

SEALS, SALMON FARMS AND POLITICS

To Irynej Skira
(18.5.50-18.2.05)

Seals, Salmon Farms and Politics:

The Institutional Culture of Seal Relocation and
Other Measures to Counter Seal-Fish Farm
Interactions in South-eastern Tasmania.

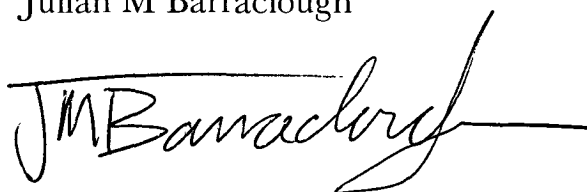
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Declaration

This work contains no material which has been accepted for the award of any other degree or graduate diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

Julian M Barraclough

A handwritten signature in black ink, appearing to read 'JMB Barraclough', with a long horizontal flourish extending to the right.

12 May 2006

Acknowledgments

Through act or omission many people have aided and abetted this project. First, I must collectively acknowledge the fertile atmosphere provided by those who make up the School of Geography and Environmental Studies; an eclectic, collegial, flexible and tolerant group of educators and thinkers. For her energy, introducing me to qualitative methods and giving me license to use 'I', our post-modern, post-graduate co-ordinator and Head of School, Dr Elaine Stratford, must be acknowledged. My supervisors Dr Lorne Kriwoken and Dr Peter Hay were patient and encouraging: Lorne with help and advice and Pete as my notional audience. I must thank Pete in particular for his inspired pedagogy. His Environmental Values seminars, employing Socratic methods, facilitated exploration beyond the axiomatic and stimulated the approach taken in this project. The interviewees generously gave their ideas, reflections and time. I hope the reflexive experience was useful and stimulating for them. Dr Aidan Davison read the draft chapters and offered constructive criticism and encouragement. Dr Mick Russell was invaluable when it came to producing the map and graphs. Finally, I must thank my companion Maria Kunda for supporting me in every way.

Abstract

Qualitative and observational techniques and a hermeneutic methodology were employed in this project. The primary focus was to explore the institutional culture surrounding the development of the Seal Relocation programme and attendant techniques for the mitigation of seal interactions with salmon farms in south-eastern Tasmania. The methodology relied on an inductive, inquiring logic, and produced a broad picture of bureaucratic and political culture in Tasmania that reflected currents of thinking surrounding the nature of late modernity. Foucault and Pusey proved useful in understanding power and resistance and Bauman was valuable for his insight into the fractured identity of the modern organisational actor. Four sub-themes emerged: history, efficacy, ethics and politics, providing four vantage points from which to view the multiple rationalities of the actors involved. It was found that the dominant ideology of development colours environmental management in a disciplined Public Service and polity captured by the technologies of governmentality. There are, however, pockets of resistance.

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Glossary

Attributions:

FN	Field Notes
DM	Departmental Manager
IM	Industry Manager
P	'Politico' (Politician, Minister or Ministerial Adviser)
S	Scientist
O	Other (Ethics Committee or Environmental Non-Government Organisation)

Acronyms:

CLG	Community Leaders Group, (occasionally Premier's CLG), Tasmania Together
DOTARS	Department of Transport and Regional Services
DPAC	Department of Premier and Cabinet
DPIWE	Department of Primary Industries Water and Environment
FFIC	Forest and Forest Industries Council
HEC	Hydro-Electric Corporation (Commission)
MHA	Member of the House of Assembly
MMIC	Marine and Marine Industries Council
NCB	Nature Conservation Branch (of RMC division of DPIWE)
NGO	Non-Government Organisation
RMC	Resource Management and Conservation (Division of DPIWE)
RFA	Regional Forest Agreement
SES	Senior Executive Service
TCCI	Tasmanian Chamber of Commerce and Industry
TCT	Tasmanian Conservation Trust
TFGA	Tasmanian Farmers and Graziers Association
TMAG	Tasmanian Museum and Art Gallery
TSGA	Tasmanian Salmonid Growers Association

Preface

I have the most fantastic job. I move seals from one end of Tasmania to the other. In the process I visit beautiful remote wild places, work with stimulating professionals and researchers, listen to lots of music and Radio National and get to play with flash four wheel drives, boats and other gadgets. I have the 'boys own' perfect job. Well, maybe.

The salmon farming industry in South Eastern Tasmania has a problem with seals. In other areas of the world the problem has a fatal solution. In Tasmania legislative protection has resulted in, arguably, a more humane, less final, solution.

I have been working for the Nature Conservation Branch (NCB) of the Department of Primary Industries Water and Environment (DPIWE) relocating seals away from fish farms for approaching five years. For much of this time I assumed that the job I was doing was worthwhile, ethically sound, reflected best practice in wildlife conservation and management, and facilitated the viability of an industry in an economically depressed region. The seeds of doubt

were sown when a ranger in a sister department said to me that the relocation programme was based on sentiment; that the scientists and managers in my department railroaded debate and ostracised dissenting opinion, and that moving seals was a waste of money and effort. He laughed and said 'its no use bringing them here [west coast]; you know they just shoot them' (FN).

Over the same period the salmon farming industry has struggled financially. At first there was, if not hostility from the farm workers towards the seal relocators, then a negative attitude to seals and to us as representing authority and to regulation but, as the industry restructured, the mood changed and industry worked with the department to counter the 'seal problem'. Farm managers assure me that it is economically worth their while to move seals even though it has cost the industry approximately \$250 000 per annum. However, a Scientist independent of DPIWE said that the cost-benefit was unproven, as stock loss estimates were not accurate (S1). A Departmental Manager said that he would not continue the programme if it was up to him and that seal relocation is a service provided by the department at the behest of his political masters (FN).

Over the same period I became aware of a culture of secrecy surrounding the programme. Relocators were told that it is a good idea to 'keep a low profile'; not to talk to people when dropping off seals, and particularly not to engage people in discussion if they

criticise what is happening. Apparently politicians get letters and bureaucrats get heat. Furthermore, we were told that we were not to answer questions from the media. Even though the media showed interest in what could be a positive story, we were told that everything had to be vetted by the media people.

When I first started with the seal relocation team it was at the start of a period of growth. Movements of seals went from a 200–300 per year to around 1200–1300 (dependent on technique) at its peak and in that period the programme was expanded to include the management of ‘harassment’ or ‘conditioning’ of seals with small bombs (‘seal crackers’) and non-lethal bags of shot fired from a shotgun (‘thumpers’ or ‘beanbags’). In my first year we lost eight seals, their deaths due to the stress of capture and transportation. The protocols for handling seals were changed (they are always changeable as new facts come to light), and losses were reduced to under one per year. At the same time the programme became a small industry directly employing up to eight people, and several others within the department work on aspects of the programme but are paid from external sources. Scientists have access to a unique and valuable data set, which may provide material for professional advancement. The Animal Ethics Committee passed the programme but there was dissenting opinion. When livelihoods are at stake it is easy to see how practices – indeed the whole process – can be justified, and the survival of the programme becomes an end in itself. It is ironic that in a department ostensibly committed to

conservation I am permitted to trap, kill and harass wildlife and my department gives permits to others such as farmers, aquatic and terrestrial, to do likewise.

As I write, the Nature Conservation Branch is being restructured. The operational activities now take place within the Wildlife Management Branch, a name that better reflects the position of the central development and coordinating agencies; that the department should be about 'sustainable management' rather than 'conservation defined as conservation of ecosystems' (DM1).

Chapter One

Introduction and Methodology

The genesis of my research comes from my self-doubt about my work. This research project aims to be a personally reflexive process to provide an assessment or interpretation of a programme of wildlife management. It necessarily assumes a subjective modality, asking where do I stand as an 'environmental professional'? The justification for the project is therefore phenomenological: to bring to conscious attention the so-called commonsense of my unexamined daily life (Seamon, 1984). The aim is for greater understanding, not proof of a hypothesis. The purpose is to explore the structures and decision/policy-making processes but also the socio-political milieu of the seal relocation programme by viewing its evolution through the eyes of the actors involved. My interpretation will be used to assess on what basis the Seal Relocation programme is justified.

The primary research theme is explored through four sub-themes corresponding with the chapters entitled History, Efficacy, Ethics and Politics. The second chapter, 'History', pursues the nature of

the seal relocation programme, its relationship with the salmon farming industry and how it fits into a broader seal mitigation strategy. It also looks at how the programme changed over time and what drove those changes. The chapter titled 'Efficacy' looks at whether the programme works, what is it supposed to do and if that is achieved. It asks – could the goals of the seal mitigation strategy be achieved in other ways to greater effect? – and addresses perceived problems. The chapter entitled 'Ethics' looks at problems within the programme and how the actors justify their actions. It ultimately examines ethics itself and the rationalities and identities of those involved. Chapter five, titled Politics, examines the internal politics of the bureaucracy that administers Seal Relocation, but also of interest are the informal mechanisms and culture of the organisations involved and how the greater politics of government impacts on the programme. The final chapter brings the previous chapters together in conclusion.

Although this is a small study of a small programme of environmental management it has broader significance. Decisions concerning the natural environment are increasingly becoming routinised, rationalised and bureaucratised but also politicised (Hay 2002). The way power is manifest in these organizations, the dominant ideology, rationality or discourse and how dissent is managed is of great significance to those of us with an 'ecological impulse' (Hay 2002). This project therefore takes the form of a case study and may provide insight into a broad range of organised

environmental institutions. At a less grand level, in the spirit of reflexivity, my interpretation may suggest to the reader, perhaps a professional examining environmental issues, that this way of managing human-seal interaction is adequate or pointless, or it may give insight for a practitioner engaged in other related areas of environmental management. At the very least this investigation will show that there is a way to manage seals that considers the interests of the seals and will provide a history of an interesting wildlife programme.

*

Methodology deals with the application of methods in a particular field. It also refers to the knowledge of a particular discipline, indeed its epistemological framework. The former is akin to tools, like those of a tradesman where the tools can define the trade, saws and nails for a carpenter, lathes and spanners for a fitter and turner. The latter is analogous to the intimate intuitive familiarity with materials, to continue the metaphor, wood or steel. The 'problem' with this project is that it is interdisciplinary. While engaging with the hermeneutic epistemological position, that there is no such thing as absolute knowledge, and borrowing from the fields of history with its tools 'the sources' and sociology's search for patterns in society and cultural theory, this study purports to be in the field of environmental management. Central to my method is the use of

participant observation and semi-structured interviews; however, in terms of systems of interpretation, data collection and theory I am a *bricoleur*, I will use what comes to hand. Weinstein and Weinstein (1991: 161) define the *bricoleur* from French vernacular speech as ‘someone who works with his or her hands and uses devious means compared to those of the craftsman. ... the *bricoleur* is practical and gets the job done’. The product of the *bricoleur*, *bricolage*, is a construction, a set of representations that emerge from the research. The construction is multi-faceted and eclectic. Denzin and Lincoln (2000:7) argue that ‘qualitative research is an interdisciplinary, transdisciplinary and sometimes counter-disciplinary field’. This is the methodology that I have embraced.

Qualitative methods are used when deep, ‘thick’ explanation of a social reality is required. Cultural anthropologist Clifford Geertz (1973) argues that it is possible, through the adoption of such methods, to draw broad conclusions from finely textured accounts of lived experience. In this case I am looking at selected institutional actors surrounding a particular policy and programme. I wish to explore their reality to see how they create meaning in their lives and how this influences their choices, actions and decision-making in the context of their position. In doing this I am not trying to construct reality but I am acknowledging multiple realities and knowledge forms. I acknowledge their subjectivity, but I am also part of the picture and I generate meaning inter-subjectively with

the informants, my interpretive community (research colleagues and the literature in my area of interest) and through cultural influences.

The first Sociology book I read was William Whyte's *Street Corner Society* (1955). It has stayed with me as an exemplar of 'authentic' powerful research. By joining a group of tough young men in a poor immigrant community, he was able to map that sub-culture with incisive detail. However attractive, to use Whyte's techniques alone in this study would be problematic. A considerable amount of time is required to do the task that I set myself and contact with all the important players was not always possible. Although I have had years in the workplace I have not been consciously engaged in observations for that time. Instead I have interpreted my work diary entries, my memories and later my research diary as field notes and they generate questions that developed into themes. My involvement in the Seal Relocation Programme over several years has also enabled me to identify structures of decision-making and influence. This familiarity has enabled me to select groupings from which I can draw individual subjects for enquiry.

Recruitment was premeditated and precise, up to a point. My observations had revealed to me the sort of actors that were required. They had to have had an influence on decisions surrounding the programme, or be engaged in carrying it out. I started with some key players in the management of the programme and asked them for suggestions as to who would be useful to me. I

used some of the suggestions and disregarded many. It soon became clear that there were far too many suitable candidates, but that afforded the possibility of redundancy.

My sampling technique is therefore purposive I have chosen the fifteen respondents according to certain qualities that they possess (Bradshaw and Stratford 2005) in order that a variety of perspectives could be brought to light. I have labelled the groups Departmental Managers (DPIWE), Politicos (ministers and advisors), Industry Managers (aquaculture managers and industry representatives), Scientists and Other (DPIWE's Animal Ethics Committee, and an NGO). The data was collected in the form of nominally 60 minute, anonymous, semi-structured interviews. This technique allows the respondent to initiate areas for discussion, which can later be analysed. One can therefore work inductively. The interview can sometimes go awry if no structure is imposed upon it. As it was, the conversations were so enthralling that they often ran over time. I therefore used an aide mémoire or interview guide, in this case quite an extensive list of questions arranged thematically (Appendix A). The theme areas and questions were based on the preliminary research and in light of the first interview where the respondent was initially guarded but discussed issues that proved to be important. The respondents and I engaged in more of a dialogue than might be usual because we discussed issues that were both familiar to us and we understood, albeit perhaps in different ways, issues we had possibly pushed to the back of our minds. The conversation went

back and forth, constructing meaning in a cyclic pattern of call and response.

To make analysis and interpretation possible it is necessary to sort the empirical material (data) along thematic lines. The themes the respondents spoke about corresponded in large measure to the themes in the interview guide even though they were given every opportunity to digress. The exception was the final theme, which was initially titled governance, but the respondents digressed and talked about broader political issues. The interesting, interpretive part is when, through hermeneutic analysis, implicit themes are identified and latent content such as ideology and belief come forward. Interpretive coding requires the use of various interpretive influences usually from the literature, but also from observation or situated knowledge and through a constant, iterative, revisiting of the transcripts. The result is an inductive process, but not naïvely so (Ezzy 2002), which purports to theorise but is closer to interpretation and then the retelling of stories synthesised from the many and varied influences available to the researcher.

The mode of analysis of the transcripts was hermeneutic; that is from the standpoint that the world and human consciousness is historical or genealogical and socio-cultural. Humans express their perceptions of reality which can be viewed, compared, criticised and analysed as text, primarily language but also visually or aurally or in other symbol systems. According to Douglas Ezzy:

Hermeneutic analysis is like a dance in which the interpretations of the observer and the observed are repeatedly interwoven until a sophisticated understanding is developed ... Theory is developed through a continuous movement between pre-existing interpretive frameworks, both theoretical and popular, and the data of the observation, collected during both intentional observation and everyday life. There is no 'truth' outside the circle. Rather, truth and theory are discovered by engaging with the process of interpretation that is the hermeneutic circle. (2002:25)

In societies large or small ideas become naturalised, that is practices or beliefs are inherited or internalised without reflection or question and are accepted as truth. Practices and beliefs can be manifest as texts, in this case as conversations. One of the aims here is to reveal inconsistencies, contradictions and inadequacies and challenge accepted truth claims by revealing them more explicitly. Texts are 'decoded' as are the discourses in which they are located.

Rigour in qualitative research is about earning trust. Trust from your respondents and from your interpretive community (Bradsaw and Stratford 2005). I took every opportunity to consult with research colleagues and of course I had formal supervision. The project design was criticised by the school but also by the Research Ethics Committee. This was a negotiated, iterative process that ensured the respondents were aware of potential risks, but had the added advantage of building trust and confidence within my research participant community (Appendix A).

It is argued that central to rigour in quantitative research is triangulation; that is, the use of multiple methods, theoretical

perspectives and sources (Hay 2005). I have taken this on board with the selection of participants from different perspectives—industry, bureaucracy, politics, science and the like— as well as using a variety of theoretical perspectives to give substance to my analysis and I have used a variety of other accounts from newspapers to personal communications to further aid my interpretation. In this interpretive endeavour I am indebted to Laura Richardson (2000) who describes rigour as crystallisation rather than triangulation. There are far more than three sides from which to understand the world; rather there are many facets and refractions. There are multiple truths and according to Richardson (2000:934) ‘What we see depends on our angle of repose’. She claims that the writing itself is a form of inquiry. In the text that follows I have presented many voices, including my own, at length, with the hope that the reader can grasp the nuanced positions. In the end, the writer’s object is to hold the readers attention and I employed the device of theorising or contextualising at the head of each chapter, followed with empirical accounts embedded in narrative. This gives the appearance of being deductive but in fact the texts, the transcripts of the interviews, were the starting point in a largely inductive, but also interrogative process.

Chapter Two

History

History and story have the same etymological roots. This chapter constructs a history of Seal Relocation and provides the background story, or the foundations, for the narrative taken up in the following chapters. As in the rest of the work, where pertinent and possible, I have included the accounts or stories of the people involved. Apart from being interesting and persuasive, these stories introduce the reader to the different perspectives of the various actors; perspectives explored at length in later chapters. The first story is an account of a day in my working life. The short film, *Seal Relocation from Fish Farms in South-eastern Tasmania*, in the cover, complements this story and will help to contextualise what follows: the stories of seals, fish farms and Seal Relocation.

A Day in the Life of a Seal Relocator.

The Seal Relocation process can best be explained by outlining a typical run. The fish farms ring the coordinator at about 0700 and inform them as to what has been caught overnight. Most seals are caught at night, but day captures are common enough to warrant changes to most preliminary plans. The coordinator for the day calls the relevant staff and outlines the initial plan for

that day. The coordinator also collates the data that the relocater collects for the records and for the scientists in the marine unit and bills the fish farms for the service. If I were 'on' that day I would typically be sent off to Dover or Nubeena to do the 'pickup'. The fish farms in question are on both sides of the D'Entrecasteaux Channel, as far south as Dover, in the Huon estuary and on the Tasman Peninsular (figure 1). At the Depot in Tarooma I would select a trailer and vehicle combination dependent on the number size and species of seal. The protocols state that seals have adequate room, that individuals are divided from each other and that different species are in completely different cages (Appendix B).

On arrival at the farm I confirm the earlier report from the fish farm, which is often inaccurate. With a forklift I then load the seals from their holding cage or trap. At this stage I check and document compliance with the trapping protocols. When the seals are in the transport cages I measure and weigh them, check them for disease, injury, identifying marks or tags and record these. We have protocols for dealing with injury, for veterinary treatment and for investigation into cruelty. Next I scan each animal for an electronic tag. If it is positive, his number and capture history is retrieved from the database. If it is negative, a chip is inserted in a specified way and place. I sign the animals off from the farm so they become my responsibility and if everything is straightforward I hit the road. Sometimes, if the animal is new, has a tag or is involved with specific research, a scientist will want

to look at it and then it is just a matter of taking the seals to the drop off point.

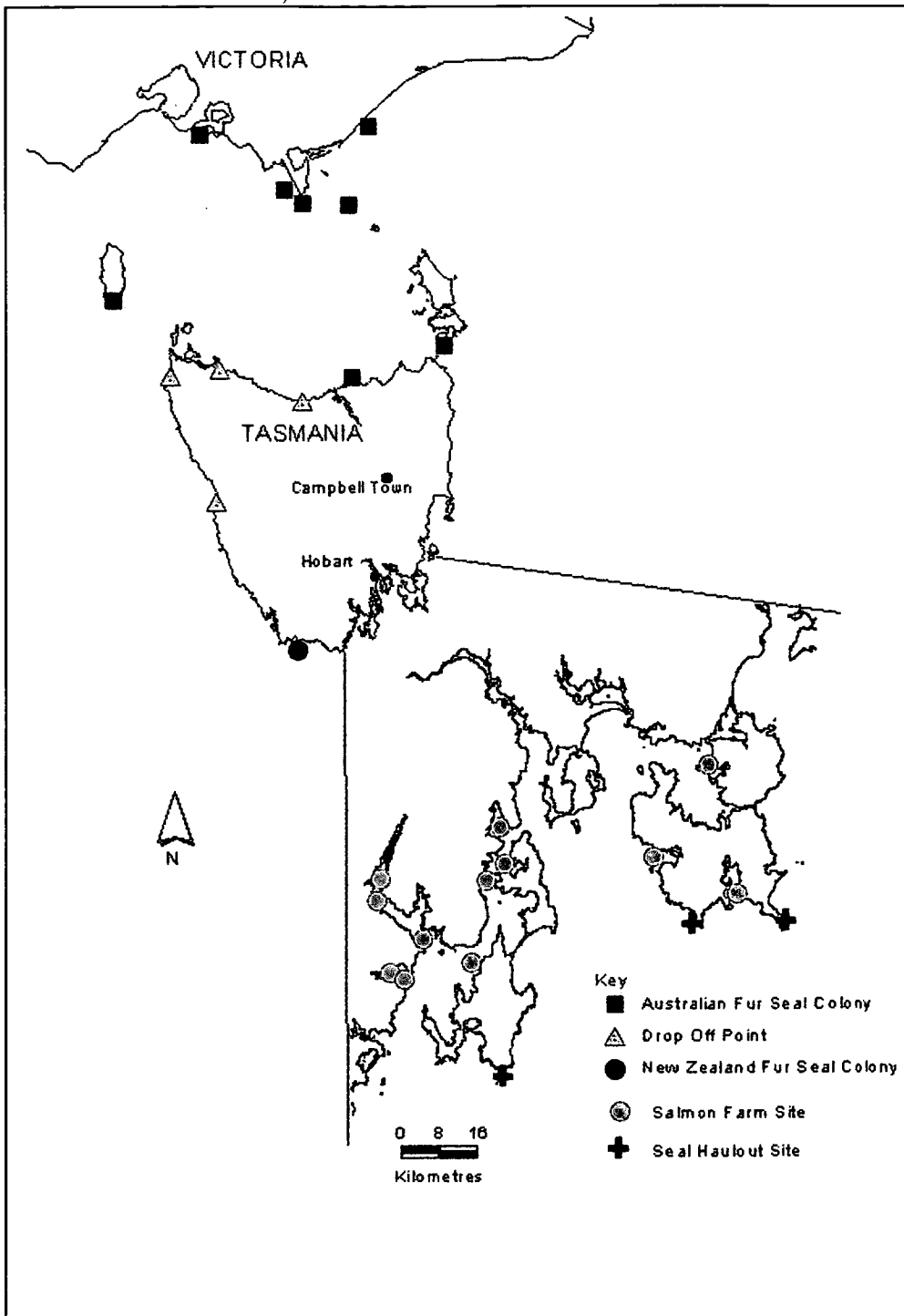


Figure 1. Seal Relocation: Key Sites.
(After Pemberton and Shaughnessy 1993. Constructed with the assistance of Dr Mick Russell).

Seals are taken to various beaches around the state (figure 1). Care has to be taken not to overuse beaches as fishers, recreational and professional, get upset and can become aggressive or complain to the department or to a politician. My response to aggressive fishers is to keep talking enthusiastically about seals and bombard them with information until they retreat through boredom. The idea is to take the seal as far away from the farms as possible, in proximity with its breeding colony. The seal then generally takes its usual migratory or annual foraging route back down south. In the middle of winter, when relocation is at its peak, this usually takes about two-to-three weeks, but can be much longer or shorter. New Zealand Fur Seals are taken to the West coast and Australian Fur Seals to the Northwest coast. A typical trip is to the North because more 'Aussies' are caught than 'Kiwis' (figure 1). I generally arrive at the drop off point in the late afternoon or evening, after stopping to monitor the condition of the seal several times on the way. Temperature is a key indicator of stress. If the seal's flipper feels hot then I hose the animal down, and if it shows signs of further stress it is released at the nearest beach. Stress is most common with animals that are first time captures. The protocols for handling seals developed over time, largely through trial and error, with scientific input. At the beach the doors are opened and generally the seals shuffle into the sea, but on some cold winter nights, when it is blowing 35 knots, they can be reluctant to come out. When they are gone I head back home, stopping at

Campbell Town for dinner and at the carwash to clean the cages.
(FN)

Seals

The reason for Seal Relocation is that seals are attracted to the abundant rich food source provided by Atlantic salmon farms but salmon remains a minor source of food. Seals feed primarily on pelagic fish and cephalopods such as squid and salmon farms are a tempting smorgasbord, an additional and predictable food source. They are a target for seals, not due to a lack of naturally occurring food (MMIC 2002a), but because Atlantic salmon are a particularly palatable nutritious food source. Pinnipeds or seals, sealions and walruses, are the most prevalent predator on fish farms around the world. The main predator interacting with salmonid fish farms in Tasmania is the Australian Fur Seal (Hawkins 1985, Pemberton et al 1991). In recent years the New Zealand Fur Seal is becoming more of a problem for fish farmers.

Of the two main types of seal dealt with by the relocation programme, Australian fur seals and New Zealand fur seals, the former is the fourth most rare seal species. Hunted close to the point of extinction in the nineteenth century, recovery of the species has been slow and the seals are now protected (Parks and Wildlife Service no date, MMIC 2002a). The latter has a greater range and bigger numbers and, as the name implies, there is an established population in New Zealand. Until the last few years New Zealand fur seals were not a problem to fish farmers

because there were no colonies in Tasmania. Along with a species of elephant seal and sea lions, New Zealand fur seals had been locally hunted out. In recent years a colony has re-established near Maatsuyker Island and is therefore presenting a problem for nearby farms. The New Zealand fur seal is listed as rare under the *Tasmanian Threatened Species Act 1995*.

Fur seals are marine mammals. They have a dense coat consisting of long outer hairs and a woolly under-fur that traps air, insulating, streamlining and waterproofing the seal. They metabolise food quickly and store fat. This layer of fat provides reserves of energy and also aids streamlining and heat retention. They give birth to a single pup per year, which is suckled until the next pup is born. Australian Fur seals have colonies on Bass Strait islands where the pups and females are based year round (figure 1). The males disperse along established migratory, foraging routes for most of the year, returning to mate in summer when the pups are also born. The males are the problem for marine farms. There are resting places or 'haul outs' quite close to the major fish farms (figure 1) and studies have shown that foraging trips can be extensive. Seals from the large Victorian colonies range as far as Pedra Branca off south-eastern Tasmania (MIMIC 2002a, Arnould and Hindell 2001). Seal populations do not conform to jurisdictional boundaries. Male Australian fur seals grow to in excess of 280 kilograms (Pemberton 1989); the biggest that I have encountered weighed 365 kilograms. Females are considerably smaller, as are New Zealand fur seals, but considerable care is required to determine sex and species,

especially when dealing with immature seals, (Goldsworthy et al 1997). The species under scrutiny in this study have a lifespan of around twenty years – roughly the length of time fish farming has been in Tasmania – which is significant, since seals are intelligent animals with good memories and can easily become habituated (for a discussion of habituation see chapter 3). Mistakes in the past such as feeding seals have rebounded upon the industry.

The commercial hunting of seals for the fur trade began in 1798 and the industry had collapsed by the 1830s. It was legal to hunt seals until 1923. Pre-sealing population estimates are considered to be of dubious value due to difficulties in obtaining sound data, but it is estimated that total numbers of seals and sea lions would have been in the hundreds of thousands rather than in the millions (MMIC 2002a). It is difficult to determine precise numbers of seals because they only come ashore to breed and rest. An established method for estimating seal populations used in Tasmania by Pemberton and others is to count the pups and apply a coefficient. Studies of seal populations from around the world have come up with the number 3.5-4.5. The total number of Australian fur seals was estimated to be between 59 930 and 77 053 (Pemberton 2001) and New Zealand fur seals are said to number 58 000 Australia wide, but only 350-450 exist in Tasmanian waters (DPIWE no date). Mortality is quite high, particularly pup mortality which is estimated to be around 15%. Predation and disease effect seals of all ages, as does persecution through shooting, entanglement in non-biodegradable material and through death as by-catch in commercial fishing operations.

It has been suggested that seal numbers are increasing rapidly and that they pose a threat to wild and farmed fisheries and therefore should be culled. Population data indicates that population increase is small, that it fluctuates and comes from a low base compared with original populations (Pemberton 2001). Scientific opinion is divided as to the efficacy and impact of significantly reducing seal numbers, however, fishers might fruitfully be made aware of the historic effects of fishing on fish stocks and the fact that removal of a top predator can have unforeseen detrimental effects for the whole ecosystem (Goldsworthy et al 2003, Levigne 2003).

Fish Farms

Atlantic salmon production has expanded rapidly since the 1990s and is now a major industry for Tasmania. There is a considerable multiplier effect and secondary industries have grown up around marine farming, creating additional economic and employment benefits. Moreover, the 472 full-time and 204 part-time jobs are concentrated in depressed regions of the State, which has consistently higher unemployment rates than the rest of Australia (Heaney et al 1999). It is therefore not surprising that there has been considerable political will to ensure the success of the industry, even to the point of government investment in a joint venture hatchery and in the dominant industry player, Tassal. As well, there has been high political responsiveness to industry calls to fix the 'seal problem'.

The origins of the industry can be traced back to freshwater trout farms in the 1960s and 1970s and more particularly to 1980 when the first successful rainbow trout trial was undertaken in the sea off Nubeena. The trial was a collaboration between 'Japanese experts, the Tasmanian Fisheries Development Authority and a local company' (DPIWE 2003). It was evident that it was possible under Tasmanian conditions to raise smolt (juvenile salmonids) in freshwater hatcheries and to allow them to 'grow out' in sea cages. Trout are still grown in Tasmania today, but for technical reasons mainly in the more brackish waters of Macquarie Harbour on the West Coast (Brown et al 1997).

The next phase in the development of the industry was the establishment of a salmon hatchery at Wayatinah in the central highlands and a sea farm at Dover (Tassal, no date). According to the government department responsible for aquaculture, the 'Atlantic salmon industry was established as a joint venture project between the State Government, the Norwegian company Noraqua, and a group of private Australian companies' (DPIWE 2003). The company, Salmon Enterprises of Tasmania (SALTAS), grew out of this union. The Government maintained an interest in this company and gave it a monopoly on Atlantic salmon smolt production under the *Salt-water Salmonid Culture Act 1985* until 1995. The first fertilized eggs were imported from Gaden Hatchery in New South Wales in 1984. These were descendants of fish imported from Nova Scotia in 1964 (Aquatas no date, Lien 2005). The danger of disease transmission has limited international exchange of live salmon, therefore all

salmon produced in Tasmania today are descended from the original imports. One ex-farmer describes the fish with considerable fondness:

We have one of the most beautiful animals of all salmon genotypes. The way that Tasmanian salmon was selected was by a New South Wales angler who went to Canada looking for a beautiful animal for the game fishermen in Australia and so it was his eye that picked this particular salmon that was running the Phillips River I think it was... And that species languished at Gaden hatchery for 20 years because it never did well in that environment. So when farming began to start up in 1983, Trevor Dix from the department thought well why not Tasmania, we're in a colder environment. So that fish that had been selected by Don came to Tasmania and it was selected by eye as a beautiful game animal... Chefs throughout Asia all know Tasmanian salmon when its out of the box without any branding. (IM1)

The industry has grown steadily since then but has suffered setbacks. Tassal was formed in 1987 with the Gray Government taking a holding of 1.5 million shares (Haley 2002). Tassal took over the SALTAS sea farm operation at Dover and maintained an interest in the hatchery operation and developed processing facilities. Tassal became the dominant player in the industry but its first harvest in 1987 was only 53 tonnes. The total production of salmonids has risen from 3420 tonnes in 1991-2 to 14828 tonnes in 2003-4. The vast majority of this was Atlantic salmon (DPIWE 2003). The number of hatcheries and sea farms expanded rapidly post 1995, maybe too fast, as Tassal experienced financial difficulties and went into receivership in 2002 (DPIWE 2003). After a restructure and other corporate manoeuvres the dominant player by size, Tassal Group, bought out two of its closest rivals, Nortas and Aquatas. The result of this consolidation is predicted to be greater industry stability, efficiency and profitability. The *Australian Financial Review* (anon

2005) reported that the new company is aiming for \$9 million in synergies in the next two years and is predicting 50 job losses in marine operations and that is just the start. This may have quelled government paternalism towards the salmon industry.

The 'Seal Problem'

The differing perspectives of the various actor groups come into sharp focus when they reflect on what constitutes the seal problem. Industry largely views seals as a threat to the bottom line and ultimately the viability of the industry. One Industry Manager said that they cost the industry \$1000/tonne (IM1) and another \$10 million per year (IM2). These estimates include lost production, damaged gear and mitigation costs. Scientists tend to question the assumptions of the salmon industry and in the eyes of the industry, appear to be defending the seals. (FN) In the late 1980s there were losses but nowhere near the problems experienced in later years. Pemberton (1989) found that the losses were greater the closer the farm was to haul out sites*. Later it was found that distance from a haul out had little influence on seal interactions. This seems to indicate that the seals were discovering the farms. Scientists in 1990 commented that in Tasmania and overseas 'the problem with predators has not been taken into account prior to aquaculture establishment, thus methods to reduce the impact of the predators are difficult to implement because a farm's design, siting and financial plan

* A haul-out is distinct from a colony in that it is a resting place for usually male seals, not a breeding site (see fig 1).

are usually implemented without regard to predators' (Pemberton et al 1990).

An Industry Manager remembers the early days of the industry. '[I]n those days... barrier technology was almost nonexistent, but so was the [seal] problem. Whatever caused the increasing numbers to come and attack the fish farms, and I guess there's many theories on that, it didn't exist then' (IM1). Another industry player outlines the 'seal problem' this way.

When we started we used nets that were used in Norway and we thought that was okay and of course what happened was that our seals learned very quickly to charge the nets and tear them. Therefore we had to go to heavier nets. Then they learned to deform the nets to crush the fish and let them drop to the bottom and suck them through the net... Then we went to predator nets, but the seals learned how to climb over the top of the net and get between the pred net and the inner net and so we installed nets to fill that gap and then they learned to get up on the rail and crash and go over the top and so on. This is a very smart animal; we know that. So it's been a progressive learning curve... Another mistake we made, naïvely, was to try a new protection system and because of the cost we might try it on one or two cages on a farm. Initially we thought that it was working but they were just attacking the other cages, the soft targets and if we did the whole farm they moved to another farm ... So it's a matter of the industry tackling it and using some of the other tools we've got. (IM2)

The claim by industry is that they are losing fish, but they are reluctant to provide verifiable data. In a background report to the *Seal/Fishery Interaction Management Strategy*, the Marine and Marine Industries Council (MMIC 2002a), (detailed in chapter five), a body with considerable industry representation, maintains that as data on fish mortality due to seals 'is not collected in a consistent form across industry, comparisons are difficult' (MMIC 2002a:22) I suspect that this is a euphemism for industry

making unsubstantiated claims. The figures that are presented are highly abstract, based on only two farms, a figure that amounted to 2.2% of production in 2000, a year of considerable seal catch effort. My personal experience of mortality data collection on farms is that it can be quite subjective. In cages without adequate protection on the bottom seals can mark dead fish, and these are counted as seal strikes but the cause of death could have been any number of things. The recent introduction of cages with false bottoms and more sophisticated analysis of dead fish has resulted in better 'mort' counts (IM3).

Apart from direct losses due to net damage and the killing and consumption of fish, industry is convinced that there are substantial fish losses due to seals stressing them by their presence. It is claimed that feeding is reduced if not halted and hence growth rates slow. According to an Industry Manager:

What's been disputed in the department was that they accepted that there were fish deaths – just having their guts ripped open – but the stress was a far greater factor. If you stress an animal, as you know, they react in certain ways. Well salmon, they just stop eating. So we had a vet try to correlate the effect of a seal attack on the fish behaviour and they would stop eating for up to three or four days and that's a massive loss of production, particularly when you're coming into spring and the attacks were still fairly high and that's when you're looking for the burst of growth. The fish were stressed and they just wouldn't eat. The feeders would come along at first light and throw all this feed in and no response. (IM1)

Some Scientists dispute this claim of stress-induced loss of production, putting it down to lack of adequate predator protection.

The problem with understanding the stress – the problem I have with that is, if your farm is well protected with the right nets, seals theoretically are battling to get at fish, which means the fish should be used to the seals not getting at them, just as they don't stress if a diver swims past 'cause they're used to the diver not hassling them. The only time you should have a growth effect is when your seal protection is crap anyway. So if your nets are taut and they're strong and etc., etc., then in no time at all, like any prey item, they'll just ignore [it]. It's like a chook in a pen – if a hawk flies over and he's got a roof overhead he doesn't even look up, but if he's been harassed a few times he will. So it actually, any growth issues like that reflect poor seal protection (S1)

For the Scientists that I've interviewed it's not a 'seal problem' it's a 'fish farm problem', one that centres on being able to keep the fish away from the seals. According to Schotte and Pemberton (2002), the technology that the farms insist on using, the polar circle, is inherently problematic leaving the industry open to seal interactions. I will expand on this issue in the following chapter.

Departmental Managers purport to take a Blair-like 'middle way' and are prepared to accept that seals are a significant cost to industry. One senior manager said that determining costs to industry is open to –

all sorts of assumptions and interpretative options. I've got no basis for saying that those figures are any better or worse than any others. Certainly, I'd accept that the behaviour of some seals does impose significant costs on the farm if you look at their data about absolute losses which, in some cases at least, are reliably put down to seal mortality, and if you look at the data about depression of growth rate associated with seal visitations where there's strong correlative data with the presence of seals, you'd have to say the numbers were in that order of magnitude. It might have been 1 million instead of 10 million. I don't know, but I'm convinced there were substantial costs to the industry because of the seal interaction in various forms, both in terms of the direct mortalities, the gear damage and additional management costs and of the stressing of the fish and the depression of growth rates. I think they were all real. Just how much, I haven't got a better figure... (DM2)

On the surface there appears to be a divergence of opinion on the seal problem, but it is not as simple as that. In a recent

interview with a senior Industry Manager it was revealed that losses due to seals were down to below one percent of production in his company and at one lease he had lost 600 fish out of 1.3 million. This was down from a peak of seven percent between 2000 and 2002 (IM3). It is my interpretation that the position taken by industry was a response to a crisis within that industry. Seals were a factor that a frustrated manager could do something about, but other factors were just as important: international and local competition was suppressing prices, industry expansion, threats to stock from disease and jellyfish and most importantly the weather, particularly water temperature (KordaMentha 2004). Tassal entered receivership in June 2002, which represented the pinnacle of the crisis. Subsequent consolidation of the industry has reduced the pressures and Tassal now produces a healthy profit and moves far fewer seals. I will contend below that this was due as much to moderating water temperatures and competition pressures as anything else (KordaMentha 2004).

Seal Relocation a Response to Industry in Crisis

Seal relocation – the capture and removal of seals from fish farms and the translocation to other parts of the state, is one of a suite of seal mitigation measures that became necessary to facilitate finfish aquaculture in South-eastern Tasmania. The measures were administered first by the Tasmanian Parks and Wildlife Service. After its departure from DPIWE in a departmental restructure, the same people did the job but were called Nature

Conservation Branch (NCB) of DPIWE. The measures included the use of 'thumpers' or 'beanbags' – lead shot in a fabric bag fired from a shotgun in order to scare the seals off, and the use of seal 'crackers' or seal 'bombs'– a pyrotechnical device aimed at deterring the seals.

When farming started, seals were not an immediate problem. There appears to be a four-year window for the farms until the seals 'find' them. (S1, Kemper et al 2003). The industry started to get hit hard and something had to be done if it was to survive. At first, shooting to scare or kill was permitted under so-called 'exceptional' circumstances from 1987-1995. Shooting was allowed under the proviso that anti-predator systems be developed as quickly as possible. The policy drew a great deal of criticism, but it was seen to be a temporary method of maintaining farm production while barrier methods and farm management were improved (Hume et al 2002). All industry players see research into barrier methods as ultimately necessary but problematic; problematic due to the considerable investment required (IM1, IM2, IM3). The industry is divided as to the efficacy of shooting, however, all the groups recognize that shooting is not popular with the public. I will explore the various points of view regarding seal mitigation measures in the following chapter.

MMIC (2002a:47) rather blandly states that 'killing of wildlife is also regarded as a serious ethical issue by some sections of the community'. More colourfully, a Departmental Manager said

that 'buying a fillet of salmon with a free seal flipper wasn't going to be a good marketing ploy', but, according to him, not many people in the industry saw it that way in the beginning (DM2). One Industry Manager, showed his distaste for shooting however.

I never liked shooting. I used to hate it. I nearly got out of the industry because of it to be honest with you, and I was pleased that I pretty well got Tassal to stop shooting before we were told to stop. So we got heavily into trapping (IM3).

Trapping started to replace shooting from 1990 (Hume et al 2002). The first seal was trapped in 1989 but the Scientists involved from DPIWE and the Tasmanian Museum and Art Gallery (TMAG) expressed their doubts about trapping, fearing that it may become part of the production process.

It was probably about '89, up the Huon River a seal was persisting – you know attacking the farm, and Jamie Bailey-Stark [then a manager DPIWE] said, 'Go and trap it and move it', and I said to Nigel Brothers [scientist], 'Can you help me come and trap this seal and move it?' And on the way down we chatted about it and thought, 'Jamie you are starting one seriously big issue here'. And, so we caught that animal, painted it, moved it, and it was back about two weeks later – and we should've jumped on it then, in terms of making it plain to farmers that this was never going to be an ultimate solution. But anyway, it just rolled from there. (S1)

A minister concurred with that version of the origins of seal relocation and, through the dissembling, there are hints at a political dimension, a certain political rationality.

Well I don't – I mean I can't remember. I was minister when – but I don't – I think it started before I was – in '89 I'm pretty sure – I'm not sure. But I mean, I have nothing to do with it. I mean, I just take advice on it, sort of thing, so I wouldn't have a clue to be honest. It was in response to the shooting of seals. I recall that people were shooting and that wasn't acceptable, so then the fish farms said 'Well you've got to do something'. (P1)

Trapping and relocation seemed to start by accident. The idea appears to have sprung from the construction of a crude cage by Parks and Wildlife employees to move a seal from a pen (DM3). An employee of Tassal, Laimon Kluga, then built a trap (IM3). It is easy to see how moving a seal from a pen could turn into the trapping and transporting away from farms. Initially Irynej Skira, then of the Tasmanian Parks and Wildlife Service, was responsible for the removal of seals. According to one Industry Manager, there was initially no charge for the service; seals were picked up and taken away. The programme then simply grew (IM3). This is a common statement from all the groups. Several Departmental Managers said that it would not happen in the same way these days. One said,

The industry pushed this [relocation] and has got agreement from government to continue the programme. But it didn't start out as an up front policy decision that we would have seal relocation. It was an iterative solution, which grew (DM1).

The programme was in a constant state of development and change. A contractor was taken on as the number of movements grew. The department employed Barney Howe, a colourful character, to do many jobs, including the shooting of feral animals. When the job grew too large for him, he was replaced by a Wildlife Ranger, Mike Greenwood, who acted as manager, and with another full time employee and a group of casual staff (DM1). The marine conservation unit of NCB had considerable influence on the programme, the methods and procedures for handling the animals or protocols. This group consisting largely of biologists and ecologists, used the programme as a means for

collecting data for research on seals, but their views were less pragmatic or functional than the operatives or managers, a difference that I explore in chapter four.

The numbers of seal movements were low and sporadic at first, but as the difficulties mounted for the fish farmers, the numbers of seals being moved began to grow (figure 2). One farmer described the situation on fish farms in the early 2000s in the following way.

Well, about that time the industry was going into a period of extreme stress in production, mainly due to cyclical factors. The weather was turning against the industry, getting warmer. The water was getting warmer, rainfall reducing and that has multiple impacts. When rainfall reduces, the sea is saltier and that stresses the fish ... AGD [amoebic gill disease] under these conditions was getting exponentially worse ... [W]hat had been a comfortable level of profitability had been rapidly destroyed. The precursors of Tassal going into receivership in June 2002 really started in 1999-2000. So, take that background and, at the same time, increased formalisation of how we handled seals coming on top of the farm stress [was] management stress compounded by the industry going through fast growth rates ... Everything just multiplies. The oxygen levels drop. The jellyfish were – I mean we went through the most horrendous period of jellyfish. There were aircraft-carrier sized platforms of jellyfish coming through the farms ... and its like snake venom ... Imagine a field of 10,000 sheep and you looked out there one day and you've got a beautiful flock and the next they're all dead ... and a salmon is worth more than a sheep (IM1).

Seal relocation was intended as a temporary measure. From the outset the focus was on trying to get adequate physical protection of stock. All parties agreed that relocation should cease by 1998 and special permits would be issued for exceptional circumstances, such as swimming fish between pens (Hume et al 2002), but that never happened. The period from 1998 to 2003 saw an explosion in the numbers of seals relocated (figure 2).

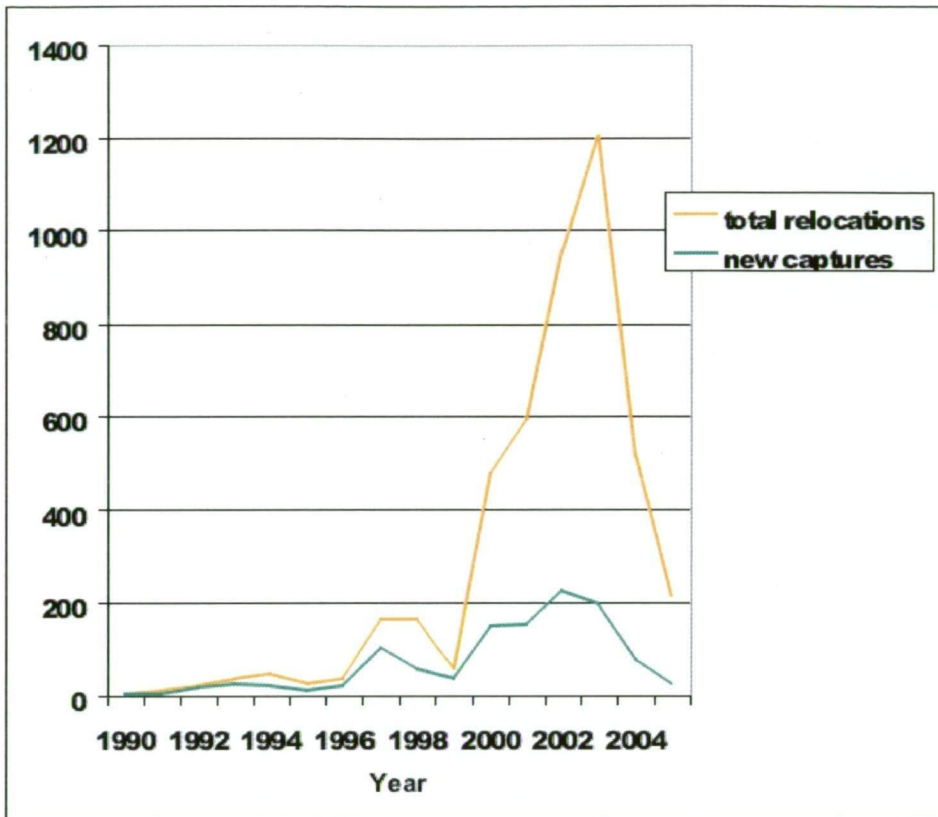


Figure 2. Numbers of Seals Relocated.
(Source Dr Sue Robinson, NCB, unpublished data).

This apparent reversal reflected pressures on the industry that were bounced through the minister, resulting in a directive to allow more or less open ended trapping. One Departmental Manager put it this way:

We went from 58 seals in '98 and Jamie Bailey-Stark said at the time come 31st of December and the programme ends and of course the 31st came and went and the pressure came on and we're doing it again ... I did try to stick to the guidelines and then was over-ridden from on high, told that I had to do it ... Political pressure came to bear that that way of running the programme – you provide the evidence and we'll give it [a permit] for a short time; we'll stick to it and say 'you don't meet the criteria' just fell over...I was trying to back the policy and I'd stood 'em up and said 'you can't' and within ten seconds of getting back to the office, 'how can we do this [reverse what I did] without making you look bad...so a letter was written to cover my arse. Basically she's free for all again (DM3).

It is recognised by the scientists and managers in the department that the only viable long-term solution to losses in production was to exclude the seals and this was eventually recognised by industry after trials of other mitigation methods met with little success (table 1). Seal relocation eventually had to be cut back but in the meantime, it had to be formalised and justified. The formalising vehicle was the Marine and Marine Industries Council (MMIC) set up by the Minister for Primary Industries Water and Environment David Llewellyn in August 1999.

Year	Measure	Effectiveness	Comments	Source
1985-1995 primarily 1987/88	Shooting to scare or kill	Can be effective under special circumstances	<ul style="list-style-type: none"> • Dangerous to personnel • Targets often missed • Problem persists • Ceased by some sections of industry 	Pemberton and Shaughnessy 1993
1987 - 2001	Predator nets	Dependent on site	<ul style="list-style-type: none"> • Can be improved with R&D • Problems with polar circles 	Pemberton and Shaughnessy 1993
1986-2001	Seal crackers	Effective under certain circumstances and with proper use	<ul style="list-style-type: none"> • Seals may become habituated • Better management required 	Mike Greenwood Pers. Comm.
1999-2001	Electric fences	Good with other measures and system farms	<ul style="list-style-type: none"> • O H & S concerns with electricity and water 	Mike Greenwood Pers. Comm.
1990- 2001	Trapping and release at farm	Short term benefit	<ul style="list-style-type: none"> • Permit required 	Mike Greenwood Pers. Comm.
1990-2001	Trapping and translocation	Effective for individual animals except in cases where the seal returns to the area	<ul style="list-style-type: none"> • Expensive and temporary • Removal of seal can result in increased production • Permit required • Problem seals not necessarily caught 	Mike Greenwood, D. Pemberton Pers. Comm.
1990-2001	Boat pursuit	Limited effect	<ul style="list-style-type: none"> • Effective to some extent • May inadvertently harm seals 	Pemberton and Shaughnessy 1993
1985-2001	Acoustic harassment devices	Limited effect	<ul style="list-style-type: none"> • Habituation • Unknown impacts on ecosystem • Future possibilities positive particularly with trigger mechanism 	D. Pemberton Pers. Comm.
1995-2001	Treated nets (biofoulant or resin)	May be effective under some circumstances	<ul style="list-style-type: none"> • Environmental & Amoebic Gill Disease concerns 	Mike Greenwood Pers. Comm.
1987/88	Aversive conditioning trials with Lithium Chloride	Limited effect	<ul style="list-style-type: none"> • Would need to be conducted by external party • Used at the commencement of seal interactions • Problematic as registered drug 	Pemberton 1989

Table 1. Mitigation Measures.
(source MMIC 2002a: 50 with permission)

MMIC is a consultative body that was initially set up to gauge stakeholder opinion on the setting up of marine parks in Tasmania. It was given the additional task of looking at the seal interactions, mainly with fish farms but also, nominally, with wild fisheries. An offshoot of MMIC, the Seal Forum, was commissioned to formalise protocols for the trapping and

relocation of seals, the use of ‘thumpers’ (beanbags) and seal ‘crackers’ and most contentiously, the ‘destruction protocol’.

Currently, as mentioned above, the industry is on the rise: it is profitable and seal relocation is low. One Industry Manager said the current strategy for seal mitigation is working. He is using stiffened, large gauge, anti-fouled nets with no predator nets and getting low seal ‘mort’ counts, but how much of this is due to the strategy and how much is due to cool water (figure 3) is questionable. Apart from reduced production pressures on farms, cold water brings another benefit. A Departmental Manager claimed ‘we’ve now got cold water, huge abundance of wild fish, not just a small number. We’ve got visual barriers of red bait around the salmon in their nets’ (DM3). The question is, what will happen when the weather turns? The following chapter examines the various views on the efficacy of the seal relocation programme and the mitigation strategy as a whole, and looks at potential alternatives.

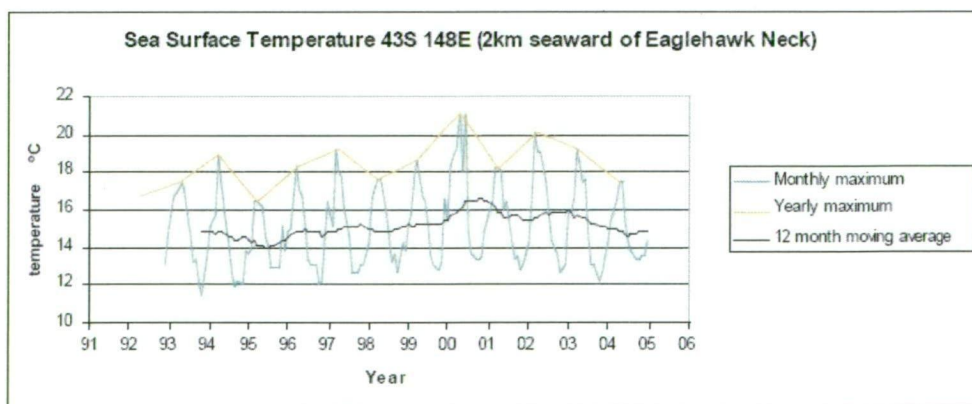


Figure 3. Sea Surface Temperature.
(Source CSIRO 2005. Constructed with the assistance of Dr Mick Russell).

Chapter Three

Efficacy

The suite of seal mitigation measures involves three approaches; exclusion methods (that is, better farm management practices and developing more sophisticated barriers), removal of problem animals through shooting or relocation, and deterrents such as crackers and thumpers. The different groups of interviewees contest the value of the various mitigation measures; some suggest that a certain approach should be stressed, while others reject it out of hand. This chapter aims to put the differing points of view concerning mitigation of seal interactions with fish farms under scrutiny and to canvas ideas for possible alternatives, but first, by way of introduction I will reflect on my doubts about the efficacy of the seal relocation programme.

In the course of my work over the last five years there were certain issues that made me doubt the value of the programme. Seals have been shown to routinely return. Individual seals have been recaptured dozens of times. One seal, fitted with a satellite tracker, was observed to cover the 500 kilometres from its drop off point back to the farm at Nubeena, where it was initially captured, in less than three days. This was an unusual case, associated with the escape of several thousand salmon; however,

the more usual return time, of two weeks, still calls into question the value of moving the seals. Could it be that at a time of acute stress in the industry, moving seals was something that could be done when other factors were beyond the control of the farm managers and workers; that it had psychological benefits for those in the salmon industry?

The pen technology that is used almost exclusively by the salmon industry is the flexible oceanic pen or Polar Circle, and it appears to be inherently problematic with regard to predator protection. At the time when most seals were being moved, when the major industry player was entering into administration, it seemed that relocation was being used instead of developing adequate barrier protection. Although there have been suggestions in the literature for better barrier technology, there appears to be a reluctance to spend money on real improvements in pen design. The primary justification for relocation (the fact that the fish farms incur a considerable cost to relocate and therefore must see some benefit) seems to be undermined when it is evident that the programme runs at a considerable loss. Moreover, charges for relocation incurred by Tassal were put in jeopardy when the company went into receivership.

Over the five years that I have been moving seals they appear to be getting tamer. The attached DVD shows that the seals display little stress when handled. This was not the case at first, and is still not the case when a seal is captured for the first time. They may be becoming habituated to human contact. The habituated

animal may be dangerous because it no longer fears humans; it sees them as a source of food. Given the fact that all relocated seals are males and the removal of a few would have little impact on the population as a whole, it may be better for all concerned to kill a few identified animals, or would this open up a pathway which could lead to more widespread culling (FN)?

As mentioned in the previous chapter, seal relocation is part of a greater mitigation strategy. It was seen as a temporary measure but it had passed deadlines for its cessation and had instead become formalised. Although many actors say the programme should cease, it still continues due to industry and political pressure. In light of this, I will examine the differing opinions on what seal relocation is supposed to achieve, its goals and performance measures.

What is Seal Relocation Supposed To Do?

It can be seen from the previous chapter that seal relocation was a politically acceptable alternative to shooting. Shooting was a public relations liability as well as being ineffective. A Departmental Manager commented in this way, on the goals of seal relocation.

Goals are to provide a best practice wildlife management solution to this issue and as part of a larger programme which is to encourage – we're asked to work with fish farms to come up with permanent solutions – not culling, but permanent in terms of sustainability ... Its milestones, aims, that sort of thing are [pause]... We've got protocols so that all operations are to be handled within protocols ... that's a target. There are no targets for numbers. We want them to be reducing like they are this year but that may be due to climatic factors or whatever reasons. Another milestone or target is to ensure that the programme is self-funded through industry (DM1).

Through the guarded public service language you can see that cost recovery is important, that the department is following orders and that there is some discomfort about translocation but that doubt is assuaged through reliance on protocols (see chapter 4). Protocols are justified through knowledge based on scientific rationality, but more accurately perhaps reflect a pragmatic political rationality. I contend the discomfort illustrates a cognitive dissonance between a scientific or ecological way of seeing, and the need to think politically, to second-guess the political imperatives of the ministers and their staff. This particular bureaucratic way of being will be explored in chapter four but I flag it here to draw attention to different ways those involved understand their situation.

An Industry Manager described seal relocation in this way.

Originally it was hoped that that after removal we would never see it [the seal] return. Which was just a pie in the sky hope. My understanding is that there are a number that don't come back but that there are a number of recalcitrant ones that repeat up to 14 or 15 times... So that was the hope – you would take away the seals that were continually pounding the nets and you hoped that there wasn't a line of tin soldiers – as soon as you knock over the one at the front there's more marching up the back... That was the naïve thinking back in the '90s. What it ultimately became was for god's sake just give us three or four days so that we can get some feed into the fish. Respite service (IM1).

A Scientist argued that seal relocation had only limited value. He stated that the industry may want to incorporate seal removal as part of the production process, but that this was misguided.

It's not a management tool that any of us that have been involved ever said was the one to use. So they want to use it more than it should be used. Relocation is always useful if you have a particular problem on a farm and you want to move seals – you want seals not be there for a short period. So I can see it's useful then just to give the farm some breathing space while you tighten up nets or change your pens or whatever it is. Across the year protection, it's nonsense (S1).

Scientists and Departmental Managers tend to agree that the basis of seal relocation is questionable, particularly the removal of large numbers of seals indiscriminately, whether or not they are attacking the pens. A Scientist puts it this way.

Now if you've got a whole lot of seals – and at this stage – I'm not sure what the number is, but you're talking about hundreds to a thousand or more seals interacting with farms. At any one time there's hundred out there. So, if you at your best can move one or two a day from a particular farm, how many are you leaving there? Twenty, thirty, forty, fifty, or more. So it really doesn't make sense. You're not reducing the impact and we all know that some seals are trappable and some aren't. That's common to all mammals, which means that you're probably, a lot of time – and some of the tracking has shown this – just catching a seal that returns and goes on the farm. It hasn't gone near a net. But where it does help is if you happen to target an animal that is very good at climbing over a pen or doing something like that and you do happen to catch it and move it, you've probably got a two-week spell where it's not there damaging things...(S1).

A senior Departmental Manager, when asked why there was continued demand from the industry responded by saying:

Well that's the bit that I find somewhat mystifying because ... many of the seals that we relocate one would think were not likely to be particularly dangerous in terms of costs to the fishery. They might well be very trappable seals, but not necessarily very costly seals other than their – you know the transportation cost. So I – I find it surprising that the farmers continue to conclude that relocation of essentially everything they trap is worthwhile and cost effective (DM2).

One reason might be that the farms are getting good value for the money they spend. The same manager mentioned that the department has a great deal of resources tied up in the

programme and over the years the farms have accumulated a large debt, money owed for the relocation of seals. He argued that 'relocations have been effectively subsidised from the public purse and in many respects it would be unfortunate if we ceased that operation, having a debt which was funded from the public purse, so it would be quite nice to keep going to recover the full cost' (DM2). Another Departmental Manager elaborated on the money owed by the industry. He stated that when Tassal went into receivership they owed the programme sixty thousand dollars, and that is gone; a few cents in the dollar might be returned when the old Tassal Limited is finally liquidated. He claimed that after the 'Tassal problem' was sorted out there were many changes. The industry was told to:

pay up or no relocation, and at the moment no one owes us any money – we owe Treasury. I worked out that over the last two or three years we've been subsidising each relocation by one hundred dollars. The cost of relocation hasn't gone up since 1994 and what's the cost of fuel today? We've actually been subsidising the industry and they reckon they need to be subsidised, well we have been (DM3).

The industry does appear to have pushed for a subsidy, as a prominent industry representative said, 'Its not in writing but my understanding with the minister of the day was that it would be an equally shared cost because *the animal belongs to the Crown* (my emphasis)' (IM1). When asked whether a benchmark of the programme was full cost recovery, a manager stated that 'it was always meant to be, but because of the reluctance by governments, Liberal and Labor ... to put pressure on the industry it was always 'try to absorb it – try to absorb it' (DM3).' From a political perspective, helping with the cost of seal

relocation was considered an appropriate measure. One Politico likened assistance to any other infrastructure provided by government. When asked about the waiving of the debt he said, 'We're nice guys. I don't know, big employers (P2).' Tassal Limited was an important company to Government that 'employed lots of people in regional areas, particularly in difficult economic times ... (P2).'

It can be argued further that the industry has been sheltered from the need to innovate and invest in barrier protection or smarten up their procedures, their day to day management of nets and other infrastructure. A Departmental Manager said,

you can't rely on this [seal relocation] as a substitute for investment and good management... you know I think it has that affect on the industry, but certainly within Government there wouldn't be anybody who would regard that as a positive feature of the programme, the fact that it stops industry from having to invest ... the sooner industry confronts that the better and some of them are starting to twig to that ... (DM2).

Several Departmental Managers contend that the programme should have an end date or a sunset provision. Seal relocation is seen by one manager as 'not the best solution, that in fact by running it we are prolonging the issue. My belief is that a deadline should be imposed in a sense to encourage the industry to improve the way they deal with seals and improve their equipment (DM1).'

There is contrary opinion expressed by the industry that considerable money is, and has been, spent on mitigation

measures. This is true. Without the development of better nets, even with relocation, losses would have been catastrophic. ‘The survival of the industry was at stake (IM1).’ Even the most progressive in the industry would still like relocation as part of a quiver of mitigation methods. One senior farm manager who has taken innovation seriously and taken steps to modify processes and pens, still wants the option to trap and relocate:

I personally don’t like doing it [relocating] which might sound funny...I don’t think that it is a good thing. From looking after the company’s point of view, I’ve got to do anything I can to reduce seal strikes and trapping’s a tool that helps so we do it... I’d like nothing better than to have a farm with ten or a dozen seals cruising around and not have to worry about it...If our systems were good enough that seals couldn’t access the fish then there’s no problem. We’re getting close to that... The big trick has been that something comes along that works against seals and you put it into place and the seals figure it out and you’ve got to do something else. I’m always nervous that they’re going to work that one [our innovations] out or learn how to get into the pens easily. What’s the next step (IM3)?

Another less tangible reason for relocation put forward by most of the actors was that it had a psychological benefit for farm hands and Industry Managers. Reflecting on the value of seal relocation an Industry Manager put it this way.

We’re potentially clutching at straws sometimes but you feel like you’ve done something. It’s devastating for any farmer when you see your crop just getting hammered, whether its crows in the cornfield or whatever. It just drives you mad. There’s definitely a psychological satisfaction (IM3).

A Scientist agrees that the justification for moving seals is not entirely scientifically rational.

Don't forget that one of the huge benefits to people who only look after seals, and to politicians, is that farms feel better when they move seals and that is a

benefit. It's not for the seal, but it is for the farmer ... so there is a benefit there we can't – that's worth acknowledging (S1).

A bureaucrat acknowledges the emotional aspect of stock losses to the farmer managers and hands.

I mean, when I say I can't understand why the industry keeps paying for it, I think it's a bit of a psychological fillip for them to see yet another seal piss off out, you know, even if it's a bloody 70 kg pup. Now why would you move that? They've got to get some sort of buzz out of it and I think it does give them the feeling that they're doing something. I would [like it if] they'd transfer that to tying up their bloody nets a little better. Yeah, I really do think that psychological part of it is a real issue and it's probably important for the operational staff. There are a whole bunch of mixed reactions from those guys, but some of them get really – you know feel really frustrated by the whole deal – it makes it all rather personal (DM2).

An Industry Manager describes the emotional aspects of stock loss.

What's not seen is the destruction done under the water; the fish having their guts torn out and a lot of the farm guys feel for the fish. You know that they're nurturing these animals for a twelve-month period and they were just distressed by the slaughter that was going on. So they wanted relief from the mental stress that they were going through (IM1).

A Departmental Manager summarises the situation well when he argues that Seal Relocation is effective under specific circumstances: when the seals being moved are positively identified as problem animals, or when there is intensive mass trapping at a time of vulnerability, such as peak growth periods, or transfer of salmon between pens (DM3). The implication is that much of the trapping that is taking place may be ineffective with regard to slowing production losses and is pursued for other, less tangible reasons. Consistent industry-wide measurement of losses is required for an objective assessment.

Polar Circles: A Dead Loss or Necessary, Improvable Technology?

The preferred fish pen for finfish aquaculture in Tasmania is the Polar Circle or Flexible Oceanic Pen. It is made up of a buoyant collar with netting hung and weighted beneath. Figures 4 and 5 show a 'typical' arrangement.



Figure 4. Polar Circles.

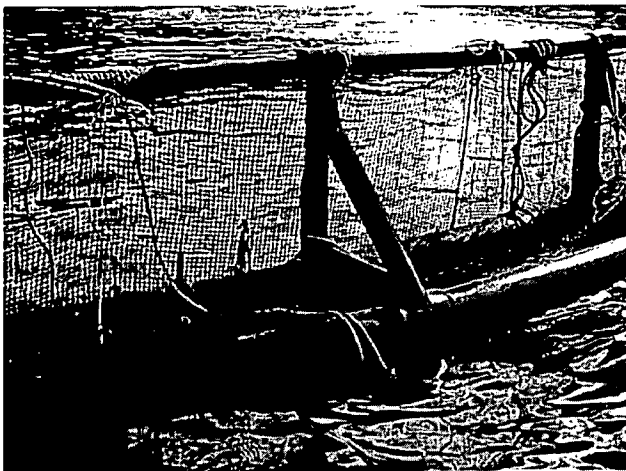


Figure 5. Pen Collar.

Shotte and Pemberton (2002) acknowledge that there is considerable variation in pens throughout the industry but

typically a pen consists of a polyethylene pipe ring 120m in circumference attached to another polyethylene ring outside and a smaller pipe above. The big rings provide buoyancy and attachment points for the nets. The 'grow-out net,' which contains the fish, is attached to the inner ring and the 'predator net' is attached to the outer ring. The distance between the two, the buffer distance, is typically 1065mm. The upper pipe acts as a handrail and as an attachment point for 'jump nets', which keep the salmon in and, hopefully, the seals out (figure 5). The nets initially had vertical sides and a flat bottom, a design which is difficult to tension leaving them vulnerable to charging by seals, an issue that has been addressed in the work of Schotte and Pemberton (2002).

Schotte and Pemberton's work on the Polar Circle system of farming is detailed and extensive. They maintain that 'no engineering study had previously been performed on the effects and factors with respect to seal predation on Flexible Ocean Pens' (Schotte and Pemberton 2002: 6). One Scientist describes their approach as not strictly scientific.

I'm not talking about doing science. I'm talking about understanding the interaction, which might only be eyeballing. Seeing it happen and saying "Fuck that's what's happening". So if you do that, you've got towards a solution and that engineering report is very much trying to deal with that. What do these nets do underwater that allows a seal to hit them? Once you understand that you can protect it. So it's not strictly speaking a scientific approach (S1).

The above method has been used by the industry since its inception and has resulted in increasingly sophisticated barrier

protection systems, but is persistence with flexible systems a fruitless exercise? Some would say so. Schotte and Pemberton argue that 'the easiest conclusion to make is that a rigid netting system would prevent any predation' (2002:75). It has been argued that,

as long as you use polar circles you will never keep seals out a hundred percent of the time because of the innate difficulty of tensioning up a circular thing that has a flat bottom ... To try and hold the polar circle form of net forever taught is very difficult ... [I]f they're not using polar circles, they're using system farms and square pens and things, from day one [pause] you're ahead. One of our biggest problems is the polar circle method (S1).

He argues that the industry is hanging onto polar circles and not moving to better technology for financial reasons.

[I]n this game the accountants – the bean counters – are locked into Polar so you can just – so the trouble is you're not going to get past that problem [stock loss due to predators] until they put system farms in, square pens etc. We've got an engineering dilemma and it's a big dilemma... The problem is not big enough to change the cheap pen structure – period. You'll have up to 5% loss until you change those structures. Until somebody shows that a steel pen will last five years and you'll save on labour then they won't go there and when you show that, then you'll solve the seal issue. They won't do it for the seal issue, 'cause it doesn't add up (S1).

Seal Relocation could therefore be seen as an impediment to revolutionary change in the barrier systems. A Scientist's perspective is that 'the polar circle is a problem and if you don't want to change your polar circle you accept that loss and they [the farmers] say, 'Yep okay. We'd rather move the issue'(S1).'

Schotte and Pemberton largely concur. They do however acknowledge significant incremental improvements to the Polar

Circle have occurred since an original study by Pemberton (1989). As mentioned in chapter two, seals attack pens by tearing them or charging and deflecting them, causing the injured fish to sink to the bottom of the pen. Seals get under nets where there is least tension and access the dead, weak or injured fish. If net materials are strong and meet a recommended standard then tearing is minimised. The main problem is stopping deflection. They suggest that by making the nets smaller at the bottom than the top, a partial cone, a lateral moment is created which tensions the bottom. Schotte and Pemberton (2002) recommend a minimum of ten percent tapers. They also suggest increased and more sophisticated weighting systems, using at least twenty percent of the buoyancy provided by the rings. Another recommendation is to increase the buffer distance between the predator net and the grow-out net to two metres by using a third ring in the collar, and to install false bottoms in the grow out nets. To address seals jumping over the top into pens, a potential problem with New Zealand Fur Seals, two metre jump fences are recommended. After all these recommendations Schotte and Pemberton maintain that Polar Circles still have their problems. They claim that industry values Polar Circles for their 'robustness in inshore waters, their relatively inexpensive capital cost and their ability to be easily transported while stocked (Schotte and Pemberton 2002:6)'. They maintain that there is no easy method for controlling seal predation on flexible structures and that although the pen design is relatively cheap, its very flexibility is its undoing. What is effective in the way of rigging and tensioning in a static situation is undermined in a dynamic situation and

although their recommendations go somewhat to ameliorating the problems, movement invariably causes ill-taut netting due to deflection and deformation. Currents also cause problems. The predator nets tend to be pushed into the grow-out nets, giving seals greater opportunity to access salmon. The behaviour of the fish further exacerbates the problem. They tend to congregate in the lee of the weather side of the pen (Schotte and Pemberton 2002:6).

Industry largely rejects the above claim, the attitude neatly summarised as:

If you don't understand it and you want to stop it, you just put a wall up. It's very simple, but walls are expensive, you know (S1).

Many, but not all of the industry, reject the use of other farming techniques such as 'system farms'; several small grow out pens generally rectangular in shape, contained in a solidly engineered structure which lends itself to rigid tensioning of fabric nets or steel mesh. A particularly interesting technique is the OceanSpar™ submersible system, which positively tensions the net and is not subject to 'working' like flexible surface systems, and promises substantially better predator protection. Another more cost effective proposal is to hang Onesteel™ Marinemesh™, a product resembling security fence mesh from Polar Circle collars (Schotte and Pemberton 2002 and Net Systems 2005). An Industry Manager argues that steel mesh is problematic.

There's protection out there that works, and it's expensive and it's hard to operate. I've just pulled some out. Aquatas had some steel nets in the water and seals can't get at the fish. Its great but you've got to be able to handle your fish – you've got to be able to bathe your fish: we've got amoeba here. Your nets have to be easy to work, and steel nets aren't and they're expensive, and they foul and the cost to clean them is outrageous, and they only last two or three years max and they've corroded and when they go, they go, and you lose fish if you're not ready for it. Although it works a hundred percent against seals its not really a viable option for the industry (IM3).

A senior industry representative put his position this way.

There is no doubt that the Polar Circle are not as seal proof as the One Steel™ cages or steel pens etc but what you have to bear in mind is that around the world roughly ninety percent of salmon production is in Polar Circles or similar cages. A relatively small amount is out of system cages and no more than one or two percent is in steel cages. Polar Circles are used all over the world and if the only reason for going to steel cages is seals then we have to re-examine the question what is the price to the community of letting seals do totally what they want (IM2).

The differences in attitude, between the industry and the rest of the groups, become apparent. Reacting to the *Draft National Strategy to Address Interactions between Humans and Seals: Fisheries, Aquaculture and Tourism*, (2005), but by implication also to NCB Scientists and managers and politicians, the above industry representative argues that the strategy is 'written by those people whose job it is to protect seals (IM2).' He argues that the first premise that the industry disagrees with is the implied desire to return seal populations back to pre-sealing numbers. Furthermore, he contends that general attitudes to seals are 'not compatible with creating wealth, creating jobs, creating other things so we cannot dismiss all those things and ... be concerned with the seals and pay no attention to the rest of society's needs (IM2).' He relates his attitude to the issue of changing pen systems.

[T]here has to be an adjustment [on attitudes to seals]. It can't just be one way. That's how it comes back to the question of should we just use steel pens. If that is so, if we look at the strategy proposed that steel barriers include two metre high fences, in other words a fortress, in that case I would be confident in saying that salmon farming is not viable. In this State and as a society we have to decide what it is we want (IM2).

One Industry Manager has gone against the prescribed orthodoxy involving the use of predator nets, relocation, deterrents and the like. His approach involves the use of a single heavy gauge grow-out net that has had an anti-fouling coating applied to it. Anti-fouling paints are applied to underwater marine structures and boats to inhibit the growth of slime, weed, shellfish and the like. In aquaculture, the reduction of fouling translates into reduced net changes and mechanical cleaning. It also has the secondary effect of weighting and stiffening the net. According to this manager, such a strategy has been successful:

We used to use predator nets and that's when we got hit the worst. We took the double nets off and went to single nets, better tension and anti-fouling and our seal losses got a whole lot less ... [A]nti-fouling on them helps tighten them up, makes them stiffer but also adds a lot of weight to them so it's hard for the seals to push them in ... We also put false bases in our nets so that the seals can't access the morts from the bottom. I think that had as big an impact as anything (IM3).

Better and more thorough farm management practices were very significant in countering losses due to seals, according to this Industry Manager.

And then there was us just being a lot more careful. You know, with our divers, they're a lot more focussed now when they're diving the pens. If they see a net weight's missing, it's fixed straight away, whereas years ago it was 'we'll fix it next week'. In the meantime, you're being hit by seals... We had close to seven percent losses in 2000-2001 and last year we were under one percent. It's come

a long way, but I've got to say, unfortunately, part of it's trapping, most of it's antifouling and stiff tensioned nets, false bases and guys just paying attention, thinking about things. There was a turning point when we'd had a lot of seal strikes and the dive crew gets to go out and collect all the strikes and they'd spend hours just bagging up dead fish. They'd do all their dive time, get in the boat and go back again the next day. So we got to the point where we said 'to heck with the dead fish let's find out why the seal is hitting the pen, we'll get the dead fish tomorrow'. So they'd spend their time checking the net rigging and get all that right and then go back and get the morts and that was a turning point. We went into the pro-active stage not reactive. It made a big difference (IM3).

Alternatives: Culling, Crackers and Thumpers

Two out of three Industry Managers interviewed thought that killing a small number of seals each year would augment the mitigation strategies and make the goal of co-existence possible with the current, albeit refined, method of production. They thought it may then be possible to cut relocation. One manager said there was a view within the industry that –

some seals were training the younger ones on how to breach and attack and all that. There was a view that if you could just 'remove' the trainers, the old guys that were indulging in this terrorist training activity that you could permanently reduce the problem (IM1).

Another manager argued for the 'euthanasia' of 'recidivist' animals. He draws attention to the advances in mitigation methods; changes in net design, better practices, relocation and the use of deterrents such as 'thumpers' and 'crackers', but he has reservations and wants something else in the armoury.

The only fly in the ointment, so to speak, in all of this is that there are some animals in the population now that are recidivist animals. These are generally older bulls and it seems to us that they are very habituated. They are going to be practically impossible to change in their behaviour. So we have this transition period where we have to wait either for these animals to die naturally or – this is something we have put forward – that recidivist animals should be

destroyed ... And regulation notwithstanding, there is nothing sacred about a small number of animals ... (IM2).

He argues that for those animals, 'We should carefully consider humane destruction and not by us, but by the department. In any other primary industry in Australia, basically it's a given; you don't think twice. If dogs, if dingos take stock, the animals are destroyed (IM2).' He is trying to legitimise an action through establishing moral equivalence to an established practice, a point that I will take up in the following chapter, but he is also legitimising the killing by having it administered by others with the added effect that there will be 'no blood on the hands of industry'. I am uncomfortable with the latter point, because people within the department, possibly me, will have responsibility for the destruction of the selected animals.

Shooting of seals proved unpopular with the public as well as being ineffective (Pemberton 1989, Hume et al. 2002). Most seal strikes occurred at night, which made shooting virtually impossible. Shooting was dangerous and, like seal relocation, there was the issue of identification of problem animals. As one Departmental Manager points out, 'you cannot kill a seal for just transiting a farm (IM3)'.

The idea of selective culling was floated again in 2000 and drew vocal opposition. This time the call was to have seals which posed an occupational health and safety risk (OH&S) 'euthanased' by a veterinarian. Barry Wells, the veterinarian who did most of the department's work with seals, told the

Mercury (Dally 2000a) that '[t]hey certainly haven't turned into man killers.' He went further and, according to the *Mercury* (Dally 2000a), maintained that he would not kill seals for the programme. The *Mercury* also reported that he 'hit out at Government proposals to euthanase persistently aggressive seals, describing it as morally wrong' (Dally 2000a). The *Mercury* editorial (20/10/2000) cites Greens MHA Peg Putt as suggesting, 'the industry has a hidden agenda, that it wants to kill seals getting in the way of financial gain'. Within the month the *Mercury* (Dally 2000b) was reporting that '[t]he State Government has dumped plans to kill problem seals by lethal injection'. A destruction protocol was before MMIC, but it could not be agreed upon and was referred back to Government (Dally 2000b). Two years later the *Mercury* (Paine 2002) reported that 'seals would be killed as a last resort, Primary Industries Water and Environment Minister Bryan Green said yesterday'. The newspaper cited Tony Harrison, Chair of MMIC, as stating that 'both the industry and conservationists were guilty of propaganda with exaggeration of, respectively, dangerous incidents and food depletion for seals' (Paine 2002). The industry claimed that two incidents, one where a worker was bitten on the foot and a second where a diver was allegedly charged by an aggressive seal and was injured and traumatised, (anon 2001) justified selective culling. I noted at the time that I thought the claims were false. On viewing a video of the first incident, I noted that the animal was trapped in a pen and was being restrained with a net when it nipped the worker on the steel cap boot. The second incident involved the release of a seal trapped between a grow-out net and

a predator net. When cornered, any wild animal will be aggressive, but generally they are manageable. A member of MMIC, classified as 'Other' in my interview categories stated that:

I find it difficult to believe that OH&S is the justification for any of this. I've dived with seals for 25 years. I know what seals do with people interacting with them. The claims for danger from an OH&S point of view always seem pretty spurious ... We actually had someone address MMIC and seriously tell us that soon it would be a danger to walk along the beach and go paddling because seals would be jumping out and biting you [laughs.] This is nonsense. Even if you accepted OH&S as a concern none of the measures proposed will allay the situation ... If you're serious about preventing interactions with seals you have to exclude seals from areas where people are and you have to stop seals being attracted to farms (O1).

It is interesting to note that the incidents took place on one farm at the time of crisis for the industry. There have been few reported incidents since, and the manager of the farm was replaced soon after the above incidents took place. An Industry Manager opposed to killing seals sums up the situation this way:

I've always got a bit of a chuckle because they went to the extreme response protocol where potentially a seal could be euthanased if it bit somebody and any of that. That's never going to happen and probably shouldn't – I don't know. But who in their right mind as a politician or whoever is going to sign a piece of paper saying you're going to put this seal down. They're not going to last very long at all. The whole thing was a joke, I thought, and the industry was pushing it a lot (IM3).

Calls for culling seals across the world are not uncommon. According to Levigne (2003) whenever there is an interaction between marine mammals and aquaculture, or a wild fishery that is thought to impact adversely on human activities, the initial reaction is to cull. According to Schotte and Pemberton (2002), Australian and New Zealand fish farms are unique in that the

seals involved are protected. 'Farmers of salmon in Norway, the UK, Ireland, Chile and Canada can all shoot seals should they pose a threat to the farmer's stock (Schotte and Pemberton 2002:75).' Local farmers argue that their call to kill selected animals is not culling. An Industry Manager explains:

To be quite clear we are not talking about culling and often inadvertently or mischievously the word is misused. We are not talking about culling to reduce numbers; we are talking about individual identified animals that are beyond salvage (IM2).

Lavigne (2003:37) defines culling far more broadly as any 'directed reduction in the size of a local population to achieve a specified objective'. It can be lethal or non-lethal. Non-lethal involves capture and relocation, either elsewhere in the wild or into captivity, whereas lethal culling can involve the removal of offending individuals or the indiscriminate killing of large numbers of animals (culling at the population level) to reduce interactions between human activities and marine mammals. As for the efficacy of culling, Lavigne argues that it is poor, if reduction in animal numbers is all that is done. He holds that 'if a species is abundant in the area the culled individuals will likely be replaced by others' (Lavigne 2003:37). He argues that the removal of individual animals can be successful if the overall local populations are low and other mitigation methods are then put in place to stop other animals becoming a problem in the future. He maintains that culling is rarely consistently successful and great effort must be put into other alternatives to culling (Lavigne 2003:37). A Scientist questioned on the culling of individuals reasoned this way:

When you talk to these sorts of businessmen who are trying to save their bucks and you talk sense about marine mammal interactions we usually agree on everything and the only thing we won't agree on is the culling of individuals ... That doesn't deal with the problem, that's why I'm against it. If you deal with interaction, you're dealing with seals interacting with the fish farms and you kill a seal it's not going to solve that interaction. If it's – if it's a seal that's habituated and becomes stropky, fine, but the thing to deal with is that habituation process. Killing that seal is not going to solve that issue. You've got to stop the habituation process and protect the workers in that sense. So it's not the solution to the identified issue at all ... But if you've identified that your farmers are vulnerable to being bitten by a seal, you cannot kill all the seals. So no matter if you – no matter how many you kill, there's one left to bite you and you're going to be liable. So you've got to protect via barriers where the workers are working. That's how you protect them from the seals because you can't – you've got to keep the seals away from them and vice a versa – it's the same barrier system. Yeah, killing a seal or ten or twenty or a hundred or a thousand still means they're still vulnerable, so you have not addressed the OH&S issue (S1).

The minister finally approved the destruction protocol on the fifth of May 2005. It was held up in the MMIC process but was finally drafted in the Seal Forum in such a way as to placate the various stakeholder groups represented there. According to one Departmental Manager, the chance of conditions occurring whereby an animal can be killed is extremely remote (DM3). Another manager argued that industry thought it was easier to call the destruction protocol into play than did other stakeholders (DM2). The situation appears to be one of agreement on the protocol but disagreement on what it means.

The representatives of NGO conservation groups in the forum wanted the minister to approve each permit and therefore expose the minister to public scrutiny, but it was finally agreed that the departmental Secretary would rule on each request (DM2). A positively identified seal has to make several unprovoked attacks on workers before destruction can be considered. One

Departmental Manager is glad of the protocol even though he may have to, reluctantly, aid in the destruction of seals.

I remember at one of the MMIC meetings I was asked to speak. The [Tasmanian] Conservation Trust could not understand why we needed protocols in place and I was amazed at their ignorance. They could not see that I could walk out of that office and the minister could say 'go and deal with that please – shoot it'. No evidence, no reason – pressure. By having a protocol in place that the minister has signed off on, it takes the pressure off him [from pressure groups] and the pressure off me. Everybody now has a process...everyone is accountable (DM3).

It is evident that all groups perceive that there is affection for seals among the general public. They acknowledge that this affection can have political ramifications. Nowhere is this more evident than in the issue of destruction of seals. Several groups, including Scientists, Industry and Departmental Managers, have said that the media perpetuates the idea of 'charismatic mega fauna,' an idea I will expand upon in the following chapter. Another contentious area is the use of painful deterrents, namely 'thumpers' and 'seal crackers'. I will discuss the ethics of inflicting pain on animals in the following chapter and restrict discussion of these devices here to their use and efficacy.

Part of the strategy to use multiple methods to mitigate seal interactions with fish farms is to use devices that will scare them off and modify their unwanted behaviour. Seal 'crackers' are small pyrotechnic devices. They resemble a large firework, a 'banger', weighted and with a waterproof wick. They produce a shockwave, a loud bang and a flash underwater. 'Thumpers', known also as 'beanbags' are a type of load for a shotgun

cartridge. Fine shot is encased in a fabric bag, which stops penetration of the flesh when fired at a seal. The department, through permits and protocols, strictly regulates the use and supply of 'crackers' and 'thumpers'. Two of the industry respondents attest that these deterrents are effective. One respondent maintains that crackers are particularly effective at night when the flash is more pronounced, but they both realise that overuse will render any deterrent useless (IM1 and IM2). The seals get used to them and develop counter strategies; they become habituated. It is common to hear talk among workers on the farms of 'the dinner bell effect'. Deterrents just attract a habituated animal. An Industry Manager related his doubts and reluctance about the use of crackers.

I almost think that crackers are worse than trapping – any of these things. I don't like crackers. To me its like you're sitting in this room and a bolt of lightning hits the building next door. Are you going to get in your car and drive away or are you going to say 'what was that' and keep doing what you were doing. I think that's how effective they are and – they've *got* to *hurt* [his tone here indicates empathy for the seals]. It was reported that guys in the river were cruising through, on the plane, and a seal popped up in front of them, looking the other way and they ran him over and killed him and it was obvious that he was deaf and I wondered if that was a result of a cracker blast (IM3).

A Scientist had similar thoughts about thumpers or beanbags.

Beanbags are meant to hurt them and chase them away. We make these weird assumptions that if they're hurt they'll go away and I mean, they might get hurt and stay, but it's too anthropomorphic to suggest they're going to go away. You presume they know you don't want them to be there. They might think, 'I must go away from a boat that has a man standing on it', not necessarily away from a salmon (SI).

At a departmental training course, a scientist with a background in training captive seals made the point that seals respond very well to positive conditioning and the best reward is salmon, but they respond very poorly to negative conditioning (FN). An industry representative concurred. He recounts what happened when electric fences were deployed:

It worked for a day maybe. In the end they just – right I'll bear the pain and you heard them yelp as they went across and they got the shock but they said 'it was worth it' (IM1).

A Departmental Manager said that there was a place for thumpers and crackers in a diverse management strategy, but he thought that those measures would not be effective for much longer (DM2). It appears that mitigation methods have to constantly evolve to keep ahead of the seal's ability to counter those measures and habituate. In the following examination of what the participants think about the future of Seal Relocation, I will start with the impact of seal habituation to stimulæ associated with fish farms.

The Future: Habituation and Water Temperature

Habituation can be defined as tolerance to a particular stimulus resulting from repeated exposure to that stimulus. Salmon, for example, can be said to habituate to the presence of divers and seals to crackers, but there is a broader usage, that is, that seals get used to, and lose their fear of humans. This may sound benign but contact between a 300 kilogram bull seal and an 80 kilogram person could be potentially dangerous, and the chances

of this happening are increasing due to the presence of fish-farms. In my opinion, reports of seal aggression may be just boldness on the part of the seal and if someone gets injured it will probably be an accident. I can imagine a small dingy being capsized by a seal seeking fish from a recreational angler's catch, or a farm-worker being bitten when fish are being transferred from one pen to another. Relocation has been implicated in this habituation process.

Yeah, yeah [the seals] get shitty. So the problem – the ultimate problem of all of that is, relocation habituates seals to people. It makes them comfortable – the seals – and this species – the Australian Fur Seal – is particularly shy of humans. Relocation habituates them to people. They get comfortable around people. Then you hurt them or don't feed them and they get stropky and that creates a real problem. So the whole – a better approach would be to look at the whole management system and see what it's turning the animals into, and I expect that's undoubtedly bad news that's coming out of the end of those different tools. You've got cross, stropky, habituated animals (S1).

It was interesting to note that a major recommendation from MMIC (2002a) was to stop giving seals access to dead fish, a practice that had been happening accidentally or purposefully since the inception of the industry. An Industry Manager recalls–

Guys used to have this theory that seals hitting this pen and you've got morts in the boat from a dive so they'd fling the seals morts to keep them busy. It's like come *on* fellas: you're rewarding them. You're asking them to hang around (IM3).

An Industry Manager reflecting on the ethics of the industry implicates fish farms in the bringing of the seals inshore into potential contact with humans.

The farms are there and we've got the southern feeding grounds for seals. If you talk to the old timers down south, they'll say that they never used to see a seal in Dover Bay – ever. Before the farms came along we never saw seals here – probably right. So now we have established a place for them to feed (IM3).

He maintains that even when the nets are tight and the seals cannot access the salmon, the seals are still attracted to the wild fish that seem attracted to the pens like an artificial reef (IM3).

Another issue that gives insight into the future of seal relocation, and the mitigation strategy in general, is the temperature of the water. At the moment the water temperature is relatively cool and with this cooler temperature came an explosion in wild fish numbers and optimal conditions for producing fish. Trapping has virtually stopped apart from in the winter and spring period. But what will happen if, indeed when, the temperature returns to the peak of a few years ago? An industry representative believes that fish farming in Tasmania faces ongoing challenges brought about by the cyclical nature of water temperatures.

The next major challenge is when the current conditions turn again, and this has nothing to do with global warming on which I'm a sceptic anyway, but what I think is a much greater influence, the Antarctic Circumpolar Wave that runs in twelve-year cycles (sic)*. If you go back over the last 30 years you tend to find that you go through these warm periods. Right now, we've got the most ideal environment apart from not having quite enough rain. Next year it'll begin to change, it'll begin to edge up again getting warmer. So the industry has to really learn how to cope with much warmer conditions and learn the lessons of five years ago (IM1).

A Departmental Manager agrees that the industry is vulnerable to water temperature and posits that the current ways of handling

* The circumpolar wave is not a visible wave but a variation in temperature and atmospheric pressure that circuits the southern ocean on an eight-year period. It has two peaks and troughs and therefore the period appears to be four years. S2 also referred to it. See White and Peterson 1996.

seal interactions, as formalised in the protocols, will be seriously challenged, at a political level, when the temperature cycles higher.

MMIC's always said that they want to phase it [seal relocation] out but they've never said a completion date. They always said it will be phased out when something better comes along – who knows, until environmental things change. The conditions we're having over the last two years – I have got a feeling that it's going to explode. With trying to double production in the water and we're still using small advances in technology, nothing new, nets – just playing with weights and panels. If we go back two years ago and get twenty-one degree water – no bait fish – my God, I reckon we'll suffer carnage. And the expectation – like we've never seen in our lives – those protocols there'll be a real test of how they stand up. I reckon there'll be pressure coming right left and centre. It'll be a great test of character (DM3).

When asked directly about the future of Seal Relocation most respondents said, essentially, that there was little future for it. They followed the MMIC line, but most of them hedged, as does MMIC (2002), by saying that an alternative must be sought prior to phase-out. The following response by a Departmental Manager is typical.

Two years time, I would like to see the industry preparing to handle seals on their own leases without seal relocation and I would like to see seal relocation nearing an end. Five years, I would like to see the industry having developed better technology, better equipment and better staff competency to deal with issues and in ten years the issue is no longer an issue; it's been handled ... Done deal (DM1).

Industry largely agrees, although it has problems about the cost of investment in new technology. It also takes issue with what it perceives to be the desire on the part of policy makers and the public to return seal numbers to pre-exploitation levels and

would like to kill some of what are perceived to be recalcitrant animals. A Scientist added:

It depends on pen design. If we stay at polar circles there'll always be a farm manager that wants to move seals; who is getting irritated by his losses. But if they change to square pens etc., it won't be an issue, yeah... Well the only thing on the horizon is steel and there's your change to square pens (S1).

A Politico takes an oblique view, bringing up a concern that is reflected by most respondents, that a 'clean, green, seal friendly' approach could be taken, to the advantage of the industry.

I'd like to see the industry themselves take responsibility for their own problems and capitalise on it and actually develop themselves a sub-industry around the seals and you suggested that and I agree with that. It's always been a thought I've had – seal free production as a strong marketing tool for the industry. The world is a changing place and the international markets are looking for stuff produced in an environmentally sustainable way or sensitive way and it's a real opportunity. I'd see it as an opportunity for the industry. I am sure with technology that they could actually protect their stock from seals, you know, and I don't know how long a seal is going to hang around if they've got all this fish that they can't eat anyway (P2).

The suggestion to market Tasmanian salmon as 'seal free,' similar to 'dolphin free tuna,' came up in the responses of several interviewees. Discussions about this strategy had been entered into between Government the department and industry (DM2). It was rejected by industry, according to one Industry Manager, because of the audacious way it was presented to the industry by the department.

The way it came across to the industry was – we're the department, we'll issue you with this 'seal safe' logo if you pay us X much money. It was stand-over tactics. It was the cop saying, 'I'll say you're OK if you pay us money'. It kind of looked like that ... We all had a chuckle over it (IM2).

The ‘seal of approval’, as it was termed, (S1) marketing strategy was said to address the problem of several Tasmanian primary industries, such as vegetable production, of being unable to compete globally on price alone. The Tasmanian salmon industry has difficulty competing, particularly against Chile (DM1, Korda Mentha 2004). An industry representative stated the position wryly:

If in this country we grow salmon and we don’t shoot our seals and we’re nice to our people, [if] we don’t use aggressive antifouling, we don’t use huge amounts of antibiotics, someone needs to pay for that quality and if they don’t then we will be unviable (IM2).

The majority of Tasmanian salmon is consumed domestically where the ethical sensibilities concerning production could be a factor as political sensitivity has shown. According to several respondents, this is not an issue in European or Asian markets where broader environmental ethic concerning marine resource extraction has not been developed. In the next chapter I turn to the ethical justifications for seal relocation and other mitigation measures.

Chapter four

Ethics

Transferred seals from Aquatas to Jody's trailer at Derwent Park. Big boy died in front of us: just went quiet and stopped breathing. We tried moving him about to ventilate him but didn't work. Very distressing. Took through to Launceston for autopsy. Looks pretty classic; fits the pattern of the others.

Diary entry: 21/12/2000

Eight seals have died as a consequence of being trapped and relocated. I remember a Parks and Wildlife operative, upset at what he saw as inappropriate consideration of animal welfare, calling me 'a cruel bastard' and threatening to call the RSPCA. I recall thinking, after the initial losses, that seal deaths were freak occurrences and later, as losses mounted, I justified them by considering them to be acceptable attrition and that the alternatives to trapping and relocation would be more problematic. My disquiet did not disappear but, on reflection, my ethical questioning had been repressed and I had concentrated on trying to make the process better, more efficient and I had mentally transferred the responsibility to my superiors. I had been 'just following orders'. I had accepted that the process was alright because it was generally accepted within my work team, and that acceptance had allowed me to shy away from an area of moral consideration. Questioning the processes

or the programme as a whole was not my role, as I was at the bottom of the hierarchy and I enjoyed my job, so I could not conceive of doing anything that would threaten my livelihood. However, each seal death brought me back to an unpleasant reality. I was faced with a moral dilemma. I felt distress at the death of the seal in front of me and powerless to help it, while at the same time responsible for the conditions that resulted in its death. The subsequent discovery of the cause of seal deaths, the eagerness to remedy the situation by my managers and faith in the supervising scientists and the Ethics Committee assuaged my immediate anxiety.

Investigation into the circumstances of the deaths showed that the seals were all first captures, therefore less habituated and more subject to stress: they were mature, large animals, unusually engorged with salmon and they were all captured on hot days. The autopsy showed that the seals had all died from asphyxiation due to the aspiration of partly digested food. The relocation team, both operatives and scientists, experimented with seal handling, focussing on minimising seal stress through the control of temperature. Cages were enlarged, dark tarpaulin covers were replaced with white ones, perforated false bottoms with cooling air ducted through them were installed in the transport cages and we hosed the seals down regularly. Importantly, we were now aware of the syndrome and at the first signs of stress we would take the seal to the nearest beach and release it. This strategy

proved to be successful and there have been no further similar losses.

The changes to procedures were written into the trapping and handling protocols, which, like the whole seal relocation and mitigation strategy, were made concrete through the MMIC and Seal Forum process. The ‘rules of the game’ if you will, were the protocols. Along with laws like the *Animal Welfare Act 1993* and the *Nature Conservation Act 2002*, and through deference to the authority of the Ethics Committee, the protocols formed an ethical code distinct from moral autonomy (bear with me, an explanation is coming). A number of interviewees made the distinction between the norms of their organisation and their own views. Indeed, when protagonists were asked to justify Seal Relocation and reflect on its ethics and morality, they expressed hesitation as to whether they were engaged in ethical decision-making or if their decisions had a moral dimension. The majority justified their positions pragmatically. I will return to the views of the participants shortly, but in order to inform the discussion, first it is necessary to open up the ethics discourse, by defining terms and issues.

Ethics: An Audacious Précis

Crudely, morality is the right or wrong of an action, a decision, or a way of life, while ethics or moral philosophy is the study of such standards that we use to judge, thoughts or actions. Thus, causing pain and death to an animal may be moral or immoral

according to the moral sense that we employ, but ethics tells us why we judge it so, and how we made up our minds. We use ethics to defend, criticise, promote and justify moral concepts and to answer questions of morality, such as: what is right and wrong; can we know or decide; what is the origin of our ethical ideas; what are rights and who, or indeed what, has them; should we use coercion; can we find a universal ethical system; and what do duty, justice and the like mean? (Newall 2006) In the tradition of analytical philosophy, ethics is divided into three fields: meta-ethics, normative ethics and applied ethics, and it is contingent on axiology or value theory.

Axiology is the philosophical field dealing with value. Ethics or moral philosophy is embraced but any other field of human discourse in which the value-terms 'ought' or 'good' occur is in the area of axiology (Najder 1975). According to Hay (2002: 28), 'an axiological system of thought posits an objective and universal ground, or grounds for value,' the base or intrinsic values. The notion of intrinsic value can be traced back to ancient Greek speculations on final cause or uncaused cause. Intrinsic values then, are the stopping point or source of values. Instrumental values (means) are related to intrinsic values or ends. An intrinsic value for Plato is 'justice': 'the activity of the rational person; considered an end in itself; an activity of the divine, and the highest pursuit of humanity' (Morito 2003:321). For Aristotle, friendship approached intrinsic value. For Kant, intrinsic value is conferred to humans through the quality of rationality. A

considerable amount of thought has gone into the idea that 'nature', whatever that is, holds an intrinsic value*.

Meta-ethics seeks to understand the nature of ethical evaluations. If we ask the question, 'is it wrong to be mean to seals?' the meta-ethical issues we might need to address could be: what do we mean by right and wrong? Do these concepts apply to non-humans? Does the definition of wrong apply universally (absolutely) or is it relative, derived subjectively or inter-subjectively in the form of culture? And, what does the identification of wrong imply? Meta-ethics is also concerned with the origins of our ethical principles. Are they socially defined; are they expressions of individual emotions, are they derived from God or from a consideration of virtue and duty or from consideration of the consequences of actions or rules?

Normative ethics brings theories from meta-ethics and tries to identify principles that regulate or guide human conduct. The golden rule, 'do unto others as you would have them do unto you,' comes to mind as a simplistic example of a guiding principle. Deontological theories are concerned with rules and duties as a moral guide, but what duties when and to whom? There are many such guides to conduct but the last one I will deal with here is consequentialism: the morality of an action being determined by the consequences. It is the one most often

* See Fox 1990 for example.

used to justify actions regarding seals. The question that first springs to mind when thinking about consequences is, consequences for whom? Proponents of animal rights such as Peter Singer (1975), invoked Bentham's (1790) pleasure-pain principle in order to extend moral considerability to the non-human. From a utilitarian position, the claim is made that an action is morally sound if the consequences are generally better for everyone. According to Singer, sentience and the capacity to suffer confer moral significance to animals. Lawrence Johnson (cited in Hay 2002:37) makes the point succinctly: 'pain is bad. That pain happens to an animal is irrelevant to its badness in the world. Therefore, we ought to avoid causing unnecessary pain to animals.' But, in the way of the classic utilitarian dilemma, what if we are faced with the proposition that killing or hurting a few seals causes a greater good for seals and humans?

Applied ethics or casuistry looks at controversial cases such as abortion or animal rights. Typically, applied ethics takes place under the aegis of various professions, hence business ethics and medical ethics have their own codes. The borders between the schools of ethics are porous, for example, in the case of animal rights, the issue depends on meta-ethical debates about who and what have rights and where do rights come from.

The postmodern turn has brought great criticism of the tradition of ethics. There are a few consistent denials that mark the postmodern perspective. These include the contentions that there are no objective truths and there is no single, ultimate

foundation – such as human reason, nature or God – according to which knowledge claims and values may be justified. Postmodern theorists reject essentialism or the belief in universal principals; they express ‘incredulity towards meta-narratives’ (Lyotard 1984), and stress subjectivity over objectivity. Authoritative knowledge claims are said to mask power relations while in fact they constitute power (Hay 2002). At its base, postmodernism is anti-epistemological and, from that standpoint, normative ethics is a fruitless search for a universal system: meta-ethics is invalid because as foundational principles such as God and rationality are rejected we cannot know why we should follow certain ethical principles. Postmodern denial of ethical-universality implies moral relativism. Morality, values and other practices vary temporally and between cultures, indeed from situation to situation (Bauman 1993). The implication of this variation is that ethical obligations are ‘merely’ culturally constructed and policed codes of behaviour.

Bauman rejects blind relativism however. He argues that modernity created the conditions for ethical diversity while at the same time it tried to suppress it. Following Weber’s account of the birth of modernity, he argues that modernity began with the separation of family and work, ‘a divorce which could in principle stave off the danger of mutually contradictory criteria of efficiency and profitability and moral standards of sharing and caring, ever meeting on the same territory’ (Bauman 1993:5). At the same time Protestant reformers pioneered modern life by

insisting that 'life as a whole is charged with moral meaning, that what ever you do, in whatever area of life, *matters morally*' (Bauman 1993:5). These points are contradictory, but that is the point: modern life is ambiguous, it does not abide by an 'either/or' logic. The attempt to reconcile these powerful tendencies of modern society, the vain attempt to universalise, 'turns out unstoppably more divisions, diversity and ambivalence' (Bauman 1993:5). The 'death of god' was an illustration of disillusionment with a totalising concept not vice versa. According to Bauman:

Modern developments forced men and women into the condition of individuals, who found their lives fragmented, split into many loosely related aims and functions, each to be pursued in a different context and according to a different pragmatics – that an 'all encompassing' idea promoting a unitary vision of the world was unlikely to serve them well and capture their imagination (Bauman 1993:6)

Modern thinkers and legislators felt that rather than being a 'natural trait' of human life, morality needed to be designed and injected into human conduct, and that an all-comprehensive unitary ethics could be thought up and the people forced to obey. Reason, it was assumed, could do what belief was no longer doing. According to Bauman, the modern era is characterised by:

an arduous campaign to smother differences and above all to eliminate all "wild" – autonomous, obstreperous and uncontrolled – sources of moral judgement ... the substitution of heteronomous, enforced from outside ethical rules, for the autonomous responsibility of the moral self and that means nothing less than the incapacitation even destruction of the moral self (1993:12).

Institutions and societies themselves are said to 'rationalise out the moral impulse'. For Bauman the ethical codes, "[s]ocial norms, rules and conventions are about security and a tranquil conscience (1993:79). 'Everyone does it', 'This is how things are done' is the preventative and effective medicine for a guilty conscience". For Bauman, (1993:34) postmodernity promises (perhaps optimistically) morality without ethical code and to free morality from its chains requires 'its re-personalisation' and only then is ethical negotiation possible.

Perhaps everyone who has worked in an organization is familiar with a feeling of fracture and ambiguity; layer upon layer of competing, sometimes conflicting claims for what is right. To illustrate this point I have penned a fictitious, perhaps flippant, but I hope, familiar vignette:

After taking a sick child to his grandparents from childcare at lunchtime you speed back to work through residential and school zones throwing the hamburger wrapper out the window because you haven't time to stop. You think about McDonalds as an example of cultural imperialism and register outrage at news reports on the radio concerning the treatment of refugees and at the government committing your country to war, but you remember to renew your Laboral party membership that was due last month. As you rush out of the lift you can't help fantasising about the secretary on reception. You are five minutes late for a meeting with your boss. You apologise profusely and you can't believe your obsequiousness. The meeting is about employing a junior team member and you know your boss wants the daughter of a friend of her husband for the job, so you rig it so that it fits HR's merit principle rules. Back at your desk you are faced with approving special permits to poison large numbers of native animals for crop protection. You know that this is a 'no win' situation for the minister and he wants to distance himself from the decision, but that it has to happen because of the rural lobby group and after all 'that's what you're here for'. There is conflicting scientific advice but you know that some scientists are compromised by links with industry and some in the department are second guessing the politically expedient line. You ask a mature member of staff, long since placed in a career cul-de-sac for some act or omission several years ago, for advice. He tells you to 'do what you need to do'. You drive

home after several beers too many and justify your actions by telling yourself it will be different when you're in charge and anyway there's the mortgage and when you get that job in policy and planning you can take the family on holiday (FN)*.

Different positions, it appears, can be right at the same time. In a situation similar to the scenario above, who could blame the actor for looking for guidance, codes of behaviour or ethics, cultures or ways of doing things, that would allow him to avoid moral questioning, but at the same time the rules are 'just rules to be broken'. It is appearance that matters. It would be easy to conflate 'what is good for me' with 'what is good', a consequentialist position but one of ethical egoism visible within the institution as 'careerism'. Rules, procedures and ethical codes are also subject to the machinations of power, indeed, they assume hegemonic dimensions in some cases. Like 'a lawyer's first duty is to the law', or for a sports man, 'the good of the game' is paramount, the institutional actor achieves and cements his position through the ability to control what is accepted as right or truth. McGuirk addresses this issue in an institutional setting by apprehending power in Foucauldian terms:

Knowledge is a discourse built through particular systems of rationality. Power takes effect through the ability to define what is accepted knowledge and is accorded the authoritative status of truth. The production of knowledge is therefore an effect of the exercise of power. Together power, knowledge and rationality constitute a nexus in which power relations are effected through a rationality, which drives the social production of knowledge. Thus in planning practice the effects of power are carried through the discourses, strategies and techniques which arise from and reinforce dominant knowledge/rationality forms (McGuirk 2001:207).

* This passage is fictitious but it is based on some of my reflections and notes taken over 15 years of work in organisations.

There is also capacity for resistance within an organisation or society, whether it is the manifestation of the ‘moral impulse’ as for Bauman, or the effect of Foucault’s domains of thought (episteme) and knowledge (discourse) coming into opposition (1970). Indeed, Foucault (1980:142) claims that ‘there are no relations of power without resistance’. I will leave overt discussion of power and politics aside until later. For now, I want to examine the domains of thought and talk of the interviewees, the systems of thought and knowledge that according to Gutting (2003), following Foucault, ‘are governed by rules, beyond those of grammar and logic, that operate beneath the consciousness of individual subjects and define a system of conceptual possibilities that determines the boundaries of thought in a given domain and period.’ In the planning literature these are sometimes referred to as differing ‘rationalities’ or ‘different ways of knowing or understanding the world’ (Dalton 1986:151). I will begin with the Industry Manager.

The Industry Manager

In the first chapter, reasons were given for why Seal Relocation and other seal mitigation measures were deemed necessary. It became apparent that there were different positions roughly coincidental with work role. The Industry Manager generally had a negative attitude towards seals, and costs to industry were paramount. One Industry Manager was

torn. He said that he personally did not want to trap, relocate or even use crackers on seals, but he was forced to by the logic of salmon production. He was prepared to resign over the issue of shooting (IM3 see ch 3) and he was empathetic when it came to inflicting pain. He seemed to genuinely like seals and my impression was that he enjoyed the outdoors and the 'natural'. This is at odds with the other two industry interviewees. Their attitudes to seals were largely negative, and although they agreed to the protocols and to the recommendations of the MMIC report, they still thought that populations of seals were too high; that policy was encouraging growth in seal numbers and that selective culling should be allowed. One of them said, 'To me there's nothing sacred about destroying these animals as long as it's done humanely and I think that would go a long way towards speeding up the solution' (IM2). When asked about the pain and death involved in relocation and other deterrents one Industry Manager responded thus:

I think we need to be careful about how we define pain, and make sure we are not putting an anthropomorphic view on it. If you went swimming would you heave yourself out of the water and come crashing down on rocks? Seals do. Do your mating habits include drawing blood from your partner's neck? Seals do. So I'd say that you have to be careful when you talk about inflicting pain and is it ethical. It's a discouragement. It is trying to re-instil wariness in the seal (IM2).

He blames the media, which he sees as the most powerful actor in a political process, as being responsible for negative public perceptions about aquaculture and the seal issue.

We have strong views. We are directly influenced by the problem, but in a voting sense we are a minority and clearly the politicians react to the greatest number of votes. Most people out there wouldn't stay awake at nights worrying about seals unless the issue was stirred up. I would be comfortable if there was a reasoned debate to inform the public ... The media tend to whip up public opinion ... [and] more often the story is 'poor sweet seals being hunted, damaged etc' (IM2).

Seals are described by these respondents as being 'charismatic mega-fauna' and, they say, 'that is a huge stumbling block [for the industry] when it comes to community perception, but there is a case for educating the community, particularly if the department were to see it from that [our] point of view' (IM2). But industry seems to see the department as being at odds with its position. The implication is that the conservation side of the department, usually conservation biologists, influence political decisions against industry. One industry representative claimed, 'I think that it's [Seal Relocation] done under sufferance; that's more the department's view than the politicians' view' (IM1). I will explore the politics in the following chapter.

Sections of the industry, mainly those that are not working at the farms any longer, seem to hang onto an anachronistic view of seals. Their negativity towards seals is reflected in the words they use to describe them: they refer to 'old', 'aggressive', 'recalcitrant', 'rogue' and even 'terrorist' seals. When I first went to farms to pick up seals they were routinely referred to as 'maggots'. This is no longer the case. The younger

generations of farm hands show an interest in seals, albeit sometimes with a little annoyance at the extra work that they create. This may be because the mitigation strategy is working, in absolute terms or psychologically, or that recent climatic conditions have lessened the problem. A great deal of the old way of thinking appears to be based on 'common sense', folkloric belief and assumption. All of the industry informants make reference to the views of 'old fishermen' or 'old timers' on the farms. Claims about seal issues are often prefaced with 'I don't know if its true but...' Their claims are intuitive with little recourse to objectivity, caution and measurement – apart from the bottom line. The following statement by an Industry Manager illustrates this way of rationalising.

Even if the politicians said 'you can kill fifteen seals per year', the farms would still want Seal Relocation. The *hope* would be that killing of fifteen would dramatically reduce the problem *but we don't know* (IM1 my emphasis).

Two Industry Managers expressed little doubt or questioning over their actions with respect to seals. When asked if the Seal Relocation programme was at all morally problematic one manager replied categorically, 'Do we think it's unethical? – absolutely not' (IM2). Justification for questionable practices was presented as a form of moral equivalence. If an action was accepted in one sphere of society then consistency demanded that it should be right in another. One Industry Manager claimed rhetorically,

Ethics is such a huge area. It really comes down to human attitudes towards animals. Why do we stress as a community over one seal being shot versus very few being concerned over many hundreds of thousands of kangaroos being shot, which is also a large mammal? Why is that? Is it because we don't think they are as intelligent as seals; do we feel that their faces are not as pretty. Is that what ethics is? (IM1)

When asked whether the Seal Relocation was benign and if the pain inflicted on the seals was justified, he replied,

Yes I do ... we seem to accept that it is okay to apply electric shocks to farm animals. It's a recognised way of putting up fencing or corralling animals. That causes pain. How do you distinguish between different sorts of pain – if it's okay to fire rubber bullets at human beings to cause pain? When you come back to a sort of pragmatic world, there are things that have to be done that you don't like doing. Some might say that we shouldn't eat living things ... If you had a paddock full of sheep and a mob of seals that could actually charge across the land and rip the guts out of the sheep, would they be seen as more like foxes, and would then people have differing views as to whether that armoury of options be allowed? (IM1).

This Industry Manager also espouses a utilitarian justification. He implies that it is regrettable if seals suffer but on balance greater good for the community will ensue.

As I said to MMIC, if we want to have these fine ideas, the fact is that when you have something impacting your farms and reducing production you are in fact impacting employment ... and when you look at the area we farm we are talking about a disadvantaged area, but more than that, we provide a lot of employment for basically unskilled unemployed youth. Some come in with drug problems. We try to give them programmes to get them off the drugs and I'm sure save lives ... If we don't apply an armoury of mechanisms to reduce the impact of seals, then there is that counter effect and you're trading off one against the other (IM1).

The Scientist

A Departmental Scientist refuted arguments about seal

numbers and the moral equivalence of killing different species in the following way:

You'll hear the argument 'what's the difference between managing wallabies and managing seals'? Well, it's entirely different because seals have not increased in numbers as a result of man's activities. There hasn't been an anthropogenic influence on their numbers, quite the reverse. Humans have negatively impacted seals for centuries and it's our responsibility not to influence their numbers (S2).

Not surprisingly, for someone employed in what until recently was called the Nature Conservation Branch, this biologist displays an ecological sensibility*, but her position is sophisticated, reflecting the fractured nature of modern life and work in bureaucracy where there are overlapping ethical considerations. She continued,

It's all about sustainable and ecologically responsible management of an industry, and if you shot one or two seals then you're not going to threaten the conservation status of the species, but is that acceptable in terms of ecologically responsible management of an industry? ... In this day and age you are beholden on the industry to minimise and mitigate ecological interactions (S2).

The Scientist established the markers of her professional identity, the knowledge/rationality nexus that constitutes her power. Quantitative, measurement, information, understanding and data were words used to justify and valorise the role of science in the Seal Relocation programme.

* An appreciation of the value, complexity and interrelation of organisms and the environment. Interestingly Hay (2002) frames his pre-rational 'ecological impulse' as similar to Leopold's (1968) 'ecological conscience' and 'land ethic' (which encompassed the science of ecology), the logic of the former bears a striking resemblance to Bauman's (1993 and above) 'moral impulse'.

The only impetus behind the science in the programme... and I think it's critical to understanding the nature of the interaction to assist in the mitigation and to analyse quantitatively how effective the programme is. If you did not mark the seals individually you would have no idea ... [M]anagement should be based on a really thorough understanding of the programme, and if there were not science or rigorous data collection, then there would be no understanding of the programme, and that would be irresponsible. It's difficult when there are a lot of people [other than scientists] involved and I think that the rigour has increased due to the participation of biologists in the programme – even just telling two species apart (S2).

The Scientist's view is complicated further by her position in the bureaucratic agency that is charged with managing wildlife where 'managing' is often a euphemism for issuing permits to 'kill', 'cull', 'hunt', or 'take' as well as protecting wildlife. Her answer is engagement, a pragmatic justification that relies on influence and which is closely aligned to 'power to' or agency.

As the management authority, you can't sit back and do nothing, and to have influence and to participate in the issue you have to engage. In that engagement you have to weigh up the economic imperative for the farm. You certainly don't want the industry to be managing the issue in isolation of any animal welfare considerations, because if that was to happen it would be much worse than it is and so you have to provide assistance ... (S2).

Ethics is important to the Scientist, but its importance is often couched in terms of compliance with a set of rules, a code and, most often, with rulings by the Ethics Committee. One Scientist argued that, 'management of these interactions, whereby you're interfering with the wildlife, should go before an ethics committee' (S2). She argues that such a committee legitimises actions. She maintains, 'The Ethics Committee is made up of people from a range of backgrounds; the public are represented. I think it's important for the external independent

assessment of wildlife management issues' (S2). It is, however, chaired by a departmental employee with many members from institutional settings and is therefore subject to internal political pressures, members with fractured identities and therefore perhaps judgements clouded by conflicted allegiances. The call for external judgement in Bauman's (1993) terms is to remove the 'autonomous responsibility of the moral self' to be replaced by the 'heteronomous externally applied ethical code'. The deontological need for rules, for parents, for God, in order to avoid responsibility seems, at first, to be an infantilised response, but in the institution it is expedient, pragmatic and ubiquitous.

The Scientist acknowledges that the Ethics Committee has examined and approved the programme but she notes that there was dissenting opinion. One member vocally objected to the programme, but according to the Scientist, he was acting on old information. Changes had been made to the handling protocols, which reduced losses and the programme was handled with 'greater professionalism' (S2). The Scientist was concerned however, that the Seal Relocation Programme was—

not required to have annual endorsement and therefore ongoing review, and one of the key missions or issues that we have to justify to ethics in our research, is minimising the impact on the animals and I think that it's good for any programme: I'm not targeting this programme ... I spend a lot of time seeking ethics approval for the work I do and it's good to have to justify what you do to those animals, and I think all these programmes should have to do that (S2).

The most prominent ethical issue for the Departmental Scientists that I interviewed (S2 and S3) was what they perceived to be different ethical standards between wildlife management and wildlife research. One Scientist explained the distinction this way:

This is an issue that has intrigued me for a long time and it's not just this government department, it's the University and everything else. If you deal with animals in a management sense you are not compelled to get animal ethics approval. If you do research, you are compelled to get animal ethics approval, even though you may be dealing with the same individual animals: if I want to get data from them I have to get ethics approval, if I want to move them from the farm then I don't ... If you're a commercial fisherman you don't need ethics approval but if I want to put a tag in a fish then I need ethics approval. It's a very curious distinction (S2).

She argues that the distinction between management and experiment is potentially a big issue that would open up to ethical scrutiny politically sensitive management programmes, such as baiting and shooting terrestrial animals for crop protection. She implied that the issue has not been addressed because the very sensitivity of the issue forces it to the back of people's minds. The possibility of resistance, of 'moral impulse' is evident, a trace that I will follow in the next chapter.

A Scientist from an institution not involved in government, was less circumspect. While arguing that he uses a 'cost benefit' (a sort of consequentialist) ethical approach, he adopts a practical problem solving approach that takes on the needs of the fish farmer and respects the seals. Like other Scientists

he considers Seal Relocation and mitigation unproblematic from a conservation perspective, but he has other serious concerns.

[I]t's not a problem in a conservation of the species sense. The numbers killed or hassled or moved haven't affected the population. But I do think it's wrong to move an animal that migrates south and lives south for a certain period, then migrates north and lives in Bass Strait for a certain period ... When that sort of thing's happening you do have to ask 'What are the possibilities that you're taking disease north?' That you're just taking an animal in one system to another system? That's not good ... These animals were either going to get shot or moved to a large degree, so the moving appeased a lot of people ... The individual though, is a different thing. For an individual seal, if it went through an animal ethics committee that I was sitting on, I would have to look at the cost benefit to the seal. The benefit is quite big in the early days 'cause he was going to get shot if he wasn't relocated. Today, he's not going to get shot, so the benefit to the seal is nothing. In fact it's a cost. It's a cost in pain, stress and he's where he doesn't want to be. He's got to go all the way back again. So I'd say, from an individual ethics point of view, it's probably not justifiable as a management tool until they come up with some serious evidence (S1 my emphasis).

This Scientist brought seals firmly into ethical consideration, and for him ecology also takes on a moral dimension. He refers several times to human action impacting on 'the system', but issues of fairness to other humans also enters consideration.

You're certainly playing around with the ancient evolved migration system, which is not good: moving them to where they aren't at that time of the year. So, yeah, it has implications for the individual and the system in general. Suddenly they're all up there, a whole lot of them, and they're generally going to the same place. So they're suddenly swimming past breeding colonies they're not normally, and on top of that you're opening up other fishery issues up there, and on their way back where they generally aren't. And these animals often get habituated to people then, and start to interact with another fishery, and that has other ramifications and it opens up political dramas, because people up there see other people's seals actually in their... so, yeah, it's a lot of problems ... Clearly the hardest hit are the smaller fishermen and -because one seal can then have a big impact for one day. That's enough to really upset somebody (S1).

He argues that in Tasmania the seal issue is handled in a manner that is one of the better practices at a world scale. He places great weight on the role of the Scientist as a problem solver, not necessarily as a strict observer of the deductive scientific method and he acknowledges the farmer's role. He claims that he can come to a compromise with farmers, that they have come a long way, on everything but culling.

In the published literature, Tassie stands out as a place where we've tried to tackle these issues and the published literature is a good measure of it and [at] the last marine mammal seal interaction type conference I went to, there were four papers on marine mammal interactions. All four either had Tasmanians as authors or quoted their work, and so I think Tasmania has tried to deal with it and a lot of credit must go to farmers because they are generally very open about it and honest about – surprisingly honest about it. So, yeah, I think Tassie's pretty pragmatic in trying to find a solution to some of the issues (S1).

A member of the Animal Ethics Committee argued that if Seal Relocation came before him now it would be unlikely to gain approval. He claims that,

if it was starting up now, the early stages would be considered an experiment and I think it would be increasingly difficult to argue for a programme like that as a justifiable form of experiment. It doesn't fit the code too well in terms of the rationale, 'Are there other ways of dealing with the problem that don't cause interference with the seals', and in this instance there are pretty clearly other ways of dealing with the interactions other than catching and relocating ... (O2).

The Politico

Politicians, their advisors and senior bureaucrats are removed from the day-to-day consequences of their decisions, such as having animals die in their charge. Their jobs entail being across

any number of issues. The Seal Relocation programme is quite far down the list in terms of importance. One senior Departmental Manager explained that there are some things worth going out on a limb for, but Seal Relocation was not one of them (DM2). Seal mitigation did require government action. It was made an 'issue', placed on the 'political agenda' and became a subject for 'policy consideration' (Aitkin and Jinks 1983:207) in a fascinating manner that I addressed in the second chapter and will revisit in the next chapter. The use of the seal example allowed the Politicos and Departmental Managers to reflect on their decision-making processes in general, which they justified from a value or ethical perspective.

One political advisor claimed that there was a tension between his personal views on issues and his professional position.

I know sometimes if you feel strongly about an issue then, you know, I've dealt with some interesting issues in this office ... where I don't agree a great deal personally with some of the positions that are adopted by government, but at the end of the day the decisions are made in the interests – you know ... the greatest good for the greatest number, but I have been troubled by some of those from time to time, but as Ned Kelly would say 'Such is life' (P2).

That can be interpreted as, 'that is how things are', 'you must play the game'. He goes on to espouse a democratic value position, claiming that his role is to reflect the population's view.

You can't work in a political office and – you do at your own peril. You can't work in a political office and try and make decisions based on your personal view, 'cause my view might not be as the majority of the population and then, you know, it's the majority of the population who actually elect you there in the first place. People might argue the rights or wrongs of the

system of government, but at the end of the day the government is elected by the majority of people to represent them and I'm sure the majority of the population wouldn't want seals being killed for example, but conversely the majority of the population wouldn't want the fish farming industry being shut down either. So it's a matter of achieving that balance (P2).

The term 'at your own peril' indicates that there is something at play here other than responding to the public. Political advisors, like their ministers, are beholden to public whim; their livelihoods, prestige and professional identities are at stake. According to this advisor, but common to all actors interviewed, public sentiment is in part constructed by the media through their emphasis on binary distinctions in this case, 'fish farms versus seals', 'development versus conservation', 'rednecks versus greenies' and, therefore, decisions and advice must be built around this reality but the media can be managed to some degree. I was told, most definitely, not to talk to the media and to minimise conversations with the public. The media had to be dealt with by the professionals. A Politico explained:

We did have a media strategy around the announcement of the seal protocols, and relocations were part of that announcement – part of the process of dealing with seals. On the day the announcement was made we did – there was a lot of planning going into the announcement of the seal strategy, and that actually went quite well and we had people from both sides of the industry there endorsing it, so we were fairly fortunate to have fairly widespread support. It was one of those things where if the protocols were going to work you had to have the stakeholders – whether it be the conservation lobby or the industry lobby and the government – all singing the same song, and if that happens well, the media hasn't got far. It's got nowhere to go because the media always likes a sensational negative story rather than everyone working in unison. That doesn't sell newspapers or that's not good for ratings (P2).

The Politico acts for the good of the government, which happens also to be personally beneficial to one shard of a fractured identity.

[Y]our personal views play some part in the development of your thinking and the advice you provide to the minister and probably the minister's decision that he makes, but at the end of the day the decisions that you make are in the best interests of the government, hopefully, and the best interests of the State ... If you start running round the countryside and making selfish decisions 'cause that's the way you like it, you'll pretty much come unstuck (P2).

A politician echoed the advisors' method of legitimation through the device of responding to the public sensibility, but takes the argument further and couches it in the Burkean dilemma of responsible government versus responsive politicians.

[D]ifferent ministers react – have a different look on it ... I have noticed for example, since the Liberals went into opposition, they see their role very much as representing the people – you know, they're like delegates. That they have been delegated to represent the views of groups in their – you know, whichever groups that they've sort of decided to align themselves with and I suppose up to a point ... some of the Greens do that a bit too ... I've never thought that I'm a delegate. I think I've been elected to – you know I'm a representative ... you know, if I don't agree with something – personally if my values say that's wrong I'm not – there's no way in the world I'll get up in Parliament and say 'I think this should happen'. People like Michael Hodgeman, you know, can do it and not even bat an eyelid. They can sort of argue both sides. But anyway, I mean, I just find personally, I find that hypocritical. I find it absolutely lacking in value – you know any value judgements ... I have been elected not to lead – that's a bit sort of highfaluting – but I've – you know, I've been elected for my opinion and if people don't like what I say and what I do, well, they don't elect me next time. But I'm not going to change how I feel about something to accommodate some particular interest group. Now that doesn't mean that I'm silly enough – you know, that I don't consider what people think and I don't listen. I mean I don't think I've got all the answers ... I do think you listen to people, I mean, and the thing is, if you listen to a lot of people, you know, you do get a thread through and you do from that get an understanding of a good, you know, outcome. So I'm not saying you disregard public opinion at all. I'm saying I'm not – you know, I'm not like that, and I'm not I suppose, you know, that silly either. I mean, I am a

politician. You know I do want to get re-elected, so I'm not going to go out totally on things and just be totally out there ... (P1).

This politician described a colleague, David Llewellyn the minister responsible for setting up MMIC, as a particularly responsive politician. A senior Departmental Manager (DM2) concurred. His responsiveness had implications for the way policy was conceived, a relationship that will be pursued later.

When asked about seal deaths and pain directly, the Politicos responded in various ways. One responded by contending that seals are an 'iconic animal' and are an important part of the marine ecosystem. 'I think the state would be a much poorer place if we didn't have them' he said. Like many involved, he claimed that Seal Relocation was better than the alternative, killing them.

The ultimate method is to actually inflict the ultimate pain on the animal and that's certainly in most reasonable people's minds wouldn't be a viable alternative ... ethically [I] would have problems with just open seal culling, but ethically, the relocation or the death of one or two seals or the harm of one or two seals through the relocation process, doesn't trouble me at all. Yeah, so I'm a fairly pragmatic person and I think that's the view that the government took as well the pragmatic line (P2).

In response to the above question a politician made the following claim:

I mean, it hasn't been assessed though, has it, really, that side of it? I mean, a lot of animals we've slaughtered if you really look at it, but we don't think about it too much do we? So I mean ethically, yeah, I mean it's probably all ... not too good. But then I mean – it is the other – the balance – well not a balance – I hate that word – but, you know, it's what you're trying to achieve which is to provide food for humans and, unfortunately, animals have always suffered because of that. You know, whether you've gone out and shot 'em

with a bow and arrow or whether you put 'em in the back of a van and taken 'em up to wherever. I mean, humans have always used animals for food and they've always suffered. That's a good question I suppose ... I'm pretty pragmatic I reckon. If I start to think about animals you know I probably wouldn't eat food or I wouldn't eat animals – but I'm not – I don't think about it so for that reason I probably still want to eat animals (P1).

Again there is evidence of fractured identity: what has been common practice justifies an action or position. The respondent allowed themselves to abrogate moral accountability by pushing knowledge and understanding beyond consciousness. In the following chapter, I will explore how institutional structures can be used to avoid uncomfortable decisions. The structure, a council of stakeholders for example, may facilitate 'deniability' or lack of knowledge by the minister, or may be used to avoid making political judgements.

There is a demonstrable if not immediately obvious difference between the Politico's culture and that of the NCB. One Politico claimed that the culture of the department was 'utopian'. He was speaking about issues in general, not specifically the Seal Relocation Programme when he stated,

At the end of the day, you know, you've got to make practical decisions that suit the majority of people, but the Nature Conservation Branch and certain people have some – like to do – think – like to do what's right and they're view of what's right might not necessarily be the view of the wider community of what's right ... I think in essence public policy is driven by – it can be driven by departments, and I think the Nature Conservation Branch from time to time drives public - goes too far driving - trying to achieve utopia too quickly...(P2)

The *Políticos*' professional identities are characterised by their control of the flow of knowledge. They want to control how information is mediated to the public* and therefore control public sentiment to some degree. At the same time, they claim a special insight into the public mind. The *Politico* therefore bears a resentment for actors within NCB that he claims 'used to leak a whole range of stuff when they didn't get their way' (P2). He respects their integrity, but thinks that they are naïve.

Políticos, and to some extent senior bureaucrats, display a political rationality: what Alexander (2000), following Weber, has characterised as,

Pragmatic, not ethically or morally based or value related, the 'ethics of responsibility [accountability]' do not prescribe what the responsible actor should do, but how to decide on the right action ... [T]hey acknowledge the conflict between the political-pragmatic and moral orders and do not try to resolve the irreconcilable tensions between means and ends. The political actor's ethical responsibility makes only two demands. One is to account for the foreseeable results of the action; the other is to use morally questionable means to achieve necessary goals (Alexander 2000:245).

Political rationality also incorporates incrementalism, where actors value marginal rather than radical change. According to Alexander, 'actors refer to the status quo in assessing only a few limited options and avoid contentious goal setting wherever possible' (2000:245). Their actions, however, call for strategic

* Note media strategy above. The Media Office (Government Communications Office or GCO) located in the Department of Premier and Cabinet (DPAC), is a partisan group of advisors, usually ex-journalists and ministerial advisers. In fact, a contact in a ministers office was seconded to the Media Office while I was conducting this research, illustrating the fluidity and seamless connections between the ministers office and this group, the propaganda wing of government, the public relations section dedicated to using their specialist knowledge to present the governments (including its agencies) position in the manner most favourable to government. They refused to be interviewed (see also DPAC no date)

rationality, expressed most succinctly in game theory, where the object is winning or gaining greatest advantage (Alexander 2000). The object is classically described by Machiavelli as the pursuit of power* and by Nietzsche as 'will to power'. More recently, in policy and planning discourse, strategic rationality or *realrationalitat* is seen as the operational environment (Flyvberg 1998). For the case in point, the actors do what is necessary to obtain and maintain power, claiming authority and legitimacy through being seen to serve a larger interest. In this case the Party and ultimately the public interest: for the Politico, the public, the party and the personal interest are confused and conflated.

The Bureaucrat

When asked how he justified decisions regarding seals, was he, as he appeared to be, utilitarian or pragmatic, a senior Departmental Manager replied, 'that gets to the very heart of the role of the Public Service' (DM2). He described with lucidity and passion the now familiar situation that I have termed 'fractured identity', coupled with deontological justification.

You know, it really is a difficult, difficult area. My contention is that judgements about what is – value judgements if you like, how important are

* Power is akin to agency or capacity, but in general human terms it is taken to mean control of this capacity for one's own interest. My interest is on 'power over', but acknowledge that 'power to' is primary.

animal ethics and how important is image or community perception, they're for politicians. They're not for bureaucrats and my function is, as far as you can, and you never can completely, is to divorce your own – your own values from that debate as much as you can, and look at what you do understand to be policy objectives, what you can read into legislative requirements and what you can get out of the politicians in terms of political judgements. And where we tend to fall down is we sometimes, all too often, second guess what those political judgements might be, rather than getting direction on them and that's typically where you see Public Service cock up in a big way (DM2).

This statement is at once descriptive and normative. He wants to be able to work as a functionary, to employ instrumental rationality*, to deal with means rather than ends, but his identity is fractured and he is forced to deal with ends, with values; forced into the moral realm by having to take over what he sees as the role of the politician. This Departmental Manager elaborated his reality and, in doing so, described a mechanism that contributes to the politicisation of the public service.

It's because the public service has put itself in the position of saying, 'Well, the politicians would want us to do this rather than finding some means' – and it's sometimes bloody challenging to do – finding some means of actually getting a political direction ... Now you might say that, 'Well you shouldn't be embarking on a decision making process like that in the absence of those policy positions, and so your first step should've been to establish what those positions are, you know, determine what the rules of engagement are about before you start giving effect to the operation'. And you're absolutely right, but I suppose it was never a big enough deal to make that worth the effort, particularly when there was so much heat in the air and the likelihood of getting a real policy statement – other than a statement that made everybody feel moderately content – was unlikely, and that, to me, is one of the great challenges of the public service. I mean, there are all these issues about politicisation and contract employment and public servants being too scared to offer advice without fear or favour. That's all real. I don't downplay that at all, but just as important is this notion of public servants taking it upon themselves to do what the politicians should've done, or to take the easy way

* According to Alexander (2000;245) 'instrumental rationality provides a logical way to determine the optimal available means to accomplish a given goal'. It has been formalised as an axiomatic system subsuming utilitarian principles and as such is open to critique as sketched earlier in the chapter. (See also Gellner 1992).

out and assume what the politicians would say, rather than ensuring that the politicians confront the issue. It's not easy to do ... That's another angle on this issue of second-guessing of what the minister's position is. You know, it's the 'full and frank advice without fear or favour', but you don't do that if you've got – you know if you've got a pre-construction of what the minister's decision is going to be. You know as soon as you get into that caper you tend to taper the advice you provide (DM2).

The bureaucrat, it seems, likes to follow orders and feels secure working within rules. They refer to 'solutions' to 'issues' which calls to mind Bauman's (1989) account of the Final Solution, which 'didn't clash at any stage with the rational pursuit of efficient, optimal goal implementation. On the contrary, it arose out of a genuinely rational concern and it was generated by bureaucracy true to its form and purpose'. However, I detect in the bureaucrats that I have interviewed, a tension between orders, the personal and the professional. According to one Departmental Manager the Seal Relocation programme was 'run because of government policy' that 'we implement the best we can'. It is a 'command and control situation ... but if it were up to us we wouldn't do it'. He continues:

I feel comfortable that it is providing a manageable solution within normal expectations when you are dealing with interactions between wildlife and industry, and it is providing a much more ethical solution than perhaps some of the solutions that are adopted for terrestrial wildlife like possums and wallabies ... We are implementing our government's policy and we do that within animal ethics considerations and that sort of thing. But I guess that's how I deal with it. It's like another area the use of 1080 against other native wildlife. That is government policy, although it aims to phase it out. What we endeavour to do is to do it in a socially acceptable way, but it's in a complex social and political environment (DM1).

Another Departmental Manager when asked how he valued seals

replied:

[M]y standard response to that would be it's irrelevant how I value them and it's none of your business, because I think as soon as public servants answer questions like that then they expose themselves to the application of – you know their personal values – to the judgement they make and it's a very common failing. It's one that you see, you know, if you go to the development agencies. People are in the development agency because they have that particular bent and they apply that value system to what they do. At least some of the people in conservation agencies are there because they have a zeal for doing 'good' for the environment. It almost makes them the wrong people to do it, and that actually makes management pretty bloody difficult, I can tell you. The problem is, of course, at the conservation end of the spectrum you don't get away with it, but with the current sort of government structure you can get away with whatever you like at the other [development] end. But that's one of the injustices of the world. So I'm not going to answer that because I don't think it's important (DM2).

His answer is enlightening in several ways. It indicates a tension between his values or moral impulse and his role as a senior bureaucrat. It indicates too that he has an ecological consciousness, which takes a moral dimension. It also points to a schism in government and indeed society at large, between development and conservation, a divide that I will revisit in the next chapter.

Another Departmental Manager, who works in the field much of the time, went some way towards elucidating my own position, that through anthropomorphism, or some other mechanism, I empathise with the seals and the ecosystem that they inhabit and at the same time have a pragmatic grasp of the here-and-now realities of power and liberal capitalist ideology.

I believe that you've got to find a compromise ... You're not going to shoot seals for eating fish; that's been agreed and the fish-farms are going to exist. From where I sit, and I don't like doing it, it's the lesser of two evils exposing them to a beanbag [thumper] or a cracker – exposing them to trapping. I honestly believe if we took away those options – the farms are going to win every time – they're going to be there – we would be faced with carnage again. We would be pulling dead seals right left and centre with unexplained death. My butt would be dragging on the ground trying to find out how they all died. It goes back to when I asked the boss to let me be involved; you may as well be putting something in place that's not perfect but you are conserving the wildlife (DM3).

There was a stage, early in the programme, when many seals were found dead. Investigation found that many had been shot, but there were other ways of killing them. Drowning through trapping and then submerging the traps, blowing them up with gelignite or by putting a seal cracker in a fish, poisoning and gaff hooking have been described (DM3). Although seals are still found dead, the numbers are greatly reduced and, as I have described earlier, the attitude to seals on the farms has become more positive. I think much of that change has come about because of influence at various levels; from the influence of the Scientists and Departmental Managers through MMIC and the Forum, through the seal relocators' interactions on the farms, and perhaps most importantly through a moderation of market competition and the weather. Like all the institutional actors described, I am subject to the fracturing of identity attributable to modernity, but my moral impulse is evident in the self-questioning, or reflexive, project that constitutes this study. I very much value the freedom, contact with animals and what I construe as nature that my job provides. I acknowledge that this may

cloud my judgement but, in my 'heart of hearts', I know that my job will have been done satisfactorily when the last seal has been transported. I remain guided by two statements from my boss: 'You're better off trying to enforce or encourage good practice' and, 'you're naive politically if you think you can ban crackers and the like' (DM3). It is to the politics, inspired by the actors' accounts, that I turn in the next chapter.

Chapter Five

Politics

The strange and verdant politics of a strange and verdant island ... The cleavage between green values and the dominant productivist paradigm represents a bifurcation that is ongoing – that has, in fact, run through Tasmanian history from its very beginnings.

Peter Hay

A narrow definition of economic development dominates the thinking of government in Tasmania. Ministers holding development portfolios and their senior bureaucrats form a policy development cabal of ideologically committed ‘econocrats’ with a cargo-cult mentality, little changed since the days of ‘Hydro-industrialisation’, that aims to control the discourse in a polarised, and also largely disengaged electorate. The instruments of control come disguised as the means of liberation, most notably consultative arrangements, like ‘Tasmania Together’, which espouse setting community goals through public consultation, employing a ‘communicative rationality’ that seeks to equalise power differentials. In fact, it does the opposite and allows the agenda setter to peddle consensus as a rhetorical flourish and to form the image of stability upon which ‘business as usual’ is erected. By contrast, bureaucrats in non-development agencies or branches

within mega-departments, like DPIWE, that do not conform to the dominant economic paradigm, are marginalised. Resistance is countered with restructure. The Marine and Marine Industries Council (MMIC) was a consensus delivering body designed to take the heat out of a politically polarised situation and, like Tasmania Together, was driven by the logic of facilitating industry in what constitutes a corporate State. By getting industry to move in a token way towards a conservation sensibility held by a significant sector of the Tasmanian population, the bureaucrats were able to deliver stability to an industry in crisis: an industry in which the government had a considerable investment in terms of development rhetoric and corporate boosterism, not to mention financial involvement.

‘It’s the Economy, Stupid’

In his seminal work, *Governmentality*, Michel Foucault (1991) charts the development of government since the Middle Ages from the rule of things, of territory, by ‘the Prince,’ to the rule of population by the ‘Professionals’. The ‘art of government’ for the Prince is analogous to the patriarchal family and, according to Foucault (1991:92), ‘when a state is well run, the head of the family will know how to look after his family, his goods and his patrimony, which means that individuals will in turn, behave as they should’. This downward pressure and continuity of authority, it is argued, came to be called *police*, while the model for government, the family, was called *economy*:

The art of government, as becomes apparent in the literature, is essentially concerned with answering the question of how to introduce economy – that is to say, the correct manner of managing individuals, goods and wealth within the family (which a good father is expected to do in relation to his wife, children and his servants) and of making the family fortunes prosper – how to introduce this meticulous attention of the father towards his family to the management of the state (Foucault 1991:92).

The theory of the art of government, it is argued, was linked, from the sixteenth century, to the development of administrative apparatuses of the European monarchies. Crucially, ways of analysis and forms of knowledge emerged, ‘knowledge of the state in all its different elements, dimensions and factors of power, questions which were termed precisely *statistics*, meaning the science of the state’ (Foucault 1991:96). For Foucault, the advent of investment cycles that came to be known as capitalism had profound effects for government. The emergence of a ‘science of government’ shadowed the shift in emphasis of government from the sovereign to the population. The conceptualisation of economy is re-centred from the model of the family to the population, and statistics moved from the exclusive service of the monarch to reflect the aspirations of the population. According to Foucault,

In contrast to sovereignty, government has as its purpose not the act of government itself, but the welfare of the population, the improvement of its condition, the increase of its wealth, longevity, health, etc.; and the means that the government uses to attain these ends are... immanent to the population; it is the population itself on which government will act either directly through large scale campaigns, or indirectly through *techniques* that make possible, *without the full awareness of the people*, the stimulation of birth rates, the direction of the flow of population into certain regions or activities, etc. The population now represents more the end of government than the power of the sovereign; the population is the subject of needs,

of aspirations but it is also the object in the in the hands of government, aware *vis-à-vis* the government, of what it wants, but ignorant of what is being done to it (1991:100 my emphasis).

In other words, the transition undergone in the seventeen hundreds from the art of government to political science, 'from a regime dominated by structures of sovereignty to one ruled by techniques of government, turns on the theme of population and hence also the birth of political economy' (Foucault 1991:101). According to Elden (2006:3) after Foucault, 'these mechanisms, these modes of governance, these new techniques which go under the rubric of ... governmentality are forms of knowledge tied to particular practices; exercises of power'. MMIC, I will argue, by way of analogy to Tasmania Together, was deployed as a technology of governmentality (Dean 1999) and was more successful in its disciplinary role. First I will further explore another technology, the domination of policy formation by economists.

*

Whenever you say the word *conservation* in important areas of government minds close and emotions prevail.

DM2

Michael Pusey (1991) built an impressive case for the rise to near hegemonic status of an economic idea. Economic rationalism, a concept now encompassing neo-classical economics, *laissez-faire*

liberalism and self-interest, was initially used in a completely different sense. According to Quiggin in the early 1970s,

Economic rationalism referred to policy formulation on the basis of reasoned analysis, as opposed to tradition, emotion and self-interest ... The strongest feature of the economic rationalists of this period was a rejection of the cosy interest group politics of the McEwan* era (1997).

Pusey (1991) demonstrates that the Central Agencies in the Federal Government, the Departments of Prime Minister and Cabinet, Treasury and Finance have come to control what he terms the market, programme and service departments. The mechanism for such control is structural** and ideological, and it has its origins in the attempt to discipline Public Service resistance in order that it become more responsive to government policy. The frustration with bureaucratic inertia after the end of the 'long boom' was apparent from the time of the Whitlam Government, developed further under the Fraser regime, and may explain the shift from Keynesian economic policy to dogmatic monetarism. Fraser largely ignored the Coombs Royal Commission on Government administration, and therefore it was the election of Hawke in March 1983 and the subsequent creation of the Senior Executive Service (SES) within the Public Service the following May (Pusey 2003), that signalled major changes. According to Quiggin,

* John 'Black Jack' McEwan: Minister for trade under Menzies and Holt. Prime Minister very briefly after Holt's death. Known for closed protectionist economic policy.

** PM&C has divisions, which mirror or 'stand over' the other departments. According to Pusey (1991:83) 'the department's role is to resolve conflicts before they get to cabinet and to hose down politically dangerous conflicts or incidents.' Finance has a similar structure of divisions mirroring the lesser departments and it controls the money.

both the intellectual character and the theoretical and policy content of economic rationalism changed. The critical and sceptical thinking that characterised the first phase of economic rationalism was gradually replaced by a dogmatic, indeed, quasi-religious, faith in market forces and in the supreme importance of 'efficiency' and 'competition'. More and more, economic analysis was based on deductions from supposedly self-evident truths [axioms], which were effectively immune from any form of empirical testing (1997).

Working economists, according to Quiggin (1997), had never been committed to either side of the Keynesian-Monetarist binary, but Pusey (1991) posits that the economic-rationalist fad in government in the 1980s and 1990s reflected the Monetarist, neo-classical fad in University economics, commerce and business schools that began a few decades previously. Pusey documented that the new SES became stacked with 'whiz kid econometricians' from privileged backgrounds who 'killed off their elders with accusations of "being too close to their clients" and "not sufficiently hard-nosed" or as incapable of taking "the broader view"' (Pusey 1991:9). A culture of reform took hold in government, among both the politicians and the administrators, with 'performance' assessed against ideologically defined 'efficiency' criteria. The bureaucrats were effectively disciplined through the use of ministerial appointment of Secretaries and senior managers, who could be moved, contracts not renewed or be put on the unattached list and left to 'wither on the vine'. You therefore 'walked the walk and talked the talk', or risked your job, influence, professional identity and status. There is evidence, according to Pusey (1991), that it is the political, economic, legal administrative and social pressures, in that order, which influence

what is done in the administrative arm of government. Politics, Pusey's SES respondents claim,

now holds sway over what was once regarded as a semi-autonomous world of grey-flannelled planner-experts who did most of the steering most of the time... So when our top bureaucrats say that the classical view of administration does prevail; that 'values' can be separated from 'facts and means'; and that political factors win out ... they are telling us that they have been well brought to heel... and that perceptions about the autonomy and neutrality of experts and planners have taken a tremendous beating. They are also telling us that they are thrust... into the political process. This means that there is some scope to read the evidence the other way and thus as an indication of the measure in which the economic rationalists have brought their ministers to heel (Pusey 1991:75).

The above account is strikingly similar to the accounts from my bureaucrat respondents in the previous chapter. It can be inferred that senior bureaucrats and ministers have a symbiotic relationship held together by mutual self-interest, ideological congruity and patronage.

Tasmania: Same but Different

In Tasmania, the relationship between the bureaucracy and ministers is very similar to the one described above. Following the Federal lead, Tasmania 'reformed' the Public Service, including constructing a Senior Executive Service on federal government lines (P3). The relationship between senior public servants and ministers came up often in interviews. When describing how one departmental Secretary got his job, one minister could only be describing patronage:

[H]e positioned himself ... Jim Bacon [the then Premier] took a shine to him as he did to a lot of people after, you know, the first meeting and promised him he'd give him this job, and then what happened, and then, you know, like a lot of things that happened with Jim, you know, it was hard to deliver, but anyway he did deliver for X (P1).

The politicisation and disciplining of the Public Service is implicit in the minister's comments; they have the 'right' ideas or they are moved on.

[T]he political stuff and, you know, the department's advice, they do intermingle. I mean, they're not like two separate things. I mean, in reality they [SES] do think politically too, up to a point. I mean they're not – you know, I'll say they've not just come down here yesterday. They've been around a long time and, to be honest, that's probably how most of them got their positions. I mean, they haven't been sitting there just bright little boys and girls. They've got there because they've known how to get themselves to the top of the system [and] ... have got certain skills to get them there – personal skills and also, you know, political. I mean they've had to be savvy. You don't – you know – yeah, you've got to position yourself at the right time and the right place, even the nice gentlest one (P1).

The minister continues in the same vein elsewhere:

I mean they still try and second-guess you if they're half smart, and if they're not, that's how they get into trouble and they get moved on, don't they? You know, if they're sort of too much out of kilter ... I know some – well one – of my [ministerial] colleagues, you know, his attitude to the bureaucracy and stuff, I mean, I think is unhealthy and he's got a bad result. You know, he gets a bad result. Whereas I work with the same bureaucracy and, you know, it did okay for me. So, I just think it's in your interests as a minister to have that. Now if you've got duds – you know if they're that duddy, you're best to get rid of them (P1).

This minister claims that 'you're a team' with your staff and the department, and that does seem to be the case as long as everyone is reading from the same sheet. There is evidence that influence can go the other way as Pusey (1991) pointed out above. The minister elucidates:

I'll tell you what, this government and others would be in a lot more bloody trouble if it wasn't for our Public Service. I'll tell you that much. You know, I mean they – I mean they must look at us sometimes and think, 'Christ, you know, but at least they [ministers] pass through. We'll be here.' I know they think that, but I think ... you should respect them. I mean they're highly – they're qualified people. They're not – you know they're – more qualified than most of us are as far as profession you know (P1).

So, through deference to experts, power-knowledge in action, the departmental tail can wag the ministerial dog. However, the reality is probably quite a fluid, dynamic power relationship though within very close ideological boundaries.

*

Economic development as an ideology thoroughly permeates government in Tasmania at the expense of everything else. One could speculate that this is the result of Tasmania, being historically a marginal, non-dynamic economy with many structural impediments. It has a full government apparatus to administer a population the size of a Melbourne suburb, keen to justify its existence through corporate and civic boosterism. There is, however, a more complex cultural and historical explanation encapsulated in the word 'hydro-industrialisation'.

Before elaborating, it is necessary to indicate the significance of such a pervasive pro-development attitude. One of the departmental respondents, when asked about the attitude of government to the NCB, answered,

there are a whole bunch of people up there who'd like to see a conservation agency disappear and it's not just NCB... The only bloody reason that, you know, the conservation agency hasn't [been] exterminated is because the Feds are sitting on it and, yes, you could rely on consultants for everything, but you've got to have some way of dealing with the Feds and so it's a rather sad indictment of the world. If it weren't for bloody Howard's jokers over there, keeping an eye on us, we'd behave very badly indeed (DM2).

In the previous chapter, the same manger was quoted as claiming that, within the current governmental structure, if you are of a 'development' frame of mind 'you can get away with anything you like' (DM2). He claims that within the central development agencies,

there are some clever people, but I often envy them because it's so much easier for them because they can freely go with their natural instincts and, you know, if one of our people – the conservation people – show their petticoat for just a flash they're crucified forever (DM2).

A minister largely agreed, complaining that conservation was almost indefensible in cabinet. The minister claimed that, 'I think it's fair to say that all ministers certainly favour industry - Liberal and Labor' (P1). I will re-approach the conservation-development binary below, looking at the structure and restructure of conservation bureaucracy, but for the moment, the last word must go to a senior conservation bureaucrat.

I mean if you sit where I sit ... it's clear that NCB is on the nose everywhere in government. It has no power. It achieves almost fuck all and – but a lot of that is because of the perceptions of some really rather dim-witted people in government. But part of it is because of the incapacity of some people to divorce their own values from what should be professional advice on decision-making. A relatively small part

I'd say – but as I said you make one mistake and it'll last forever and you can make as many mistakes as you like at the other [development] end and it's forgiven in a trice (DM2).

*

The Tasmanian government is similar to the federal government as described by Pusey (1991, 2003). A search into the publicly available biographies of the senior bureaucrats in the Central Development Agencies is illuminating. Mark Addis, Secretary Department of Infrastructure Energy and Resources holds an economics degree and from 1988 to 1995 was Chief Executive of the Forest Industries Association of Tasmania and the Tasmanian Timber Promotions Board (DOTARS 2005). Don Challen, Secretary of Treasury and Finance, is a career post-graduate economist. He worked as an academic in the federal government bureaucracy in the early to middle 1980s and progressed through Treasury to his current position (Treasury 2005). He was appointed Secretary in 1993 on the same day that he was appointed to the Board of the Hydro-Electric Corporation (HEC). Norm McIlfatrick, Secretary of the Department of Economic Development, holds a diploma of electrical engineering and a management qualification. He spent eighteen years working on West Coast power developments with the HEC before becoming involved in the corporatisation of the old Hydro-Electric Commission and its split into generation, transmission and retail arms in the early 1990s. He was CEO of the retail arm, Aurora

Energy, for five years prior to his appointment as Secretary. He is said to have extensive experience in the 'competitive national energy market'; skills that, according to his 'patron,' Premier Jim Bacon, 'are needed by the head of Economic Development to help existing businesses to grow successfully and to attract new business opportunities to Tasmania' (Development 2004).

The Department of Premier and Cabinet (DPAC), like Prime Minister and Cabinet, serves a coordination and disciplinary function (Pusey 1991). From the interviews it came to light that the ministers and Secretaries had their jobs at the behest of the Premier and that SES jobs required the imprimatur of Cabinet (P3). The disciplinary effect of this relationship is obvious: you give your superior what you think he wants, rather than what you think is 'right'. The disciplinary effect was manifest as concern about contractual employment and the second guessing of minister's preferences shaping or 'tapering' advice in the previous chapter. Just as interesting is the coordination and dissemination of information to and from the agencies and departments through the Government Communications Office within DPAC. Linda Hornsey, Secretary of DPAC, was trained as a journalist but has worked in government since 1981; first as a Senator's staffer; then as a Ministerial media adviser in the Hawke Government. She then headed the Government Communications Office for the Field Government and subsequently became chief of staff for the Labor opposition leader, before attaining her current position in 1998

(Tasmania Together 2006). She helped mediate what Hay (2000) has described as a 'constitutional coup', an attempt to rid the Greens, and hence any form of opposition to ideological hegemony, from Parliament. This was achieved through a bi-partisan agreement to reduce the number of members in multi-member electorates and justified on the grounds that it produced stable government. The Deputy Secretaries are Rebecca Burton, trained in economics, and Bob Rutherford, an academic economist who, in a varied career, has headed the Office of Energy Conservation and Planning, a body that endorsed expansion of the energy industry in such a way as to secure the preferential position of the HEC (Llewellyn 1996). There is a common thread here; an ideological position that although on the surface appears neo-liberal, is at its heart cronyism, with the Hydro-Electric Commission its symbol. Bacon was closer to Black-Jack than he was to Hawke.

The current Labor regime began its life in the late nineties as a result of Labor returning to its 'develop and dam the consequences stance' (Hay 2000) of the greater part of the twentieth century. In the 'thirties, the then Labor Government created the 'Hydro' and set about borrowing massively to build a system of dams and transmission grids aimed at attracting heavy industry with the promise of cheap energy (Lowe 1984). According to Hay (2000), it was a 'dream in which the island at the end of the earth [was] turned into an insular Ruhr Valley in the southern seas.' Tasmania has 'an economy devoid of dynamism [and] a persistent cargo-cult

mindset that yearns for a single whopper industry that will turn sleepy hollow into a thrumming engine of industry' (Hay 2000:4-5). An acquiescent complacency reigned whereby the electorate was convinced that 'Hydro-industrialisation' provided by paternalistic Labor leaders, such as 'Electric Eric' Reece, would look after them. The complacency was shattered in the now famous battles over the value of Lake Pedder and the Franklin River, when the conservation movement and Green politics were born. The cargo-cult, developmental mindset is still with us however: the structures are similar but the means more subtle. Hay (2000), speaking from past personal experience as a ministerial advisor, describes the power structure:

The Labor Party itself was technocratic and rigidly controlled from the top. Its technocratic ethos required the centralising of political power in the hands of a small coterie of skilled bureaucrats and part strongmen – notably the Premier and holders of development portfolios – and this became the locus of political power. For its part the 'Hydro' too acted as a partisan player in the electoral process. As the tight hegemony of hydro-industrialisation cracked and came under electoral challenge in the 1970s and 1980s, the 'Hydro' took to intervening directly in election campaigns (Hay 2000:5).

It is a bitter, double irony that places such as those slated to be destroyed now form the central rhetorical plank of a tourism strategy which has morphed into a development strategy, with the result that the very qualities that are being comprehensively hawked – quiet, seclusion, ruggedness, 'clean and green', the sublime, the nostalgic – are being undermined. The mindset that creates such a situation values place in the same way as any resource: as potential

for an extractive wealth generating exercise, and anything that threatens the exploitation of the resource, perhaps a sense of place or an ecological or conservation sensibility, takes on the magnitude of an ideological threat. Massive investment by the government in tourist infrastructure, most notably three ocean ferries, shows that the cargo-cult spirit of Hydro-industrialisation is alive and well. Boatbuilding, construction, gambling, tourism and aquaculture have joined the traditional extractive industries such as forestry, fishing, mining and farming as vehicles with which to express a development ideology*, but the 'wilderness' years of the Green-Labor accord and opposition have tempered the development ideologues in government with a profound respect, as well as dislike, for their adversary. The resultant strategy involves consistently pushing the development message with any alternative being presented as a threat to prosperity. It involves managing dissent through bodies designed to produce a consensus and, when the politics is too close and the politician may wear flack from either side, then the consultative body, the bureaucracy or due process can take the heat in lieu of a political decision.

Appearance Management: The Delicate Science of Excrement Avoidance

* For a damning account of the links between Government and industry Flanagan (2004) and Cica (2006) are invaluable.

The higher up the greasy pole you climb, the more your arse shows... and here's another thing I learnt in government. Whatever hits the fan is never distributed evenly.

Richard Armitage

Almost without exception my interviewees showed hostility towards the media: whether from fear of misrepresentation, or exposure and scrutiny it is impossible to discern but, like a certain dead princess, or a late career screen idol, actors involved in public policy have a fascination with appearance and a complex relationship with the mechanisms of mediating their message. In the next section I will explore some pertinent techniques of control, but first a digression.

The most guarded and fearful of my interviewees were the Departmental Scientists. They saw a similarity between my methods and those of a journalist and complained that their words had been misconstrued in the past with programme and political consequences (FN). Recall how, in the previous chapter, a political advisor dubbed the Scientists and others with a conservation bent within the department utopian. He also accused them of leaking to political opponents and the media. He claimed that they 'resist and resist' and that they are accomplished at 'blocking and changing', but they so annoy him that they alienate themselves from influencing policy through their actions. In his own words:

quite often the Nature Conservation Branch used to leak a whole range of stuff to other political parties when they didn't get their way. But, at the end of the day, I don't think the people realised by doing that, it actually achieved nothing. It actually – the government of the day, whether it be the Labor or the Liberal – at the end of the day is not going to – if people do that to 'em that will just harden their

resolve. It won't actually – you won't achieve a result by trying to embarrass the minister in public... [T]hey can put up a view and, you know, at the end of the day they are probably right. But at the end of the day also you have to be practical about these things and that's the difficulty we have... But it doesn't achieve anything though, that's the point and in fact it probably achieves the contrary because if you don't build the relationship you don't get the respect of the people. How can you then sit in a meeting and start making decisions about policy if you suspect that they're the ones leaking information to try and embarrass you? (P2)

The advisor claimed that he therefore cultivated networks within the department.

It's essential to the point that if you need something and if you're in a politically charged environment, particularly when Parliament is sitting, if you need information it's just – like that – because you've got the relationship with the people. Not necessarily, you know, the line managers within the department. You can actually ring 'em up and whether they're actually in a meeting or not they'll actually come to your – they'll come to your aid and you need it – it's critical. (P2)

No doubt these relationships involve a shared perception of the world and are likely to produce pragmatic, politically astute advice with a 'professional' level of confidentiality and, given that senior positions are political appointments, the benefit is likely to go both ways.

Resistance to political pressure can also take other forms. In chapter three, a Departmental Manager saw formalising the protocols as a form of resistance because it shifted political pressure to 'deal with' seals away from him and indeed the minister towards 'due process' (DM3). Below I will illustrate how resistance can manifest in the consultative processes. Most interestingly, a minister claimed that he saw resistance most profoundly in the loyalties and allegiances

between the Public Service officers (P3).

*

I always remember Michael Field saying: 'You never set up an enquiry unless you know what the outcome is going to be otherwise you're a mug politically' (P1).

As the 1990s drew to a close, the Government was faced with a dilemma as outlined in chapter two: the aquaculture industry was ailing and there was a large and growing section of the population with an ecological sensibility; some might say a misguided affection for charismatic mega-fauna. One minister claimed that he had to be responsive to his constituency, and the constituency did not like culling: they liked seals (P3). The industry on the other hand approached the minister with the claim that seals,

are a real threat to the industry and we might go under if we don't sort these issues out ... We had a series of meetings [with Industry representatives]. We thought about things. I'd established the Marine and Marine Industries Council so I thought that it was appropriate that we give that [MMIC] its second task.(P3)

He continued tellingly, linking the process for dealing with his problem to the fraught, manipulative yet politically palliative Regional Forest Agreement (RFA) (Lane 1999, Kirpatrick 1998).

It was a formal process: it really mirrored what I'd done in the forest industries before, with the Forest and Forest Industries Council which developed up what is now called the RFA ... which developed up a bi-partisan policy [along] with Gunns [major wood-chipper and timber harvester] and so on. (P1)

The key here is inclusiveness. Bi-partisanship and agreement from industry means that any opposition can be deemed 'radical' or 'extreme'. He gets to the nub of the issue in the following: industry must be accommodated.

The farmers needed to put in a degree of energy to keep the seals out, and I thought that may be inadequate in some cases, and for some specific operations that weren't going as well as others; that didn't have the money to put into that sort of effort and so they were clutching at a bit of a straw coming to government and saying that you've got to do something about the seals (P3).

The salmon industry drove the seal management strategy, according to the majority of the respondents. When asked where he thought the power lay in determining the policy towards seals, a Politico replied:

The power lies in the process with the marine farmers. Yep, with the government – yeah if push came to shove the power lies with farmers ... Yeah absolutely if you have a marine farmer and the strongest most convincing person from the conservation organization on the other side of the table and a decision needed to be made I suspect the marine farmer would win. I think though as times change, people's values change and depending on economic circumstance if the Tasmanian economy continues to improve it would almost reach - I reckon we're almost at the balancing point now, but in those days the power definitely rested with the marine farmer (P2).

One Departmental Manager who was privy to the MMIC process, was asked if it was a rubber stamp for a policy generated within the

minister's office and whether it was a structure set up to look as if there had been broad consultation replied:

Yes – I'll just comment. It was set up by the minister as a forum for Government through which to talk to stakeholders. It can provide a forum for any issues to be raised, but it was to endorse the agreed way forward. It had already been essentially agreed between government and industry (DM1).

Pressing the issue further I asked, 'What was the colour of the MMIC people?' He replied:

Oh, it's very much dominated by industry and government, which is seeking some accommodation with the Industry and therefore the colour of its decisions are very much industry based – put it that way (DM1).

In response to a comment from me that MMIC was a deeply pragmatic institution, he continued,

Yes, I think there is a disappointment that it hasn't been used to push Industry towards more sustainable solutions because this [Seal Relocation] is not a sustainable solution it is a temporary solution (DM1).

There is a different, if internally contradictory, perspective from the public servants involved with the consultation exercise that was MMIC and the production of the protocols in the Forum. When asked about the consultation being a response to decisions made between industry and the minister, one Departmental Manager responded, 'No, I don't think that's true ... clearly every issue had the good and the bad side sitting out there looking pretty bloody obvious and every side of the issue had strong advocates for it.'

(DM2). He continued in a way that revealed that politically motivated outcomes do not need overt ministerial directives: senior bureaucrats 'know' what is required:

But generally the politicians – yeah, I think it's fair to say all of them – would rather that a sensible decision had been made within the bureaucratic process and they were given a result rather than any desire to steer something which was going to give them bad press from one or the other of the sides of the debate. So when the MMIC process and the Forum process happened, you know, we as bureaucrats had clear ideas about what was a reasonable result and what wasn't, and pushed pretty hard to get one, but it wasn't – it wasn't politically attractive. (DM2)

He went on to elaborate further:

[T]he ministers didn't want to make a decision on it. They wanted to get a solution presented to them that they could sign off on. They didn't want – drive the – they didn't want to show any political leadership on these things because, as I said, whatever – every decision they made would have, you know, a ready made bunch of critics. There's no winning in any of this for anyone. You know whatever you said you were going to get the shit kicked out of you. So have a group with the major protagonists give you advice and you're protected, so that was quite a different concept, so, and in this case it worked quite well I think. Awfully painful and I don't like doing it. I'd much rather just take the heat of the decision and make it without going through all that fuss. (DM2)

When asked about the conduct of the consultation, whether it was fair and if certain agendas dominated, most of the participants said it was satisfactory. While claiming that it was the best consultative exercise that he had been involved in, one Departmental Manager implied that he could control it. When asked about domination of the group he replied,

Well I tried to, [dominate] but, you know, you've got bloody XXXX [Salmon Industry] and XXXX [Salmon Industry] blabbing away, so you didn't get all that

many opportunities to get a word in and then, you know, interspersed amongst that you'd have – no, XXXX [Tasmanian Conservation Trust (TCT)] I think handled the process pretty well. Didn't work quite as well when XXXX [TCT] turned up because, you know, he tends to resort to the old pompous lecture rather than contribution... XXXX and I don't often work well together in these sorts of things. But it was a fairly genuine exercise. In fact, remarkably, probably the most meaningful consultation engagement exercise that I can recall off the top of my head ... and the results I don't think were too bad either. You know I didn't win all the points I wanted to win, but I won all the important ones. (DM2)

I commented in response, 'It looks like a good outcome is one you can control', and he replied laughing, and with the full weight of irony, 'Yeah it's my job'. (DM2)

A minister agreed.

I mean unless you really are about trying to get some – you know find out something – some information and stuff and you really want to get at that, then you really want a proper consensus. But if you are just – something like this for example – yeah you want some, you know you probably don't agree or approve of it, but you probably do want some control ... So it has – you know, a lot of this stuff does have to be in certain parameters. (P1)

The means of control are many, but as discussed in the previous chapter, it often takes the form of framing or agenda setting through privileging claims to expertise or knowledge (McGuirk 2001). Initially, in this case, the agenda was set in the minister's office; it was to fix a political problem. A senior Departmental Manager claimed that the minister initiated the use of MMIC to address his problem (DM4). The minister signed off on the members of MMIC and the frames of reference, which were devised with the advice of the department. One can only speculate on the complex interplay of competing rationalities – political, scientific, bureaucratic, moral

and the rest – but as outlined above, the minister’s staff would have been talking to people they could trust within the department and departmental staff would have been subtly running their own ideas.

More concretely, the forums themselves were slanted in certain directions, perhaps intuitively, but visibly, as comments from some of the departmental participants indicate. According to two Departmental Managers, the process was inefficient use of time. It was ‘allowed to drift’ (DM4), and platitudinous and consensual non-confrontational recommendations were finally presented in the MMIC report (2002 b). One NGO representative claimed that the process produced the ‘lowest common denominator’ (O1). A senior Departmental Manager claimed that, like most other similar processes that he had been involved with,

consensus is managed by pushing the hard stuff off into the future... you can discuss these things for so long and it’s so clear that you’re not going to get a consensus in terms of detail and so you lift your sights and go for the lowest common denominator; things where you have got common views and you push all the hard things off into the future... but sometimes you can short-circuit that and devise processes where you haven’t got to have consensus, where someone’s got to make a decision and, in my view, that’s a better way of moving the world forward. (DM4)

He claims that MMIC itself took on the role of producing a consensus report, but all the difficult issues were dealt with in the Seal Forum (DM4). Sections of the industry thought that the seal population was too big and required culling, but over time they were persuaded to drop that claim. Claims for killing ‘rogue’ seals based on loss of production were modified to euthanasia of seals that were

deemed to be an occupational health and safety risk. The MMIC recommendation for a community education programme looks like a placatory gesture given that an industry representative, in the previous chapter, called for such a programme to counter public 'ignorance' about seals and their status as charismatic mega-fauna. There was a recommendation that farms meet certain predator protection standards and not allow seals access to dead fish, offal, excess fish food and the like, but these things were already in train at the more responsible farms, which were the majority. Thumpers and crackers were allowed in principle, and Seal Relocation was allowed on an open-ended basis, with just a vague reference to phasing-out over time. The MMIC report stated that 'dealing with seal interactions is a shared responsibility' (2002b:7), and that apportionment of the costs of relocation needs to be considered by Government. There was nothing firm except for the consensus itself. It was not mandatory to build a truly adequate fence or to fix a date for relocation to end. Industry was placated, and the embarrassing possibility of culling, legal or illegal, or a public complaint from industry (DM4) was off the agenda. It was a triumph of pragmatism over principle, development over ecological sensibility.

Although development is the dominant political ideology in Government (as has been shown above), there is a countervailing influence. The bureaucrats want to give advice or exert influence based on 'sound' instrumental decisions, which, according to

Alexander, 'often includes subjective knowledge and intuitive judgement... imagination and creativity' (2000). All four Departmental Managers have shown that they have an ecological sensibility and some have a science background. They are aware of the political pressures that influence their behaviour and decision-making, but they choose to exert themselves. One manager claimed that he gives advice to the minister to the best of his objective ability. Sometimes that advice is rejected, which can be painful, but he makes sure that either officially or unofficially, in writing or verbally, the minister has his best advice (DM4). Another manager, reflecting the position put in the previous chapters by Industry Managers, that the department seems to be against them, showed how he can influence the Seal Forum by privileging certain knowledge and expertise.

We had – you know – Sticks [Departmental Manager] had his own protocols that he'd been working on, and they had a few whiskers on them, but we started with those and the industry had all these outrageous notions about what should be in there, and I had a crack at them from a – you know, sort of regulatory bent about converting these into something that was sort of an enforceable document and, of course, marine farmers hate it whenever I do that because whenever you do that you crystallise the issue. You know, as soon as you make the language specific, you know, the full impact of things becomes apparent. So even if you've done nothing in terms of changing the meaning, you've just made it so stark to them that they react to it more strongly. It's one of the reasons I think I piss 'em so much... [W]e made real progress with them as soon as we sent Sticks [Departmental Manager] and Fraz [Industry] away drafting together and often, apart from my – what some people would regard as – pedantic requirements, but, you know, basically being more explicit about things, we often didn't have much debate about what came back. (DM2)

The Seal Forum was where some departmental resistance was exerted, as well as expedience. The Secretary, Kim Evans, was

made the Chair, undoubtedly to give the body gravitas, and there was a structural imperative that practical issues be resolved: dissent was shoehorned. One manager explained:

The Forum – you know this wasn't a consultation exercise – this was – we were compelled by the process to engage and resolve early negotiation exercises as much as anything in the Forum. (DM2)

The nominal result of the Seal Forum was to cement protocols for the trapping, relocation, the use of non-lethal deterrents and ultimately the destruction (killing) of seals (Appendix B). Among the concessions wrought from industry in the Forum process are: full cost recovery for Seal Relocation; a compulsory education programme linked to individual user (as opposed to company) responsibility for the use of crackers and thumpers; departmental control over usage and supply of crackers and thumpers; and a destruction protocol that is so stringent as to be almost never applicable.

The final word here must go to a Departmental Manager who has consistently exemplified the fractured identity of the modern institutional actor. He airs his frustration like other interviewees (O2 P2 among others), at the Tasmanian political system that he claims makes politicians too responsive to powerful groups. He also rails against public consultation processes, the biggest and most visible being Tasmania Together, discussed by way of analogy below.

Public policy in my perhaps not so humble opinion, is typically best left to public servants and I find it somewhat disturbing that only in Tassie do we have such an accessible democracy... but we also have these notions about hugely expensive and protracted and inclusive consultation processes and I can't recall many instances at all when we've had a consultation process like that, that there's been something new and important come out of all it; something that's made a real contribution to the public policy outcome. *It's mostly for appearances sake* and I find that a distressing waste of public money (DM2 my emphasis).

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At the time of writing, every email communication from a Tasmanian government department carries the rider 'Tasmania *Together* have your say'; every government website has a prominent link to the Tasmania Together website, and every departmental annual report speaks loudly of meeting Tasmania Together benchmarks. The language used includes words like 'community', 'partnership', 'together', 'harmony', 'everyone', 'prosperity', 'proud and confident society'. The rhetoric is inclusive, warm and welcoming, but as chillingly manipulative as a Goebbels' speech. It may be drawing a long bow to connect Tasmania Together rhetoric with that of the Department of Propaganda and People's Enlightenment, but comparison of the following passages is sobering.

Together we will make Tasmania an icon for the rest of the world by creating a proud and confident society where our people live in harmony and prosperity...Overwhelmingly, Tasmanians want to live in safe, clean communities, with jobs and prosperity for everyone...Our Community, Our Culture, Our Democracy, Our Economy and Our Environment provide Tasmania's pathway to the future... We can build the kind of future people want and deserve (Tasmania Together 2006).

People, state and nation have become one... Germany once more stands before the world as an unshakable unity... But now we raise our hearts and see with satisfaction that a year of success is behind us and the blessing of heaven has fallen on the German people...What an astonishing collection of significant political cultural and economic events mark this German awakening... A wonderful transformation unified the nation, one that future generations will scarcely be able to comprehend (Goebbels 1934: celebrating 'the first year of National Socialism').

The analogy is extreme and perhaps plumbing the depths of even my cynicism, but there is little doubt that Tasmania Together is a technology of governmentality and by exploring its structure, the greater structures of power and control can be illuminated.

Elaine Stratford has eloquently described Tasmania Together as mechanism used to 'sculpt a harmonious island identity below whose rhetorical smoothness are significant fissures... Tasmania together has been deployed as a technology of governmentality by which to fill the cracks of dissent with a gloss of communicative rationality' (Stratford 2005:4). It was and is, in other words, a public relations ploy, an exercise in 'meaning management'. Initiated by the then Premier Bacon, twenty-four representatives out of 140 nominations were selected for the 'Premiers Community Leaders Group' (CLG) which conducted very extensive public consultation to compose 'a peoples plan'; 'the vision for 2020' (Tasmania Together 2006). The consultation took place from May 1999 to September 2001 but tellingly, according to Stratford (2005:5), it 'was steered by staff from the Department of Premier and Cabinet and other agencies' (Appendix C).

The consultation was fraught. The legitimising of such a process involves the concept of communicative rationality; an approach to collective action contrived to extend public participation beyond mere consultation and to facilitate the shared and reflexive construction of consensus around agreed meanings and understandings (Stratford 2005; Healey 1996). Reliant on the naïve Habermasian notion of an 'ideal speech situation in which people speak truthfully, legitimately, sincerely and understandably' (Hillier 1993), the process fails to account for power and strategic rationality: the process is open to manipulation. As McGuirk argues, it is hard to imagine that,

the workings of power can be temporarily suspended through communicative planning practice to produce new consensual planning discourses... [when] insufficient attention [is given] to the practical context of power in which planning is practiced, thereby assuming away, rather than engaging with, the politics-laden interests that infiltrate planning practice. (2001:195)

In 2001 two members of the CLG resigned. They claimed that there were high levels of party-political and bureaucratic interference designed to attenuate and narrow the scope and meaning of Tasmania Together (Pafitis 2006; Stratford 2005). The consultation had also generated aims that were not consistent with those of Government, most notably, the end of old growth forestry, which is already exempted from the Resource Management and Planning Scheme. Stratford claims that:

It became apparent that community based (and communicatively derived) aspirations to end old growth forestry have failed to change the regulatory constraints of an existing system in which economically important minority interests are protected by delimiting the reach of participatory democracy (2005).

Dissent was countered with more control. The logic of contractualisation is embodied in community consultation and according to Dean (1999:168), 'once its ethos of negotiated intersubjectivity is accepted, then all criticism becomes simply the means to retooling and expanding the contract', hence, a Board, a secretariat, an Act, benchmarks and goals, reporting mechanisms and budget processes were created from October 2001. The consultative process therefore resulted in:

A proliferation of specific technologies of governmentality: a desire to act on the seemingly ungovernable subjects of Tasmania; constitute the domains of their government create new forms of identity, an island people together; and justify the means to govern...(Stratford 2005)

At this stage of development of the 'vision', committees of stakeholders were assembled to construct benchmarks to measure performance. Senior bureaucrats from the agencies were prominent on those committees. One stakeholder representative claimed that what was 'intended to be a positive exercise in deliberative democracy degenerated into tribalism' (Muthie 2006); a grab for what you could get. Rebecca Burton, soon to be Deputy Secretary of Premier and Cabinet, and representatives from Treasury, were seen to be particularly intimidating in trying to limit indicators to what they already measured. They pressed for indicators such as

gross domestic product over social indicators of economic health. They used claims of professional expertise (Burton is an economist) and snide, offhand remarks about other stakeholder's lack of intellectual capacity to capture the committee and, in the end, debate was guillotined (Muthie 2006). While it is hard to take issue with Stratford's claim that Tasmania Together constitutes a disciplining technology through the abstract contrivance of a 'harmonious island identity', it begs the question, why and for whom?

I made the claim that the current government in Tasmania is possessed of a certain development ideology and is obsessed with incumbency and cronyism little different from the 'Hydro' years. Tasmania Together represents a way of endeavouring to return Tasmania to the 'halcyon' days when, according to Hay, 'politics joined sex and religion as topics unfit for polite dinner-table discourse' (2000:4); the situation where the likes of 'Electric Eric' could claim, 'if you elect me you can forget all about the distasteful and stressful business of public affairs until the next inconvenient election' (Hay 2000:5). Tasmania Together rhetoric promises calm agreement, consensus, reasonableness and pragmatism, not the red-blooded, ideological battle that is politics. Tasmania Together promises that you can be one of us, not one of them, you're reasonable, one of the 'volk'.

According to the Tasmania Together website:

Progress towards the achievement of the goals and benchmarks is monitored by an Independent Statutory Authority, the Tasmania *Together* Progress Board, and results are reported to all Tasmanians through the Parliament (2006).

The statement is economical with the truth. The board, by way of its secretariat, is administered through the Department of Premier and Cabinet; it appears on the organisational chart as a body reporting directly to the Secretary, Linda Hornsey (Appendix C). Ms Hornsey is also a board member. Stratford pointed out, in a measured way, the problematic nature of that appointment.

Contention surrounded the announcement of the membership of the Board when the Secretary of the Department of Premier and Cabinet (a central member of the Labor Party and a close associate of the then Premier [Bacon]) was appointed to it (Stratford 2005:6).

The board consists largely of cronies: an examination of their biographies is illuminating indicating, in large part, ideological congruence. Linda Hornsey's filial relationship with the Labor Party has been described at length but it is significant to note that Louise Sullivan had Labour endorsement to run in the recent election. Michael Kent, high-profile ex-manager of Woolworths in Tasmania and now senior executive and lobbyist for that company, President of the Tasmanian Chamber of Commerce and Industry, and pillar of the development establishment, showed his ideological colours when, during the last election, it was revealed that he supported an organisation advocating for the Labor Party. It has been argued that three hundred thousand dollars was spent on an

advertising campaign (Neales 2006). The *Mercury* (anon 2006:3) published:

Businessman Michael Kent revealed on Wednesday that he was part of an organisation that was funding the 'Tasmanians for a Better Future' advertisements, which urge voters to support stable majority government.

As the Liberal Party, the other, if impotent, party of capital, stood little chance of winning the election, the campaign was aimed at neutralising the only visible dissent, the Tasmanian Greens. The then Liberal leader was, however, enlightening when quoted in the *Mercury* as claiming,

Now we find it is a close friend of the Premier's, [Kent] who sits on several Government boards and who is chairman of the TCCI who is funding an anonymous, quasi-political advertising campaign that is supporting Labor (anon 2006:3).

Other members of the Board include Kevin Midson, an organiser for the Australian Workers Union; Kirsty Dunphy, a real estate agent who 'strongly pursues her passions for real estate, customer service, property investment [and] building wealth...' (Tasmania Together 2006); Kem Perkins, past President and current director of the Tasmanian Farmers and Graziers Association; Catherine Fernon, Manager of Community Development at the Burnie City Council and ex-manager of the Portside Small Business Incubator, pursuing economic development opportunities for Burnie; Bob Campbell, whose experience includes retailing, property management, forestry and local government; Kate Crowley, senior

lecturer in the School of Government; and the token 'Green' ex-Lieutenant-Commander Michael Lynch, ex-director of the Tasmanian Conservation Trust. The ideological tenor of the Board is apparent: it is firmly productivist.

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Is it too cynical to suppose that some very able people have seen that the best way of weakening the 'spending' departments ... in the most 'efficient and effective' manner possible is to turn them upside down and inside-out and then make them responsible for sorting out the tangle with fewer resources than they had before (Pusey 1991:147).

The Nature Conservation Branch no longer exists. As part of a restructure of the Resource Management and Conservation Division (RMC) of the Department of Primary Industry Water and Environment, NCB was considered to be an 'inappropriate management unit'. The work that is done and the personnel are largely the same but the structure or 'look' has been changed. The former head of RMC has been moved sideways and the head of NCB is researching policy in a different area. The contentious area of managing wildlife, the area where there is an interface with primary industry, has been separated in name and reporting structure, from the analysis and assessment of conservation issues: it is now about service delivery (Appendix C). In a dialogue with a Departmental Manager, a subtle change of ethos within the department was identified and it was linked to the restructure. I asked, 'I'll put it to you that government doesn't like the idea of

conservation (he replied 'yes'); that its not a good look ('yes' he replied); that it's not wanted on the letterhead in its political judgment ('yes'); [and] this would be bad for morale?' He elaborated:

Yes, particularly among the conservation staff. The Government, well the department, is [now] defining conservation as sustainable management, very much, rather than conservation of natural values or natural ecosystems. Whether that view is shared by the minister is another question. The department is of a mind to put the work we do in within a sustainable management framework rather than a conservation framework. When I refer to conservation in the last instance I mean conservation of natural ecosystems and it is leading to some concern amongst staff (DM1).

I asked him how he felt about the situation and he replied 'I'll refrain from answering that question, yes' and he laughed ironically. Previously, he had defined the culture of the organization as having two sides. He continued,

It seems to me that the culture of the organisation has two sides to it. There is the expectation from the ministers that we will develop and implement manageable solutions to issues, like the Seal Relocation Programme. There is the equally strong expectation that we will be promoting the conservation of local ecosystems and natural values, seals being one of those... but the management of wildlife solution, sometimes comes into conflict with the conservation expectation and sometimes that can be quite difficult. (DM1)

The restructure can therefore be seen as the compartmentalising of the culture into management and conservation. Instead of being in constant dialogue, stimulating a questioning of day to day activities, the two sides are kept separate with independent reporting structures leading up to a senior manager to make the decisions and, as we have seen, the culture of senior management is careerist and

politicised.

A complementary argument is that the culture is unpalatable to Government and that the restructure enhances the credibility of the organisation where it counts. A minister put it this way:

One impetus behind doing it was to get a better – a more integrated and better response say to things like development. You know, they talked about dams and to actually have a better coordinated response. There's no – yeah I mean that – I suppose in that way you could say it was, you know, pandering - well not pandering – but responding to, you know, industry or whatever, but you see in some ways it is important to be able to do that because otherwise you get criticised and I mean the thing I'm always sort of out there – you know I'm not out there, but with my colleagues, is defending is, you know, they're all Greens [NCB] (P1).

As we have seen through the work of Pusey (1991), the terms 'coordination' and 'integration' are euphemisms for control and discipline. Interestingly, this minister points out that the restructure was to placate anti-conservation sentiment among cabinet colleagues and the dam referred to was possibly the Meander Dam, a development much favoured by the government but of questionable economic value and where the department identified real conservation value; threatened species and habitat. A Departmental Manager drew attention to the Meander Dam as a way of explaining that the restructure of the department was about pandering to government's (ministers' and senior bureaucrats' in the development agencies) perceptions.

I think that one of the reasons for the restructure is to establish, and partly it's about *establishing the appearance of doing it*, but to establish a mode of operation that makes the conservation arm of Government more credible... because there's a

construction that conservation is uncompromising preservation and that's how it's so often presented in the debate. A conservation issue arises that provides a difficulty for the Meander Dam and the conservation issue was presented as a desire for blind preservation of the dull and boring. Just in the same way as, you know, the Greens represent developments as scars on the face of humanity and the planet (DM2 my emphasis).

This chapter sought to illuminate the political nature of the environmental management in Tasmania. Since the late nineteen seventies the ideological divide has been between development for developments sake, and ecological sensibility expressed as a preservationist attitude. I have tried to convey that nothing is served by trying to sanitise the debate, by trying to remove argument and create consensus. In fact, all it serves is the self-serving.

Chapter Six

Conclusion

There are at least three points where chaos – a tumult of events which lack not just interpretation but interpretability – threatens to break in upon man: at the limits of his analytic capacities, at the limits of his powers of endurance, and at the limits of his moral insight. Bafflement, suffering, and a sense of intractable ethical paradox are all, if they become intense enough, radical challenges to the proposition that life is comprehensible and that we can, by taking thought, orient ourselves within it.

Clifford Geertz

Geertz' observations (1973) are equally profound for the researcher and the researched in this modest piece of work. What started as the reflexive questioning of a wildlife programme exploded into an examination of the complications of (post) modern life. It quickly became apparent that all the actors had some sense of injustice and they were prepared to engage in a process of moral questioning and expansive reflection. The moral impulse, however, was overridden, perhaps dominated, by the realities of daily life. Our conversations facilitated the release of what I sensed was pent up frustration, expressed not as rage but as irony; the irony of people looking at themselves operating at the limit of their analytical capacity, endurance and moral insight, and pulled in several directions by competing roles, interests and claims to truth. This situation has been described as the postmodern condition. Through the lens of

Foucault, the postmodern operation of power demands resistance and this counterpoint can be productive. Bauman's construct of fractured identity located in the origins of modernity, can be countered by the de-institutionalisation and re-personalising of morality. The organisation, bureaucracy and fractured identity is and will remain, the reality of modern life: the instrument of oppression and agency.

The purpose of this study, through an examination of a particular institutional culture, was the some might say quaint enlightenment notion of allaying the fear of chaos through greater understanding. Following Bauman (1993), I found that the process of interviewing gave voice and structure to dissenting perspectives, and thus it brought to consciousness the autonomous and obstreperous elements of the informants' subjectivity. The enunciative process itself makes life more comprehensible, so that we might 'by taking thought orient ourselves within it' (Geertz 1973:100).

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This study started with the history of a wildlife programme that involved moving seals from fish farms and ended with a broad examination of Tasmanian politics. The two are inextricably linked. The thread that pulls them together is the binary distinction between conservation and development. Seal relocation came about because of perceived negative public sentiment towards culling,

while at the same time the salmon industry was in financial trouble. Increased water temperature further compounded the industry's woes. Dealing with the seals was a problem that the farms could pursue, unlike global overproduction of salmon, or inefficiencies in production, or jellyfish. The productivist ideology of Tasmanian Government resulted in the support for a 'compromise': the relocation of seals. This decision went against the best advice, which was to build a better fence. The call for the investment required to physically separate the salmon from the seals would have been the death knell for an industry with little capital to invest. A Politico reflected that in times of economic prosperity environmental issues rise in importance, but at the time that the salmon industry was expanding, jobs were foremost in the electorate's mind (P2).

I make the case that government both reflects and leads public opinion and therefore manages the bifurcation between conservation and development. The bifurcation is evident in the use of the word 'sustainable,' which has become a way of masking the fact that every change has a cost. Instead of weighing up the cost and making a decision, we are encouraged to have our conservation cake and eat it too through development. In Tasmania, the line between conservation and development has a genealogy stretching back to convict times and at present it is a prime ideological divide. The Government is ideologically committed to development, measured in industrial terms rather than in terms of increased wellbeing, and is politically committed to managing dissent. Its

methods of control include technologies of governmentality that shape information and knowledge and corral the so-called mainstream and paint dissent as extremism. One of the technologies of governmentality is the stakeholder or consultative body, and when it comes to seal issues the pertinent body is MMIC. MMIC managed dissent by getting the stakeholders to agree to create a unified position. Once the actors were enlisted into an unspoken, contractual arrangement which was reliant on the production of inter-subjective meaning, the consultative bodies spawned other bodies to deal with friction, thereby giving the appearance of unity, portrayed as the reasoned and sensible position.

It was shown that MMIC and more especially its offshoot, the Seal Forum, could also be a site of resistance. Mechanisms of knowledge-as-power could be seen to subvert the dominant ideology, in due process establishing limits to executive influence over the seal programme, but at a cost.

What do these insights into the culture of environmental management mean for a practitioner? To argue that forewarned is forearmed is a little glib. Most of the senior players know the game that they are in, and junior players are battling to hold onto their jobs in a climate of limited resources, insecure job tenure and heightened competitiveness. For me there was comfort in knowing that I was not alone; that my colleagues are complex, displaying

both complicity and resistance. Rather more confronting is the political and strategic rationality employed. Actors must know how to slip between rationalities in order to realise what they deem to be important. Care must be taken not to appear compromised, as did certain members of NCB to the Politicos and senior Departmental Managers. To appear so would put at risk any possibility of agency or influence. However, pursuing power risks process (incumbency or career) taking precedence over product (sound judgement).

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The method I chose to examine a particular social structure was expansive and has thrown up many areas for potential research. The interviews themselves were so rich in insight that I have barely dented the oral material. Although I was immersed in the transcripts for many months, every reading brought new angles and nuances. The construction of mega-departments, at a state level, along the lines of the 'Bastille Day 1987' (Pusey 1991) restructuring of the Commonwealth Public Service is ripe for investigation. The area of public consultation, as opposed to more deliberative methods, is an area that would be interesting to pursue, as would the mystery of the relationship between Secretary and Minister, but the most fascinating and fruitful line to follow would be the area of personal, professional identity and justification for action within the organisation.

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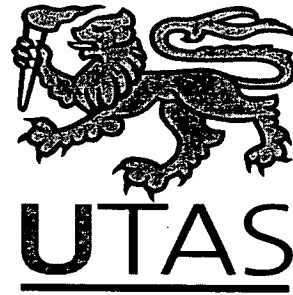
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Appendices

Appendix A

Research Ethics and Methods



School of Geography and Environmental Studies

INFORMATION SHEET

Management of Seal Interactions with Marine Farms in South Eastern Tasmania: 1990 to Present.

12/7/05

We would like to invite your participation in the following research.

Dr L Kriwoken and Dr P Hay, respectively senior lecturer and reader at the School of Geography and Environmental Studies are leading me, Julian Barraclough in a study aiming to assess whether the Seal Relocation Programme is an adequate ethical and transparent means of addressing the problem of seal/marine farm interaction from the points of view of those involved. Where appropriate approval from management has been gained but your identity has been completely protected (see below).

I have worked as a seal relocater since late 2000, at a time when the seal relocation programme was being formalized. The team of which I am a part devised and improved procedures in order to be more humane while satisfying the needs of the marine farm industry, scientists and departmental imperatives. My participation in the programme has allowed me to identify key players, contradictions, questions and positive results that have appeared as the policy of seal relocation evolved.

Why have you been invited to participate?

Now, as part of my Masters degree, I am keen to interview these key players. It is for this reason that I invite you to be interviewed for this purpose. You have been selected for an interview because you are either a scientist, a manager (industry and DPIWE), an operative (worker), involved with the MMIC (marine and marine industry council), a politician (or advisor) or involved in the animal ethics committee. Other persons with an interest and experience in the field will likely also be interviewed as further avenues of enquiry come to light.

What is the benefit of participating?

You will notice that this project is concerned with history and aims to explore the culture and give an analysis of the seal relocation programme. I also wish to explore differing world views of those involved, for example those of scientists politicians and managers. This may prove useful to you in

your involvement with the programme. As a student of management, policy and planning I am committed to the idea of reflexivity, that is the idea that, sound professional practice results from reflecting on and criticising long entrenched procedures and processes. It is in the spirit of reflexivity that I ask for your support and hope that the study will aid your professional praxis.

What would my participation involve?

If you agree to participate, you will be interviewed, which will take place at a time and place convenient to you. The interview will be semi-structured and audio-taped with your permission. It will last approximately 45 minutes, and the interview data will allow me to construct a narrative – a qualitative picture of the bureaucratic, socio/political milieu. This will be triangulated or cross-referenced with the literature internationally and locally. I may need to clarify points discussed in the interview in a short follow up session. This may take the form of a short meeting phone call or email.

Confidentiality and anonymity

I appreciate that it may be possible that some of the areas you are asked to express an opinion on may not necessarily reflect the views of your employer or association. For this reason, you may decline to answer any question for any reason, and may request that any statement you make be entirely ‘off the record’. In any case, I will not disclose your identity as a participant to anyone, including management and you will not be identified in the thesis. Please discuss with me at the interview how you would likely to be referred to in the thesis. For example, you may request an alias, your comment could be simply attributed to ‘sources within the department’, or otherwise you could be referred to by your general job description (eg IM1. (Industry Manager 1)).

Although you will not be supplied a transcript of your interview, any material I plan to cite in the thesis will be sent to you in order that you can review what you have said. You will have the option at that stage to modify or withdraw any statements you would prefer not to be cited.

Every effort will be made to ensure the confidentiality of research data. While all raw data must be held on University of Tasmania premises for a period of at least 5 years from the date of assessment, it will be stored securely in the School of Geography and Environmental Studies; ultimately in locked cabinets but initially in a server with password access. After five years the tapes will be wiped and the transcripts shredded.

Voluntariness and withdrawal

Your participation in this study is entirely voluntary, and evidenced by signing a consent form. In any event, you can terminate the interview and withdraw from the study at any time. If you elect to do so, you may withdraw any data you have supplied to date.

Ethics approval and contacts

The project has received ethical approval from the Human Research Ethics Committee (Tasmania) Network. If you have any concerns of an ethical

nature or complaints about the manner in which the project is conducted, please contact the Executive Officer of the Human Research Ethics Committee (Tasmania) Network, Amanda McAully, on 6226 2763.

Who may I contact for further details?

If you would like to participate in this study, have questions regarding it, or would like a summary of the study's findings upon its completion, please feel free to contact myself or my supervisors, on the phone numbers below.

L.K.Kriwoken@utas.edu.au 6226 2458

Peter.Hay@utas.edu.au 6226 2836

jbarracl@utas.edu.au 6226 2839

We thank you for taking the time to read this information sheet, and hope that you will be willing to participate.

Dr Lorne Kriwoken

Julian Barraclough

Dr Peter Hay

CONSENT FORM

Management of Seal Interactions with Marine Farms in South Eastern Tasmania: 1990 to Present.

1. I have read and understood the 'Information Sheet' for this study.
2. The nature and possible effects of the study have been explained to me.
3. I understand that the study involves participating in an audio-taped interview for approximately 45 minutes on the history of seal relocation and that a short follow up session may be necessary.
4. I understand that there is a risk that what I say in the interview may, if it is identifiable to me, may not be consistent with the views of my employer or department, and that to mitigate such a risk I may elect not to answer any question and/or I may place conditions on the use and disclosure of the data I supply (as per point 8 below).
5. I understand that any data that I contribute that the researcher plans to cite in the thesis will be sent to me so that I can review what I have said, in which case I may, if I wish, modify or withdraw any statements I would prefer not to be cited.
6. I understand that all research data will be securely stored on the University of Tasmania premises for a period of 5 years. The data will be destroyed at the end of 5 years.
7. Any questions that I have asked have been answered to my satisfaction.
8. I understand that my identity or any particular piece of information will be kept confidential and be reported anonymously (unless there is a specially negotiated instance) and that any information I supply to the researcher(s) will be used only for the purposes of the research.
9. I agree to participate in this investigation and understand that I may withdraw at any time without any effect, and if I so wish, may request that any data I have supplied to date be withdrawn from the research.
10. I understand that the project has the approval of management (where appropriate) but that my identity will not be disclosed to them.

Name of participant _____

Signature of participant _____ Date _____

Statement by investigator:

10. I have explained this project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

Name of investigator _____

Signature of investigator _____ Date _____

Aide Mémoire (typical).

History

1. How SR started?
2. How were you involved?
3. What pressures were the various actors responding to when SR was proposed as a programme and how did you feel about the policy?
4. What went before it?
5. Has the programme and indeed did your roll change over time?

Efficacy

6. What is SR supposed to do, what are its goals?
7. What are the performance measures?
8. Does SR do anything intangible not directly linked to decreased stock losses and increased production?

Morality

9. Given that SR may have reduced pressure to cull seals but several have died as a result of the process and more have been subject to considerable stress; that related use of deterrents such as bombs and thumpers are about inflicting pain, do you think that SR is problematic?
10. It could be argued that management of seals is ethically problematic, what is your view?
11. How: utilitarian pragmatic justification perhaps?

12. How do you value seals if at all?

Processes (governance: the act, process or power of governing)

13. What is the structure of SR legally and managerially?

14. Where does the power lie?

15. What input do you have into development and change within the SR programme?

16. I'm interested in the processes that result in a policy, plan or programme, from when an issue presents itself to the result of policy implementation, not only the formal structures but the institutional habits, everyday processes, interpersonal relations and the like. I'm after your experience of policy development, your feel for the process. An example may be how a directive from on high is resisted. (eg. me and euthanasia). Could you tell me about your experience?

- Is there a characteristic Culture in the organisation
- Do certain stances or managerial outcomes affect people's careers?
- Is the continuation of the programme a subconscious imperative: to attract funding for instance, or to generate a data set for scientists or continuing work for operatives or for financial benefit of farms ie puts off investment in barrier methods.
- Do political imperatives drive the programme

- On what basis do you make decisions?
17. With regard to the protocol development process, how are they made and what has influenced changes referred to in the MMIC documents.
 18. What do you think is best way of getting a desired outcome. Do you think that certain people, within the management structure, manufacture a consensus?
 19. It's been put to me that Owen Carington-Smith and Peter Bender and people from Tassal made a formidable lobby group. Were approaches to the seal problem agreed at a political level?
 20. How would you like to see the problem of seal interaction with fish farms handled in 2 years 5 years 10+ years?
 21. Are there any documents or contacts you think may be valuable for my study?

Appendix B

Seal Protocols

Protocol for the negative conditioning of Seals using non-lethal seal control measures: TRAPPING

Policy Context

Australian and New Zealand Fur Seals are Protected Wildlife and as such are afforded protection under various Acts administered by the Department of Primary Industries, Water and Environment (DPIWE).

These two species of seals are known to interact with marine farm operations. Such interactions have the potential to cause extensive losses and/or damage to valuable fish stocks, and on occasions present an unacceptable risk to human health and safety in the workplace.

The Department of Primary Industries, Water and Environment (DPIWE), in particular the Nature Conservation Branch (NCB), has in consultation with sections of the marine industry and other interest groups developed a set of specific Protocols to manage the risk posed to both wildlife and human interests. These Protocols address circumstances and procedures under which it would be appropriate to apply negative conditioning to persistent seals, or to relocate individual seals.

Such negative conditioning or relocation of Australian and New Zealand Fur seals would require the issue of a "Permit to Take" by the specific means being deployed.

The Secretary of DPIWE will determine when a permit for the use of negative conditioning using non-lethal seal control methods is to be issued or seals are to be relocated, after taking into account recommendations from the Manager Seal Program. The Secretary is unlikely to approve a permit in any case where inadequate management practices or equipment have, in his view, contributed significantly to the risk.

Circumstances under which negative conditioning using non-lethal seal control measures or relocation is warranted are described below.

Circumstances under which trapping will be considered as an appropriate management response

An application for a Permit to Take Protected Wildlife (Live Trapping for Re-Location and Release) may be approved by the Manager, Seal Program when all Minimum Predator Exclusion Measures (as defined at Attachment 1) are deployed, and

- A seal has harassed or injured a farm employee or is posing a real and continuing danger to farm employees, or
- Fish stocks and/or marine farming equipment are threatened or damaged by seals.

Trapping of seals within fish enclosures (except corrals) will not normally be approved and the following actions are required when a seal enters a fish enclosure:

- A DPIWE Officer (contact list at Attachment 2) must be contacted as soon as practicable but within 6 hrs that it is known that a seal has entered a fish enclosure.
- Attempts are to be made, without delay, to release the seal, using the following methods;
 - In pens with a furling net the furling net will be dropped and the seal isolated from the fish and encouraged to depart over the dropped side panels, or
 - In pens without a furling net, several side panels of the pen will be dropped to the waterline, and the seal encouraged to depart.

Procedure for Trapping of Seals

- Make application for a Permit to Take Protected Wildlife (Live Trapping for Re-Location and Release), see Attachment 3) to the Manager, Seal Program, and proceed following approval for, or issue of a 'Permit to Take Protected Wildlife' (see Attachment 4)
- The permit holder must ensure that appropriate Occupational Health & Safety (OH&S) standards and procedures are observed during the following operations.
- Only traps previously approved as suitable by the Manager, Seal Program, may be used. Minimum trap standards must be employed which include a maximum mesh size of 90mm (bar), and a minimum 400mm air space flotation at all times (including during towing). Approval tags must be attached to the cage.
- Deployment of the trap will only be made by a 'responsible person' nominated by the marine farming Lease Holder, and that person is to be specified on the 'Permit to Take Protected Wildlife'. Only persons who have successfully completed an induction training component approved by the Manager, Seal Program, will be authorised to deploy a trap.
- The trap will be used only on the lease area of the marine farming lease number specified in the 'Permit to Take Protected Wildlife'.
- The responsible person/person authorised by the 'Permit to Take Protected Wildlife' is required to notify NCB, DPWIE (Contact Officer

details see Attachment 2) promptly following the trapping of a seal. If a number of seals have been trapped on the same day, the seal that has been the longest in captivity should be removed first.

- Night time capture - If the seal has been trapped between 1800 and 0600 hrs (night time) then the trap containing the seal must, as soon as possible, but within 6 (six) hours of capture, be removed from the water and located on land and NCB Contact Officers notified by 0700 hrs.
- Day time capture - If the seal is trapped between 0600 - 1800 (day time) NCB Contact Officer must be notified within 2 (two). The trap containing the seal must as soon as possible but within 6 (six) hours of capture be removed from the water and located on land. The seal should preferably be transferred to an approved Holding Cage with a maximum mesh size of 90mm (bar) and with the NCB approval tag attached.
- Only one seal at a time may be held in each compartment of a holding cage.
- Once on land the holding cage containing the seal must be located to an approved (by the NCB Contact Officer) quiet zone and covered with a heat reducing breathable tarpaulin in order to reduce stress and disturbance to the seal and in order to reduce familiarisation with human activities. In warm weather (ambient air temperature exceeding 24 degrees C) a stream of water (hose) should be left running on the tarpaulin and/or adequate ventilation and shade from direct sun provided in order to provide a cool environment for the seal.
- During the transfer from the approved holding cage to the approved NCB seal relocation cage, the seal must not be harassed or stressed by forceful striking or loud noise. The minimum number of people required for safe operations are to be involved in the transfer.

The maximum time to elapse between containment of a seal in an accredited trap and holding cage and collection of that seal by an authorised officer is 36 hours unless a longer period has specifically been approved by an authorised officer. Such approval will only be given in circumstances where the authorised officer is satisfied that an extension of time is necessary and the extension does not present an unacceptable risk to the welfare of the seal. If for any reason a seal is retained in the holding cage for a longer period, the seal must, after consultation with the NCB contact officer, be released locally as soon as practicable.

- The permit holder must ensure that the NCB contact officer is immediately advised if any captive seal displays unusual symptoms (eg. Regurgitation, torpor) and must comply as soon as practicable with any instruction given by that officer (eg. release the seal locally).

- Any and all conditions, specified on a 'Permit to Take Protected Wildlife' must be adhered to.

Agency response

Prior to the Secretary's (or Delegate's) consideration of an Application for a Permit to Take Protected Wildlife (Live Trapping for Re-Location and Release) or a Permit to Take Protected Wildlife, the delegated officer will assess the documentary evidence and if required undertake a site inspection to verify that a continued risk to human safety continues to exist or that fish stocks or marine farming equipment are threatened by the presence of seals and that management and equipment standards (as specified in Attachment 1) are adequate and that all practical mitigation measures have been fully pursued.

A permit may be issued to apply to a particular seal or for a number of seals in a particular area over a prescribed period.

Upon notification of the trapping of a seal the contact officer will promptly advise the permit holder of the prospects for relocation of that seal and the likely time of collection.

Prohibitions

- Free feeding of seals must not occur in Marine Farming Development Plan Zones or Lease areas.
- Baited trap lines or 'tease line' may only be deployed by authorised NCB officers or responsible person/persons authorised by the Permit to Take Protected Wildlife.
- Traps must not be deployed inside fish enclosures unless specifically authorised by the Manager, Seal Program.

In cases where inadequate management practice or equipment contribute substantially to the behaviour of concern then those inadequacies should be satisfactorily remedied before an application for a 'Permit to Take Protected Wildlife' will be approved.

For the purposes of this protocol, only an officer/employee of the State Service expressly authorised by the Secretary will be taken to be an authorised officer.

Record keeping

The Lease Holder or the 'responsible person' nominated by Lease Holder shall keep records and make them available to the NCB officer at the time of collection of the trapped seal by the NCB officer.

DPIWE will retain copies of any records used to support an application for a permit as well as a record of date, location of capture and physical characteristics of the seal any marking information.

Cost recovery

The DPIWE will recover from the permit holder reasonable relocation costs (which may include standby charges in specific cases if NCB officers are repeatedly kept waiting for the availability of seals for which relocation has been requested by that particular Permit holder).

Note that in cases involving issues of general public safety, the NCB officer may be the applicant for a 'Permit to Take Protected Wildlife' and recovery costs will be borne by DPIWE.

Protocol for the negative conditioning of Seals using non-lethal seal control measures RELOCATION

Policy Context

Australian and New Zealand Fur Seals are Protected Wildlife and as such are afforded protection under various Acts administered by the Department of Primary Industries, Water and Environment (DPIWE).

These two species of seals are known to interact with marine farm operations. Such interactions have the potential to cause extensive losses and/or damage to valuable fish stocks, and on occasions present an unacceptable risk to human health and safety in the workplace.

The Department of Primary Industries, Water and Environment (DPIWE), in particular the Nature Conservation Branch (NCB), has in consultation with sections of the marine industry and other interest groups developed a set of specific Protocols to manage the risk posed to both wildlife and human interests. These Protocols address circumstances and procedures under which it would be appropriate to apply negative conditioning to persistent seals, or to relocate individual seals.

Such negative conditioning or relocation of Australian and New Zealand Fur seals would require the issue of a "Permit to Take" by the specific means being deployed.

The Secretary of DPIWE will determine when a permit for the use of negative conditioning using non-lethal seal control methods is to be issued or seals are to be relocated, after taking into account recommendations from the Manager Seal Program. The Secretary is unlikely to approve a permit in any case where inadequate management practices or equipment have, in his view, contributed significantly to the risk.

Circumstances under which negative conditioning using non-lethal seal control measures or relocation is warranted are described below.

Circumstances under which relocation will be considered as an appropriate management response

The holder of a Permit to Take Protected Wildlife (by Live Trapping) may, at the time of notification (as per the Trapping Protocol), request NCB to collect and relocate the trapped seal. Such request shall usually be approved, except under circumstances where the Manager Seal Program

deems the trapped animal unsuitable for relocation for reasons of animal welfare, or likelihood that relocation and release will not be achieved within a reasonable timeframe (48 hrs). Under such circumstances, animals may be required to be released as far as practicable from the Marine Farm Lease, under the direction of the Manager Seal Program.

Procedure for Relocation of Seals

- The responsible person/person authorised by the Permit to Trap is required to notify NCB contact officer of DPWIE (as defined in Attachment 3) as soon as possible following the trapping of a seal, and within the timeframes specified in Protocol for Trapping of Seals (as defined in Attachment 2). If a number of seals have been trapped on the same day, the seal that has been confined the longest should be removed first
- The NCB Contact Officer will advise if/when the seal is likely to be collected and advise of any further requirements regarding that seal (eg. a requirement for it's local release as soon as practicable).
- All parties must ensure that appropriate Occupational Health & Safety (OH&S) standards and procedures are observed during the following operations (see handling procedures Attachment 9)
- During the transfer from the approved holding cage to the approved NCB seal relocation cage, the seal must not be harassed. The minimum number of people required for safe operations are to be involved in the transfer.
- Any and all conditions, specified on a 'Permit to Take Protected Wildlife' must be adhered to.

Agency response

- All captured seals:
 - captured for the first time and/or
 - not exhibiting an identification micro chip and/or
 - not exhibiting paint markings (in the case of Leopard and Elephant seals) and/or
 - exhibiting signs of disease or injury
 must, where practicable, be examined by a Veterinarian (see Attachment 4) as soon as possible or within 24 hours of capture, in order to perform an animal welfare safety check.
- Newly captured Australian and New Zealand Fur seals must:
 - receive an identification micro chip, and
 - be weighed with portable trailer scales or a 'Hi-Ab' mounted scale, which must be checked and serviced at approximately 15 seal capture intervals (for alternative weighing stations see Attachment 6) and

- be identified by qualified staff (see Attachment 3) and photographed and
- have a blood sample taken in accordance with specific sample size, determined by NCB / Marine Conservation Branch.
- Recaptured seals exhibiting signs of injury or showing an established weight loss of 10% where practical, be examined by a Veterinarian within 24 hours of capture, in order to perform an animal welfare safety check.
- Injured/sick or chronically poor conditioned seals will either be released locally without delay or inspected as soon as possible by a Veterinarian (see Attachment 4) who will give direction to the relocating officer.
- Leopard and elephant seals will be released immediately outside the marine farm lease. If animal exhibiting signs of injury or other welfare concerns, contact qualified NCB officer (as per Attachment 3) for instruction.
- New Zealand Fur seals are to be transported individually (separately) from other species.

All seals in transit must be accompanied by a Seal Relocation form (see Attachment 5) provided by NCB.

Approved Relocation Sites

- New Zealand Fur seals to a relocation site on the West Coast, (see Attachment 7).
- Australian Fur seals will be relocated to Northern Tasmania on a rotation system (see Attachment 7).
- Alternative sites subject to consideration of the current pressures of the relocation schedule (see Attachment 8).
- The relocating officer will keep NCB officers (see Attachment 3) and Industry informed of re-trap events routinely. NCB officers will consider the selection of an alternative site (see Attachment 8) in the case of seals trapped for the third time in a season.
- see Standing Orders Handling Procedures Seal Relocation (see Attachment 9)

Record keeping

The Lease Holder or the 'responsible person' nominated by Lease Holder shall keep a Seal Relocation form record (see Attachment 5) and make them available to the NCB officer at the time of collection of the trapped seal by the NCB officer.

DPIWE shall keep all completed Seal Relocation form records (see Attachment 5) and maintain them on a computerised database. This database will be accessible on a read only access to authorised marine farm staff.

Cost recovery

The DPIWE will recover from the permit holder reasonable relocation costs (which may include standby charges in specific cases if NCB officers are repeatedly kept waiting for the availability of seals for which relocation has been requested by that particular Permit holder).

Note that in cases involving issues of general public safety outside of marine farm leases, the NCB officer may be the applicant for a 'Permit to Take Protected Wildlife' and recovery costs will be borne by DPIWE.

Protocol for the negative conditioning of Seals using non-lethal seal control devices – SEAL CONTROL UNITS (“CRACKERS”)

Policy Context

Australian and New Zealand Fur Seals are Protected Wildlife and as such are afforded protection under various Acts administered by the Department of Primary Industries, Water and Environment (DPIWE).

These two species of seals are known to interact with marine farm operations. Such interactions have the potential to cause extensive losses and/or damage to valuable fish stocks, and on occasions present an unacceptable risk to human health and safety in the workplace.

The Department of Primary Industries, Water and Environment (DPIWE), in particular the Nature Conservation Branch (NCB), has in consultation with sections of the marine industry and other interest groups developed a set of specific Protocols to manage the risk posed to both wildlife and human interests. These Protocols address circumstances and procedures under which it would be appropriate to apply negative conditioning to persistent seals, or to relocate individual seals.

Such negative conditioning or relocation of Australian and New Zealand Fur seals would require the issue of a “Permit to Deter” by the specific devices being deployed.

The Secretary of DPIWE will determine when a permit for the use of negative conditioning using non-lethal seal control devices is to be issued or seals are to be relocated, after taking into account recommendations from the Manager Seal Program. The Secretary is unlikely to approve a permit in any case where inadequate management practices or equipment have, in his view, contributed significantly to the risk.

Circumstances under which negative conditioning using non-lethal seal control devices or relocation is warranted are described below.

Circumstances under which the use of Seal Control Units (“Crackers”) Devices will be considered as an appropriate management response

The use of non-lethal devices for the negative conditioning of seals interacting with marine farming operations will be considered on a ‘case by case’ basis, and only where Minimum Predator Exclusion Measures (as defined in Attachment 1) have been deployed.

A Permit to Deter by the use of Seal Control Units (“Crackers”) devices (Attachment 2) would need to be issued by the Secretary Department of Primary Industries, Water and Environment or delegate.

A Permit will be issued in cases where seals have:-

- maintained close proximity to persons or frequently threatened or injured a person, or
- damaged gear or equipment, or
- entered a properly secured and managed fish farming operation, or
- represented a danger to worker or public safety.

Crackers devices may also be used by accredited DPIWE officers, in accordance with the conditions of a Permit to Deter by use of Seal Control Units (“Crackers”) devices, for the purposes of contract negative conditioning of seals, development trials, and ongoing testing.

Note that Crackers devices may be used in conjunction with Deer Thumper (“Beanbags”) devices (users should refer to the Protocol for the Negative Conditioning of Seals Using Non Lethal Seal Control Devices).

Procedure for the deployment of Seal Control Units (“Crackers”) Devices

Permit

Prior to the Secretary’s consideration of an application for a Permit to Deter by the use of Seal Control Units (“Crackers”) devices, an authorised officer will assess the documentary evidence and undertake a site inspection to verify that a continued risk to human safety continues to exist, or when fish stocks are threatened by the presence of seals, and that management and equipment standards are adequate and that all practical mitigation measures have been fully pursued.

In cases where inadequate management practice or equipment contribute substantially to the behaviour of concern, then those inadequacies should be satisfactorily remedied before a Permit will be approved.

The initial application must be accompanied by documentary evidence (in the form of an incident record log) made at the time of the incident. The log should show the date, time and circumstances of the interaction, the identity of the seal (if possible), the person(s) involved in the interaction, and the nature of the interaction. Permit holders will be required to maintain a log of the use of Crackers devices (see section on Record Keeping).

Before being issued with a Permit (Attachment 4), the applicant will be required to attend a training session ('Non-Lethal Control Devices for Australian Fur Seals') dealing with the correct, prescribed use of Crackers devices and conducted by NCB Officers.

The NCB, DPIWE will control the supply Seal Control Units ("Crackers") devices, and undertake to hold sufficient stock so as to meet industry requirements.

Use and storage

Cracker devices may only be deployed by accredited DPIWE officers or Permit Holders, on Australian and New Zealand Fur seals, and only within the boundaries of the marine farming lease area or marine farm operations defined in the Permit.

The issue and storage of Cracker devices is restricted to marine farming Operational Bases designated by marine farming management and agreed upon by the Manager Seal Relocation Program or delegate. The following possession limits will apply:-

Designated Marine Farm Operational Base

The designated marine farms Operational Base shall not hold more than 144 Seal Control Units ("Crackers") devices, at one time, regardless of the number of accredited and permitted users at that Base.

The Permit conditions for Deter by the use of Seal control Units ("Crackers") devices, are mandatory. Applicants must comply with all conditions of the permit.

Safety

Seal Control Units ("Crackers") devices, are classified as an explosive device under the Dangerous Goods Act 1998 and therefore all applicable Workplace Standards Tasmania requirements for their use and storage must be complied with. The user must keep Cracker devices in a secure safe place away from sources of ignition. A storage unit as described in the Firearms Act 1996 for Category A and B firearms would be suitable.

Users of Cracker devices should refer to the 'Non-lethal Control Devices for Australian Fur Seals: A Manual and Usage Logbook. May 2002', produced by DPIWE. In the event that the discharge of a Cracker device is seen to cause an obvious injury to a seal, then the incident must, within one hour of the event, be reported to a NCB Contact Officer (see Attachment 3).

Prohibitions

Cracker devices are not to be used randomly to harass seals remote from fish farming activities.

Cracker devices must not be deliberately thrown towards the head of a seal, or within four metres of a seal's last observed place of submersion.

Cracker devices must be used as single units only, and must not be modified in any way (unless specifically authorised by a Permit condition).

Record Keeping

In order for the DPIWE and the Marine Farm Industry to jointly develop and refine seal deterrent strategies, it is essential that a log (Attachment 5) accurately recording the usage and effectiveness of Cracker devices be kept by the accredited and permitted user.

It will therefore be a condition of the Permit that a log of the usage of Cracker devices must be kept by the permit holder. The log must record the rate of usage and the effects of the control measure. A log form will be issued with the units and collected when the next purchase is made. The Manager Seal Program or delegate will review the log prior to issuing further Cracker devices.

The agency will retain copies of any records used to support an application as well as logs submitted by permit holders on an ongoing basis, and information will be stored in a DPIWE database.

Cost Recovery

The DPIWE will recover the costs incurred in the negative conditioning using less-lethal seal control devices from applicants. Note that in cases of general public safety it is likely that a DPIWE officer will be the applicant and so there will not be any cost recovery.

Protocol for the negative conditioning of Seals using non-lethal seal control devices– DEER THUMPER (“BEANBAGS”)

Policy Context

Australian and New Zealand Fur Seals are Protected Wildlife and as such are afforded protection under various Acts administered by the Department of Primary Industries, Water and Environment (DPIWE).

These two species of seals are known to interact with marine farm operations. Such interactions have the potential to cause extensive losses and/or damage to valuable fish stocks, and on occasions present an unacceptable risk to human health and safety in the workplace.

The Department of Primary Industries, Water and Environment (DPIWE), in particular the Nature Conservation Branch (NCB), has in consultation with sections of the marine industry and other interest groups developed a set of specific Protocols to manage the risk posed to both wildlife and human interests. These Protocols address circumstances and procedures under which it would be appropriate to apply negative conditioning to persistent seals, or to relocate individual seals.

Such negative conditioning or relocation of Australian and New Zealand Fur seals would require the issue of a permit by the specific device being deployed.

The Secretary of DPIWE will determine when a permit for the use of negative conditioning using non-lethal seal control devices is to be issued or seals are to be relocated, after taking into account recommendations from the Manager Seal Program. The Secretary is unlikely to approve a permit in any case where inadequate management practices or equipment have, in his view, contributed significantly to the risk.

Circumstances under which negative conditioning using non-lethal seal control devices or relocation is warranted are described below.

Circumstances under which the use of Deer Thumper (“Beanbags”) devices will be considered as an appropriate management response

The use of non-lethal devices for the negative conditioning of seals interacting with marine farming operations will be considered on a ‘case by case’ basis, and only where Minimum Predator Exclusion Measures (as defined in Attachment 1) have been deployed.

A Permit to Deter by the use of Deer Thumper (“Beanbags”) devices (Attachment 2) would need to be issued by the Secretary Department of Primary Industries, Water and Environment or delegate.

A Permit will be issued in cases where seals have:-

- maintained close proximity to persons or frequently threatened or injured a person, or
- damaged gear or equipment, or
- entered a properly secured and managed fish farming operation, or
- represented a danger to worker or public safety.

Deer Thumper (“Beanbags”) devices may also be used by accredited DPIWE officers, in accordance with the conditions of a Permit to Deter by the use of Deer Thumper (“Beanbags”), devices for the purposes of contract negative conditioning of seals, development trials, and ongoing testing.

Note that Deer Thumper (“Beanbags”) devices may be used in conjunction with ‘Crackers’ (users should refer to the Protocol for the Negative Conditioning of Seals Using Non Lethal Seal Control Devices– Seal Control Units – (“Crackers”).

Procedure for the deployment of Deer Thumper (“Beanbags”) devices

Permit

Prior to the Secretary’s consideration of an application for a Permit to Deter by the use of Deer Thumper (“Beanbags”) devices, an authorised officer will assess the documentary evidence and undertake a site inspection to verify that a continued risk to human safety continues to exist, or when fish stocks are threatened by the presence of seals, and that management and equipment standards are adequate and that all practical mitigation measures have been fully pursued.

In cases where inadequate management practice or equipment contribute substantially to the behaviour of concern, then those inadequacies should be satisfactorily remedied before an application for a Permit to Deter by the use of Deer Thumper (“Beanbags”) devices will be approved.

The initial application must be accompanied by documentary evidence (in the form of an incident record log) made at the time of the incident. The log should show the date, time and circumstances of the interaction, the identity of the seal (if possible), the person(s) involved in the interaction, and the nature of the interaction. Permit holders will be required to maintain a log

of the use of Deer Thumper ("Beanbags") devices (see section on Record Keeping).

Before being issued with a Permit to Deter by the use of Deer Thumper ("Beanbags") devices (Attachment 4), the applicant will be required to attend a training session ('Non-Lethal Control Devices for Australian Fur Seals') dealing with the correct, prescribed use of Deer Thumper ("Beanbags") devices and conducted by NCB Officers.

The NCB, DPIWE will control the supply Deer Thumper ("Beanbags") devices and undertake to hold sufficient stock so as to meet industry requirements.

Use and storage

Deer Thumper ("Beanbags") devices may only be deployed by accredited DPIWE officers or Permit Holders, on Australian and New Zealand Fur seals, and only within the boundaries of the marine farming lease area or marine farm operations defined in the Permit.

Deer Thumper ("Beanbags") devices may only be discharged from a 12-gauge shotgun with a choke-less full cylinder barrel. A Category 'A' and or 'B' Firearms Licence with a purpose 3 issued under the Firearms Act 1996 must be held by the permit holder deploying Deer Thumper ("Beanbags") devices.

The issue and storage of Deer Thumper ("Beanbags") devices is restricted to marine farming Operational Bases designated by marine farming management and agreed upon by the Manager Seal Relocation Program or delegate. The following possession limits will apply:-

Designated Marine Farm Operational Base

The designated marine farms Operational Base shall not hold more than six boxes (30 Deer Thumper units), regardless of the number of accredited and permitted users at that Base.

Marine farm Accredited and Permitted Users

The marine farm accredited and permitted user, or a person contracted to undertake marine farm operations, must not be in possession of more than five Deer Thumper units at one time within the confines of the operational lease.

No unauthorised person shall be in possession of Deer Thumper ("Beanbags") devices. This restriction includes the conveying of the Deer Thumper ("Beanbags") devices from the point of purchase to the designated marine farm operational base, and/or between marine farm operational leases.

The Permit conditions for “Deter by the use of Deer Thumper (“Beanbags”) devices are mandatory. Applicants must comply with all conditions of the permit.

Safety

All applicable Workplace Standards Tasmania and Firearms Act 1996 requirements for the use and storage of Deer Thumper (“Beanbags”) devices must be complied with. The user must keep Deer Thumper (“Beanbags”) devices in a secure safe place away from sources of ignition. A storage unit as described in the Firearms Act 1996 for Category A and B firearms would be suitable.

Users of Deer Thumper (“Beanbags”) devices should refer to the ‘Less-Lethal Control devices for Australian Fur Seals: A Manual and Usage Logbook. May 2002’, produced by DPIWE. In the event that the discharge/impact of a Deer Thumper (“Beanbag”) device is seen to cause an obvious injury to a seal, then the incident must, within one hour of the event, be reported to a NCB Contact Officer (see Attachment 3).

Prohibitions

Deer Thumper (“Beanbags”) devices are not to be used randomly to harass seals remote from fish farming activities.

Deer Thumper (“Beanbags”) devices must not be deliberately discharged towards the head of a seal.

Record Keeping

In order for the DPIWE and the Marine Farm Industry to jointly develop and refine seal deterrent strategies, it is essential that a log (Attachment 5) accurately recording the usage and effectiveness of Deer Thumper (“Beanbags”) devices be kept by the accredited and permitted user.

It will therefore be a condition of the Permit that a log of the usage of Deer Thumper (“Beanbags”) devices must be kept by the permit holder. The log must record the rate of usage and the effects of the control measure. A log form will be issued with the units and collected when the next purchase is made. The Manager Seal Program or delegate will review the log prior to issuing further Deer Thumper (“Beanbags”) devices.

The agency will retain copies of any records used to support an application as well as logs submitted by permit holders on an ongoing basis, and information will be stored in a DPIWE database.

Cost Recovery

The DPIWE will recover the costs incurred in the negative conditioning using less-lethal seal control devices from applicants. Note that in cases of general public safety it is likely that a DPIWE officer will be the applicant and so there will not be any cost recovery.

Protocol for the HUMANE DESTRUCTION OF SEALS

Policy Context

Australian and New Zealand Fur Seals are Protected Wildlife and as such are afforded protection under various Acts administered by the Department of Primary Industries, Water and Environment (DPIWE).

These two species of seals are known to interact with marine farm operations. Such interactions have the potential to cause extensive losses and/or damage to valuable fish stocks, and on occasions present an unacceptable risk to human health and safety in the workplace.

The Department of Primary Industries, Water and Environment (DPIWE), in particular the Nature Conservation Branch (NCB), has in consultation with sections of the marine industry and other interest groups developed a set of specific Protocols to manage the risk posed to both wildlife and human interests. These Protocols address circumstances and procedures under which it would be appropriate to apply negative conditioning to persistent seals, or to relocate or remove by humane destruction.

Such negative conditioning, relocation, or removal by humane destruction of Australian and New Zealand Fur seals would require the issue of a "Permit to Take" by the specific means being deployed.

The Secretary of DPIWE will determine when a permit for the removal by humane destruction of a seal is to be issued, after taking into account recommendations from the Manager Seal Program. The Secretary is unlikely to approve a permit in any case where inadequate management practices or equipment have, in his view, contributed significantly to the risk.

Circumstances under which the removal by humane destruction of a seal is warranted are described below.

Circumstances under which the removal of a seal by Humane Destruction may be considered as an appropriate management response.

The removal of a seal by humane destruction is to be considered on a 'case by case' basis and only after an application (Attachment 2) is made and approved by the Secretary of DPIWE (in the capacity of Director of the Nature Conservation Act 2002) or delegate. An application may only be made with reference to a particular clearly identified seal, presenting a continued unacceptable risk to human health and safety. Such a risk may be assessed on the basis of an animal's past and present behaviour, and in

particular, its response to alternative mitigation and management measures. Perceptions of the “aggressiveness” of an animal do not always provide a reliable basis for assessing risk as different observers often perceive a particular behaviour in different ways.

The following behaviours or events associated with particular seals will generally be considered to represent unacceptable risk:-

- repeatedly threatened or injured a person, or
- entered a properly managed and secured fish pen structure and has failed to leave following all reasonable attempts, and has displayed behaviour representing a significant risk to the safety of persons undertaking the attempted release of the seal from the enclosure, or
- repeatedly entered a properly managed and secured fish pen structure and has displayed behaviour representing a significant risk to the safety of farm staff, or
- represents a danger to public safety.

Agency response

Prior to the Secretary’s consideration of an application for “Removal by Humane Destruction”, the Manager Seal Program or delegate will assess the documentary evidence and undertake a site inspection to verify that a continued risk to human safety continues to exist, and that management and equipment standards are adequate (see Minimum Predator Exclusion Measures - Attachment 1) and that all practical mitigation measures have been fully pursued. The applicant must provide documentary evidence in the form of incident records, which were made immediately after each incident which identify date, time and circumstances of each interaction, the identity of the seal and persons involved in the interaction and the nature of the interaction. Interactions which are perceived by the applicant to involve aggressive behaviour must also have been reported immediately after the incident to an authorised officer.

Procedure for Dealing with Aggressive Seals

1. A Departmental Officer must be contacted as soon as practicable if and when any staff member regardless of duties has been harassed or injured (contact list at Attachment 3).
2. Confirmation that a seal is unduly aggressive, has threatened or injured a fish farm worker, and is posing a real and continuing danger to fish farm workers is required as follows:-
 - (a) A written incident report relating to the aggressive or threatening behaviour of the seal must be completed and provided to the Manager Seal Program or delegate

- (b) The seal must be identified through distinguishing marks or the use of colour coded Pneu-Darts applied by authorised personnel
 - (c) Real and continuing danger to workers must be verified (assessment based on observations by the Manager Seal Program or delegate and discussions with fish farm staff).
3. The first action should be to attempt to trap the animal.(see Protocol Trapping of Seals - Attachment 4)
4. Should this not be possible, the farm should attempt to keep the animal under surveillance, until further advice is sought, to enable trapping to be effected. Where feasible, an authorised departmental officer may then attempt to immobilise the seal through the use of a tranquilliser gun.
5. The seal must be marked by paint or other approved methods, prior to relocation (see Protocol Relocation of Seals - Attachment 5)
6. The humane destruction of the seal, in a manner consistent with animal ethics protocols and relevant statutory requirements, may be authorised only in the following circumstances:-
 - (a) Despite all available management options having been explored, there continues to exist an unacceptable risk to human health and safety because:-
 - (i) after relocating the seal three times (as per Relocation Protocol) the seal has returned to the marine farm lease and continues to show aggressive behaviour, or,
 - (ii) after three recorded entries of a seal into a fish-pen the seal has re-entered a pen and continues to show aggressive behaviour.
 - (b) Only humane destruction methods may be employed, and must be carried out under the supervision of a qualified veterinarian.
 - (c) The seal to be removed by humane destruction must first be tranquillised and removed from the fish farm by an authorised departmental officer.

Record Keeping

The agency will retain copies of any records used to support an application as well as a record of seals negative conditioned using non-lethal control methods including date, location of capture and physical characteristics of the seal.

Cost Recovery

The DPIWE will recover the costs incurred in the humane destruction of the seal from applicants. Note that in cases of general public safety it is likely that a DPIWE officer will be the applicant and so there will not be any cost recovery.

ATTACHMENT 1

Definition of MINIMUM PREDATOR EXCLUSION MEASURES

Predator exclusion measures must comply with at least the following standards:-

1. Pen netting

Pen netting material must be of at least the following minimum breaking strain (or equivalent material as agreed with NCB Manager seal program):-

- Netting of less than 15 mm square mesh, 70 kg / bar
- Netting of 15 to 25 mm square mesh, 150 kg / bar
- Netting of greater than 25 mm square mesh, 180 kg / bar

The nets must be:

- Fastened to the hand-rail in a manner to exclude entry by seals
- Appropriately tensioned by weights or other means..

Nets stiffened with antifoulants are considered to be superior to unstiffened nets in seal exclusion capability.

A system of double netting (ie an internal growout net, plus an external predator net) is considered to be superior to single nets in seal exclusion capability.

2. Corral Enclosure

A Corral enclosure (defined as a perimeter predator protection fence surrounding fish pens) must have a the capacity to stop entry by seals in normal operating conditions.

3. Bird Netting

Where bird netting is deployed the nets must be made of netting of a maximum 100 mm square mesh and, conform to the Visual Controls specified in the relevant Marine Farming Management Plan

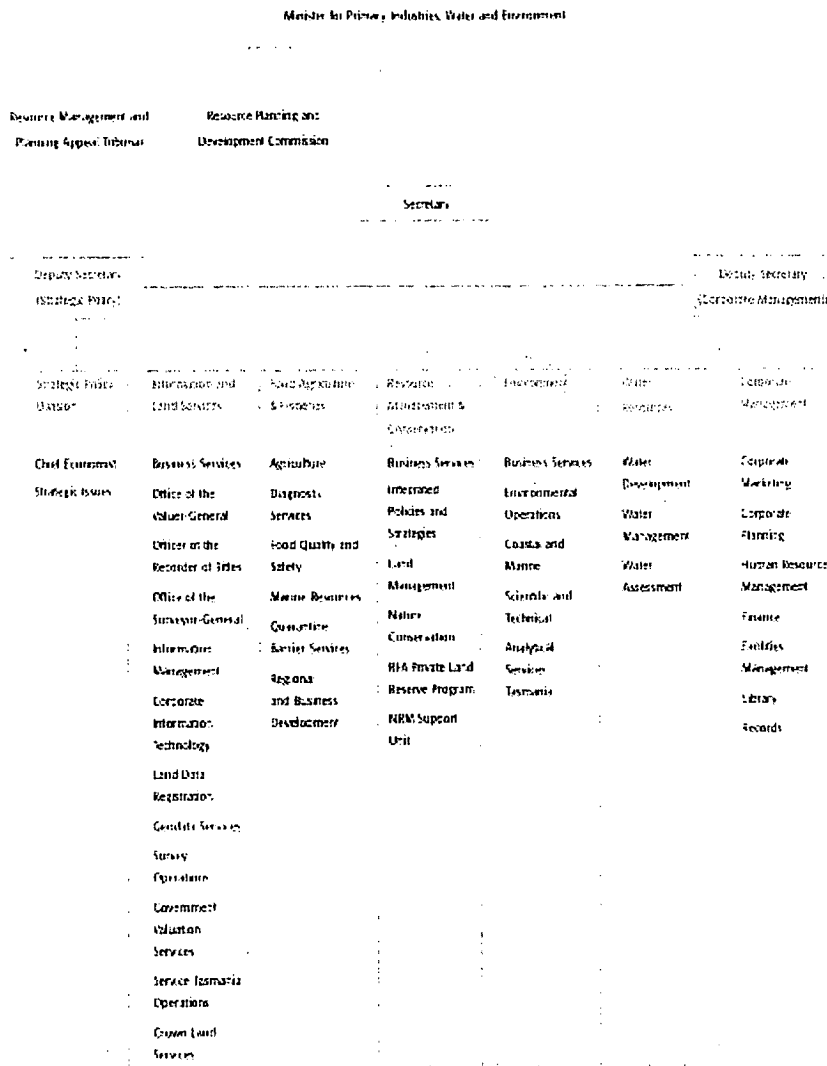
4. Pen Structure

Stanchions supporting the hand-rail must be at least 1 m in height. The pen structure must be maintained in good repair and as near as practical to the original manufacturer specifications. Any operational or wear and tear changes from the original manufacturer's structural specifications (eg.

collapsed or deformed handrails on circular pen) that creates a potential for intrusion by seals must be remedied as soon as possible.

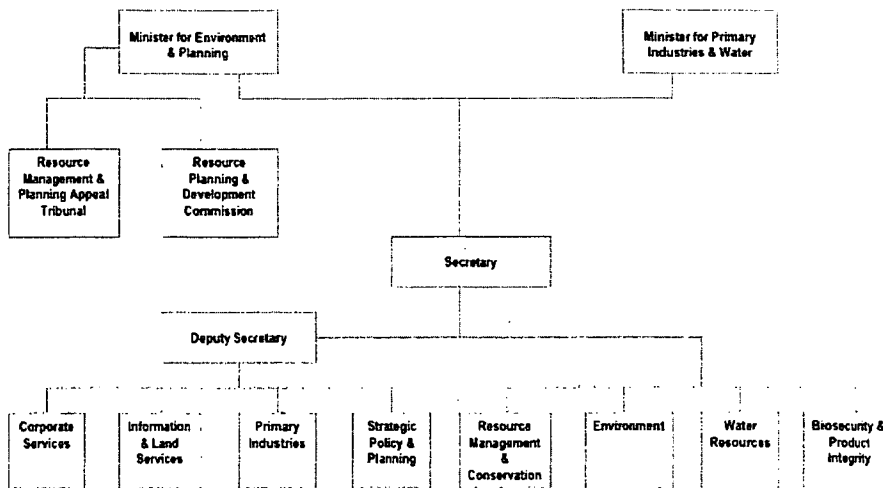
(NCB 2005, abridged)

Appendix C
Departmental Structures

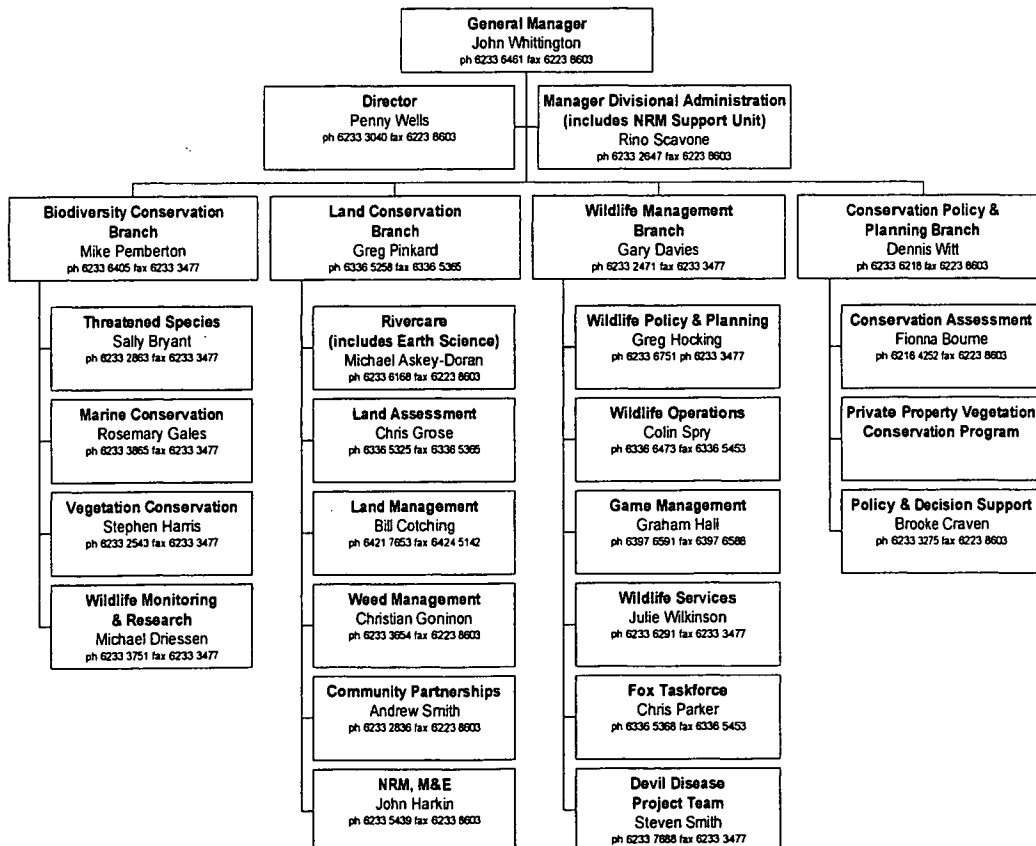


DPIWE Structure 2003 (source DPIWE 2003a Annual Report)

Organisational Chart as at 30 June 2005

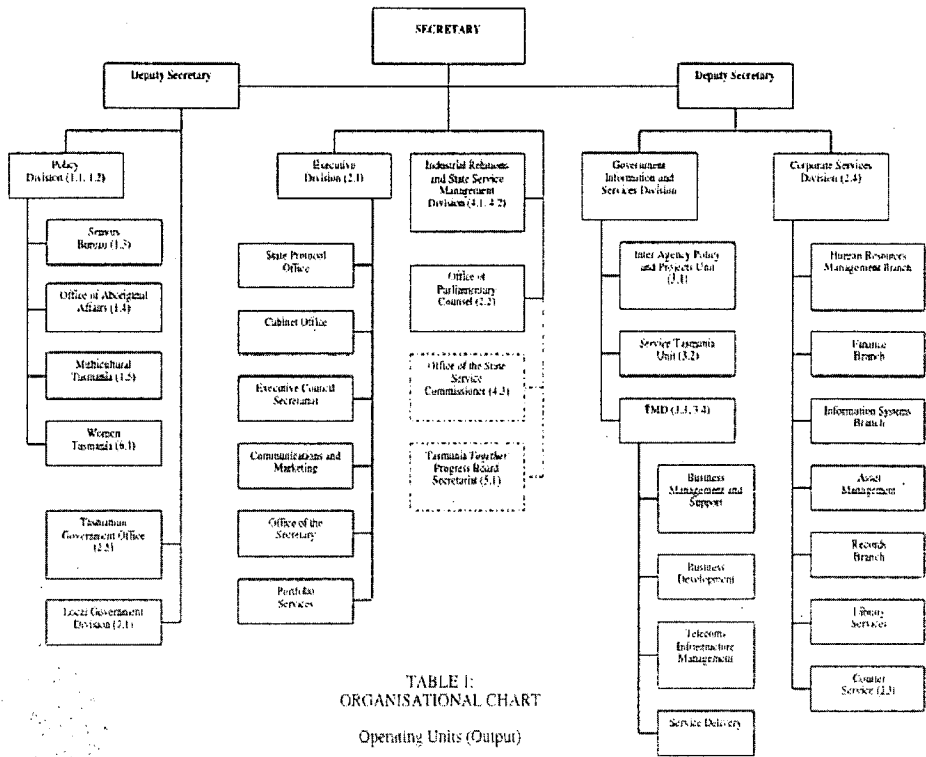


DPIWE structure 2005 (source DPIWE 2005 Annual Report).



Resource Management and Conservation Division (RMC)
DPIWE (source John Whittington 2006).

Our Department



Department of Premier and Cabinet Structure (source DPAC Annual Report 2005)