Statement." Appendix D. *FAO regional workshop in port state measures to combat IUU fishing. Workshop Report.* Cape Town. 28-31 January 2008. pp.30-31.

OECD. 2004. OECD *Workshop on IUU Fishing Activities: Key Observations and Findings by the Workshop Chairs.* 5pp.

Ortiz, Paul A. 2005. *An overview of the US Lacey Act Amendments of 1981 and a proposal for a model port state fisheries enforcement Act.* Report prepared for the Ministerially Led Task Force on illegal, unreported and unregulated fishing on the high seas. November 2005.

Paris MoU. 2007. *Annual Report: Port state control – on course for safer shipping.* 51pp.

Pitcher, Tony J., Kalikoski, Daniela and Ganapathiraju, Pramod (eds). 2006. *Evaluations of Compliance with the FAO (UN) Code of Conduct for Responsible Fisheries.* Fisheries Centre Research Report. Vol. 14. No. 2. Fisheries Centre. University of British Columbia. Canada. 70pp.

Government of Canada. Fisheries and Oceans Canada. Report of the Commissioner for Aquaculture Development. http://www.dfo-mpo.gc.ca/aquaculture/ref/vision-eng.htm. Accessed 27 May 2009.

Rigg, Kelly, Parmentier, Rémi, Currie, Duncan. *Halting IUU Fishing: Enforcing International Fisheries Agreements.* Prepared for Oceana. December 2003. http://oceana.org/fileadmin/oceana/uploads/europe/reports/HaltingIUUFishingEnforcingInternationalFisheriesAgreements.pdf. 32pp.

Roheim Wessells, Cathy, Cochrane, Kevern, Deere, Carolyn, Wallis, Paul and Willmann, Rolf. 2001. *Product Certification and Ecolabelling for Fisheries Sustainability.* FAO Fisheries Technical Paper 422. FAO. Rome, Italy. 83pp.

Roheim, Cathy A., and Sutinen, Jon G. March 8, 2006. *Trade And Market-Related Instruments To Reinforce Fisheries Management Measures To Promote Sustainable Fishing Practices.* Study prepared for Heike Baumuller at the International Centre for Trade and Sustainable Development and Frank Meere at OECD – High Seas Task Force.

Roheim, Cathy A., and Sutinen, Jon G. May 2006. "Trade and Marketplace Measures to Promote Sustainable Fishing Practices." Natural Resources, International Trade and Sustainable Development. *ICTSD Natural Resources, International Trade and Sustainable Development. Series Issue Paper No. 3.* International Centre for Trade and Sustainable Development and the High Seas Task Force. Geneva, Switzerland. 49pp.

Ruggiero, Renato. 26 February 1998. "From Vision To Reality: The Multilateral Trading System At Fifty." Address to the Brookings Institution and the World Affairs Council Forum – The Global Trading System – A GATT 50th Anniversary Forum. San Jose, California. http://www.wto.org/english/news_e/sprr_e/sanjos_e.htm.

Seafood Choices Alliance. April 2007. *The European Marketplace for Sustainable Seafood.* p.1. http://www.seafoodchoices.org/resources/documents/SCAEuroMPReport.pdf. Accessed 28 November 2008. 31pp.

Schmidt, Carl-Christian. 2004. *Addressing Illegal, Unreported and Unregulated (IUU) Fishing.* Directorate for Food Agriculture and Fisheries. OECD. Paris, France.

Schmidt, Carl-Christian. 2002. "Fish crisis: A problem of scale." OECD Observer. OECD Fisheries Division. http://www.oecdobserver.org/news/fullstory.php/aid/748/Fish_crisis:_A_problem_of_scale.html. Accessed 2 June 2008.

Small, Cleo. 2005. *Regional Fisheries Management Organisations: Their duties and performance in reducing bycatch of albatrosses and other species.* Birdlife International. Cambridge, UK. www.birdlife.org/action/science/species/seabirds/rfmo_report.pdf. 103pp.

Smith, Andrew R. 1999. *Analysis of the Vessels over 100 Tons in the Global Fishing Fleet.* FAO Fisheries Circular No. 949 FIIT/C949. Food and Agriculture Organization of the United Nations. Rome. 1999. ftp://ftp.fao.org/docrep/fao/005/X4360e/X4360E00.pdf. 27pp.

Sumaila, Ussif Rashid and Pauly, Daniel. 2006. *Catching more bait: A bottom-up re-estimation of global fisheries subsidies.* Fisheries Centre Research Reports 14(6). 115pp.

Swan, Judith. 2005. *Implementation of the international plan of action to prevent, deter and eliminate illegal, unreported and unregulated fishing: relationship to, and potential effects on, fisheries management in the Mediterranean.* FAO. Rome. 56pp.

TRAFFIC. *Bulletin Seizures and Prosecutions 1997-2008.* Vol. 16. No. 3. (March 1997) to Vol. 21 No. 3 (January 2008). pp.116-177. www.traffic.org/traffic-bulletin/traffic_bulletin_seizures_1997-2007.pdf. 132pp.

Tsamenyi, Martin, Palma, Mary Ann, Milligan, Ben and Mfodwo, Kwame. 2008. *Report on the development impact of the EU IUU regulation on Commonwealth ACP Member Countries.* Prepared for the Commonwealth Secretariat. 134pp.

Tsuji, Sachiko. 2007. "Overview of existing data collection and monitoring mechanisms for tuna stock and fishery management." *Report of the Joint Meeting of Tuna RFMOs. January 22–26, 2007. Kobe, Japan.* Appendix 6. FAO Fishery and Aquaculture Information and Statistics Service. FAO. Rome, Italy.

Turner, Jeremy. "IUU discussions at the Committee on Fisheries (COFI) 5 – 9 March 2007." 3rd Chatham House IUU Fishing Update and Stakeholder Consultation. Royal Institute of International Affairs. Chatham House. London 8 – 9 May 2007. http://www.illegal-fishing.info/uploads/Turner_session3.pdf. 4pp.

UN General Assembly. *Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks New York, 22-26 May 2006.* Prepared by the President of the Conference. A/CONF.210/2006/15. 5 July 2006.

United Nations. 26 August 2004. *Report of the Secretary General of the United Nations.* "Sustainable Fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related Instruments." A/59/298. Paragraph 36. http://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm. Accessed 1 June 2009.

United Nations. First Review Conference of the 1995 United Nations Fish Stocks Agreement. 2006. "Review Conference On Conservation, Management Of Fish Stocks Opens In New York." United Nations. NY, USA. 22 May 2006.

Upton, Simon and Vitalis, Vangelis. 2003. "Stopping the high seas robbers: Coming to grips with illegal, unreported and unregulated fisheries on the high seas." Background paper submitted to the *OECD Round Table on Sustainable Development: The sustainable development of global fisheries, with particular reference to enforcement against illegal, unreported and unregulated fisheries on the high seas.* 6 June 2003. 18pp.

US Department of Commerce. National Marine Fisheries Service. Preparatory document for the 2002 Johannesburg summit. "Fisheries and the World Summit on Sustainable Development." http://usinfo.state.gov/journals/ites/0103/ijee/wssd.htm.

US Department of Justice. Environment & Natural Resources Division. *Financial Year 2009: Performance Budget.* Congressional Submission. www.usdoj.gov/jmd/2009justification/office/fy09-enrd-justification.doc.

US National Marine Fisheries Service. February 2000. *Toothfish import monitoring program.* http://www.nmfs.noaa.gov/sfa/sfweb/nsil/toothfish%20brochure.pdf.

Ward, J.M.; Kirkley, J.E.; Metzner, R.; Pascoe, S. 2004. *Measuring and assessing capacity in fisheries: 1. Basic concepts and management options.* FAO Fisheries Technical Paper. No. 433/1. Rome, Italy.

Whan-Kan, Marilyn. 2006. "Discussant's note on the role of trade policies and how to benefit developing countries' consumers." *Fishing for Coherence. Proceedings of the workshop on policy coherence for development in fisheries.* Chapter 13. pp.177-179.

World Bank, United Nations Development Programme, Commission of the European Communities, and Food and Agriculture Organization of the United Nations. 1992. A Study of International Fisheries. Policy and Research Series No. 19. World Bank. Washington DC.

Kura, Yumiko, Revenga, Carmen, Hoshino, Eriko and Mock, Greg. October 2004. *Fishing for answers: Making sense of the global fish crisis.* World Resources Institute. Washington DC. http://www.wri.org/publication/fishing-answers-making-sense-global-fish-crisis. 152pp.

WTO-CTE. *GATT/WTO Dispute Settlement Practice Relating to GATT article XX, Paragraphs (b), (d) and (g): Note by the Secretariat.* WT/CTE/W/203. 8 March 2002 revision. 48pp.

WTO-CTE. 23 February 2000. *Subsidies in the fisheries sector: Update on recent work conducted by New Zealand.* WT/CTE/W/134. www.wto.org/spanish/news_s/news00_s/w134.doc. 6pp.

WTO Negotiating Group on Rules. "New Draft Consolidated Chair Texts of the AD and SCM Agreements." TN/RL/W/236. 19 December 2008. http://www.wto.org/english/tratop_e/rulesneg_e/rules_dec08_e.doc. Accessed 14 May 2009. 94pp.

Zeller, Dirk and Pauly, Daniel (eds). 2007. *Reconstruction of marine fisheries catches for key countries and regions (1950-2005).* Fisheries Centre Research Reports. Vol. 15. No. 2. 163pp.

Conference proceedings

Palma, Mary Ann. 2009. *Proceedings of the FFA Legal Conference on Legal and Policy Trends in the Implementation of International Fisheries Instruments in the Western and Central Pacific Region, 7-9 April 2008, Nadi, Fiji Islands.* Wollongong: University of Wollongong. Forthcoming.

Rayfuse, Rosemary. "To our Children's Children's Children: From Promoting to Achieving Compliance in High Seas Fisheries." *Backgrounder for the Conference on the Governance of High Seas Fisheries and the UN Fish Stocks Agreement - Moving From Words to Action, held at St John's Newfoundland and Labrador, Canada, 1-5 May 2005.*

Rigg, K. Hemmings, Alan and Mathias, M. 1990. "Protecting the Antarctic environment by limiting human presence and activities: the case for a World Park." In *Proceedings of the First Pacific/Asia Offshore Mechanics Symposium.* Seoul, Korea. 24-28 June. The International Society of Offshore and Polar Engineers. pp.51-58.

Stokke, Olav Schram. "Labelling, Legalisation and Sustainable Management of Forestry and Fisheries." Paper delivered at the Fifth Pan-European International Relations Conference ((SGIR/ECPR) *Constructing World Orders.* 9-11 September 2004. The Hague. The Netherlands.

Stølsvik, Gunnar. 2008. Abstract and presentation. "Transnational organised fisheries crime as a maritime security issue." *Panel presentation at the ninth meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea.*

Press Releases

"Triple Threat: World Fin Trade May Harvest Up To 73 Million Sharks Per Year." *ScienceDaily*. http://www.sciencedaily.com-/releases/2006/09/060922131811.htm. Accessed 5 June 2009.

Birdlife International Press Release. "Fisheries failing to safeguard seabirds." 7 March 2005.

Birdlife International Press Release. "Sir David's personal plea for albatrosses." 3 February 2006. http://www.birdlife.org/news/news/2006/02/attenborough.html. Accessed 22 June 2007.

Council of the European Union. 13522/08 (Presse 274) Press Release. 2892nd meeting of the Council. Agriculture and Fisheries. Brussels. 29-30 September 2008. http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/agricult/103161.pdf. Accessed 1 December 2008.

FAO Newsroom. 1 July 2004. "Excess capacity and illegal fishing: challenges to sustainable fisheries." http://www.fao.org/newsroom/en/focus/2004/47127/index.html. Accessed 4 July 2008.

G20. "London Summit – Leaders' Statement." 2 April 2009. http://www.g20.org/Documents/g20_communique_020409.pdf. Accessed 27 May 2009.

http://www.jsainsburys.co.uk/cr/index.asp?pageid=98. Accessed 30 October 2008.

http://www.jsainsburys.co.uk/index.asp?PageID=425&subsection=&Year=2008&NewsID=1010. Accessed 30 October 2008.

http://www.msc.org/newsroom/press_releases/archive-2003/whole-foods-markets-supports-msc-fishery-outreach. Accessed 30 October 2008.

http://www.msc.org/newsroom/press_releases/archive-2008/2018simpler-faster-and-more-consistent2019. Accessed 23 October 2008.

http://www.un.org/News/Press/docs/2006/sea1853.doc.htm. Accessed 26 April 2007.

ICTSD. "Meeting the challenges of transnational aquaculture." Bridges, Trade BioRes. Vol.7. No.11. 8 June 2007.

ICTSD. "US Proposal Calls for Major Cuts to Commercial Fishing Subsidies." *TradeBioRes.* Vol. 7. No. 6. 30 March 2007. http://www.ictsd.org/biores/07-03-30/story1.htm. Accessed 21 June 2007.

International Transport Workers' Federation. 2006. "Out of sight – out of mind." Issue 25. Transport International Magazine. October. http://www.itfglobal.org/transport-international/ti25-fishers.cfm.

Marine Stewardship Council. Annual Report 2006/07.

MSC. 31 July 2008. "Reaching new heights: Global market for MSC labelled products close to $1 billion." Press Release. http://www.msc.org/newsroom/msc-news/archive-2008/reaching-new-heights-global-market-for-msc/?searchterm=iseal. Accessed 29 November 2008.

MSC. Press Release. 16 March 2004. "Objections Panel Concludes Review of South Georgia Patagonian Toothfish Assessment." http://www.msc.org/newsroom/press_releases/archive-2004/objections-panel-concludes-review-of-south-georgia. Accessed 27 October 2008.

NEAFC Press Release. 30 April 2007. www.nafo.int/about/media/oth-news/2007/other/neafc2.pdf. Accessed 3 May 2007.

New Zealand government press release. http://www.beehive.govt.nz/node/31502. Accessed 24 June 2008.

Southwest Fisheries Science Center, NOAA. http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=228&id=1408. Accessed 27 October 2008.

UN Press Release. 17 April 2007. Security Council 5663rd Meeting (AM & PM). "Security Council holds first-ever debate on impact of climate change on peace, security, hearing over 50 speakers." http://www.un.org/News/Press/docs/2007/sc9000.doc.htm. Accessed 14 November 2008.

United Nations. First Review Conference of the 1995 United Nations Fish Stocks Agreement. 2006. "Review Conference On Conservation, Management Of Fish Stocks Opens In New York." United Nations. NY, USA. 22 May 2006. http://www.un.org/News/Press/docs/2006/sea1853.doc.htm Accessed 26 April 2007.

United States Attorney. 28 May 2004. Southern District of New York. US Attorney's Office. "Three seafood industry executives sentenced to federal prison in massive seafood poaching and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/May04/bengissentencingpr.pdf. Accessed 14 November 2008.

United States Attorney. 6 August 2003. Southern District of New York. US Attorney's Office. "U.S. charges South African executive and others in massive seafood harvesting and smuggling scheme." http://www.usdoj.gov/usao/nys/pressreleases/August03/bengisrelease.pdf. Accessed 14 November 2008.

Newspaper and magazine articles

(Please note: Where no author or no date is referenced in the article, no author or date is referenced here.)

"Do Environmental Films Help the Environment?" http://www.mediarights.org/news/2001/09/07/do_environmental_films_help_the_environment. Accessed 27 October 2008.

"Holes Found in Equasis Database." *Maritime Global Net.* 28 September 2006. http://www.mgn.com/news/dailystorydetails.cfm?storyid=7019&type=2. Accessed 21 August 2008.

"NOAA study shows eastern tropical pacific ocean dolphin populations improving." *Earth & Climate.* 5 June 2008. http://esciencenews.com/articles/2008/06/05/noaa.study.shows.eastern.tropical.pacific.ocean.dolphin.populations.improving. Accessed 27 October 2008.

"Tougher port controls to target illegal fishing in the Mediterranean." 10 March 2008. http://www.illegal-fishing.info/item_single.php?approach_id=13&item=news&item_id=2700. Accessed 11 June 2008.

Aldhous, Peter. 19 October 2007. "Small-scale fisheries wreak havoc on turtles." *The New Scientist.* Issue 2626. http://environment.newscientist.com/channel/earth/mg19626264.500-smallscale-fisheries-wreak-havoc-on-turtles.html. Accessed 3 March 2008.

Amos, Johnathon. "Fish 'massacre' in North Atlantic". 16 February 2002. BBC News Online. http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2002/boston_2002/1825166.stm. Accessed 28 August 2005.

Amos, Jonathan. "Deep fish 'trawled to oblivion'." 18 February 2002. BBC News Online. http://news.bbc.co.uk/2/hi/in_depth/sci_tech/2002/boston_2002/1823575.stm. Accessed 19 May 2009.

AP. "Giant Tuna Sells for Record $173,600." January 5, 2001. In 1996, a 250-pound bluefin fetched a comparatively paltry $44,100. http://www.flmnh.ufl.edu/fish/innews/gianttuna.htm. Accessed 23 March 2007.

Barboza, David. "A Slippery, Writhing Trade Dispute." *The New York Times.* http://www.nytimes.com/2007/07/03/business/worldbusiness/03fish.html. Accessed 3 July 2007.

BBC News. "Cautious welcome to fisheries deal." 28 August 2002. *BBC News World Edition.* http://news.bbc.co.uk/2/hi/africa/2221116.stm.

BBC News. 1 February 2008. "Fishermen 'greening' their catch." http://news.bbc.co.uk/2/hi/science/nature/7213875.stm. Accessed 3 June 2009.

Biello, David. 2 November 2006. "Overfishing Could Take Seafood Off the Menu by 2048." *Scientific American.* http://www.scientificamerican.com/article.cfm?id=overfishing-could-take-se. Accessed 7 May 2009.

Bittman, Mark. January 27, 2008. "Rethinking the Meat-Guzzler." *The New York Times.* http://www.nytimes.com/2008/01/27/weekinreview/27bittman.html?pagewanted=all. Accessed January 27, 2008.

Black, Richard. 17 October 2007. "Last rites for a marine marvel?" BBC News, online edition. http://news.bbc.co.uk/2/hi/science/nature/7040011.stm. Accessed 7 March 2008.

Black, Richard. 24 August 2005. "New plan targets illegal fishing" *BBC News Online.* http://news.bbc.co.uk/2/hi/science/nature/4181652.stm. Accessed 28 August 2005.

Borger, Julian. "Climate change could lead to global conflict, says Beckett." The Guardian. Friday May 11, 2007. http://politics.guardian.co.uk/green/story/0,,2077429,00.html. Accessed May 11, 2007.

Broad, William J., and Revkin, Andrew C. "Has the Sea Given Up Its Bounty?" *The New York Times.* New York, N.Y. 29 July 2003. pg. F1. http://www.nytimes.com/2003/07/29/science/29OCEA.html. Accessed 2 June 2009.

Bussey, Jane. Miami Herald. 25 June 2006. "Authorities concerned about Chilean sea bass reel in a fishing magnate on poaching charges." Available via the miamiherald.com Archive service.

Canadian Press. "Nfld. surviving 10 years after cod moratorium." June 30, 2002. *CTV.ca.* http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20020630/nfld_cod_anniversary020630?s_name=&no_ads=. Accessed 18 June 2008.

Carrell, Severin. 3 January 2007. "Scottish experiment may help turn the tide for Britain's dwindling fish stocks." *The Guardian.* www.guardian.co.uk/fish/story/0,,1981616,00.html. Accessed 29 March 2007.

Dasgupta, Partha. 19 May 2005. "Bottlenecks." *London Review of Books.* Vol. 27. No. 10. http://www.lrb.co.uk/v27/n10/dasg01_.html. Accessed 2 June 2009.

Fabricant, Florence. "Chilean sea bass: More than an identity problem." *The New York Times.* 29 May 2002. http://www.nytimes.com/2002/05/29/dining/chilean-sea-bass-more-than-an-identity-problem.html?pagewanted=all. Accessed 3 June 2005.

Fishupdate.com. "20% of Australian-managed fisheries still in the red." Published 4 July 2007. http://www.fishupdate.com/news/fullstory.php/aid/7993/20%25_of_Australian-managed_fisheries_still_in_the_red.html. Accessed 5 December 2007.

Gee, Henry. 8 August 2002. "The future on a plate." Guardian Unlimited. http://www.guardian.co.uk/science/2002/aug/08/research.science. Accessed 19 May 2009.

Graham, Alistair. June 2003. "COLTO takes over from ISOFISH." *The Tasmanian Conservationist.* No. 288. http: //www.tct.org.au/N27g.htm. Accessed 28 August 2005.

Greenberg, Paul. "The Catch." *The New York Times Magazine.* 23 October 2005. http://www.nytimes.com/2005/10/23/magazine/23bass.html?pagewanted=all. Accessed 4 January 2005.

Hastings, Max. 31 October 2005. "We need to start caring about fish, or there won't be any left to eat." The Guardian. http://www.guardian.co.uk/environment/2005/oct/31/fish.food. Accessed 19 May 2009

Kirby, Alex. "Charles warns on vanishing fish." 4 March 2004. BBC News Online. http://news.bbc.co.uk/2/hi/science/nature/3530111.stm. Accessed 28 August 2005.

Lawrence, Felicity. "The fish list: how your supermarket rates." *The Guardian.* 1 March 2006. www.guardian.co.uk/environment/2006/mar/01/food.supermarkets. Accessed 2 March 2006.

McKenna, Phil. 19 February 2008. "Tuna fisheries facing a cod-like collapse." NewScientist.com. http://environment.newscientist.com/channel/earth/dn13346-tuna-fisheries-facing-a-codlike-collapse.html. Accessed 3 March 2008.

Meek, James. 24 May 2001. "We Do Ron Ron Ron, We Do Ron Ron." *London Review of Books*. Vol. 23. No. 10. [Subscriber only content; the present author was a subscriber 2005-2007.]

New Scientist. 30 January 2008. "Corruption is devouring the world's fish stocks." Upfront. http://environment.newscientist.com/channel/earth/mg19726413.500-corruption-is-devouring-the-worlds-fish-stocks.html. Accessed 3 March 2008.

Ntetema, Vicky. 2 August 2004. "Tanzania probes illegal fishing." *BBC News Online*. http://news.bbc.co.uk/2/hi/africa/3529058.stm. Accessed 28 August 2005.

Open Sources Information. "IMO to tackle coastal piracy." 2 October 2007. http://www.illegal-fishing.info/ Accessed 4 March 2009.

Pearce, Fred. 2 November 2006. "No more seafood by 2050?" NewScientist.com. http://environment.newscientist.com/channel/earth/dn10433-no-more-seafood-by-2050.html. Accessed 3 March 2008.

Phillips, Adam. 31 October 2002. "Plumage and Empire." London Review of Books. Vol. 24. No. 21. Reviewing Spix's Macaw: The Race to Save the World's Rarest Bird by Tony Juniper. 2002. [Subscriber only content; the present author was a subscriber 2005-2007.]

Revkin, Andrew C. "Chefs joining boycott in effort to save imperiled sea bass." *The New York Times*. 21 May 2002. http://www.nytimes.com/2002/05/21/science/life/21FISH.html. Accessed 7 June 2005.

Rice, Andrew. "A Dying Breed." January 27, 2008. *The New York Times*. http://www.nytimes.com/2008/01/27/magazine/27cow-t.html?pagewanted=all. Accessed 28 January 2008.

Roberts, Callum. 17 December, 2007. "Quota calls fail to catch the drift." BBC News. Online edition. http://news.bbc.co.uk/2/hi/science/nature/7144337.stm. Accessed 11 March 2008.

Schlosser, Eric. April 2002. "Most Dangerous Job." Letter to the Editor. The Atlantic Monthly. pp.12-13.

Shabecoff, Philip. 13 April 1990. "3 Companies to Stop Selling Tuna Netted With Dolphins." *The New York Times*. http://www.nytimes.com/1990/04/13/us/3-companies-to-stop-selling-tuna-netted-with-dolphins.html. Accessed 11 March 2008.

Smith, Lewis and Elliott, Valerie. 21 June 2006. "How the fish on your plate makes you an accessory to crime at sea." *The Times Online*. http://www.timesonline.co.uk. Accessed 11 June 2008

The Economist. 27 January 2007. "Asia: Fins with the blues." Vol. 382. No. 8513. London.

The Economist. 3 January 2004. "Britain: Heavy seas." Vol. 370. Iss. 8356. London.

Tran, Mark. "Sainsbury's to stop selling threatened fish species." 23 February 2006. *The Guardian.* http://www.guardian.co.uk/environment/2006/feb/23/food.business. Accessed 30 October 2008.

Warne, Kennedy. "The Amazing Albatrosses." *Smithsonian.* September 2007. Vol. 38. Issue 6. Washington. http://www.smithsonianmag.com/specialsections/ecocenter/alba.html. Accessed 20 May 2009

Yardley, Jonathan. 29 July 2007. "The End of Bounty: Today the Vast Seas Aren't Enough For Fish to Escape Extinction." Book Review of Roberts, Callum. *The Unnatural History of the Sea.* Island Press. 2007. *Washington Post.* www.washingtonpost.com/wp-dyn/content/article/2007/07/27/AR2007072702380.html. Accessed 4 August 2007.