

UNIVERSITY OF TASMANIA
DEPARTMENT OF URBAN DESIGN

THE USE OF TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

A professional project submitted
in partial completion of the
Masters of Town Planning

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TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

***A PROFESSIONAL PROJECT FOR PARTIAL COMPLETION OF
THE MASTERS OF TOWN PLANNING***

ABSTRACT

In rural areas, particularly those close to urban centres, issues such as fragmentation of land holdings, demand for rural residential living and the right to farm are significant planning concerns. This paper looks at these issues in theory and in the context of a study area in the D'Entrecasteaux Channel region south of Hobart. A particular planning mechanism, that of *transferable development rights*, can be used to address some of the planning issues raised. This is reviewed and suggestions put forward regarding the implementation of a transferable rights scheme.

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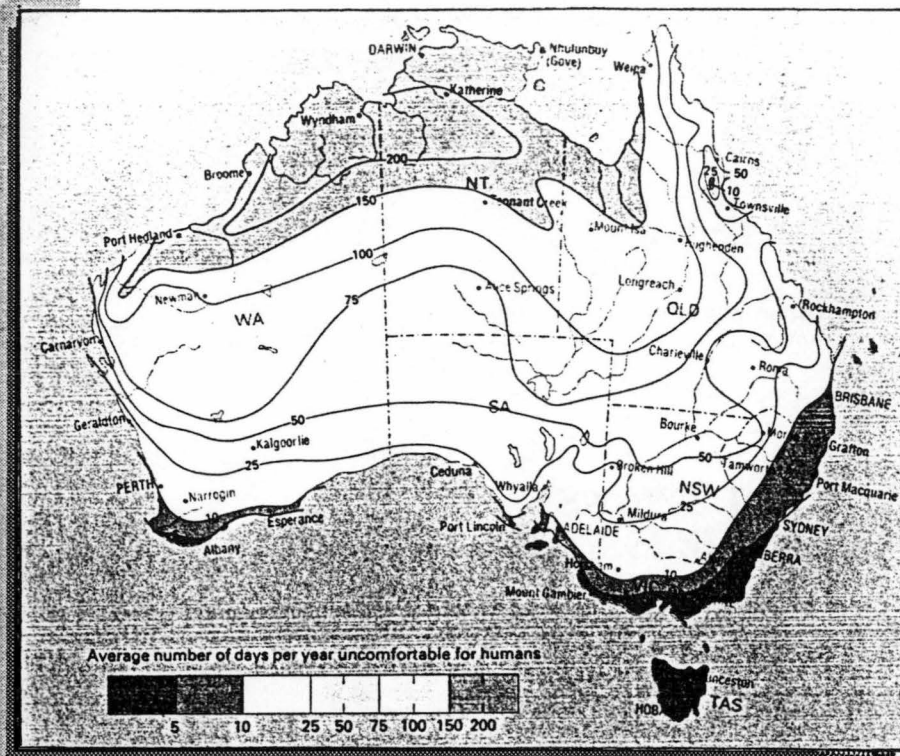
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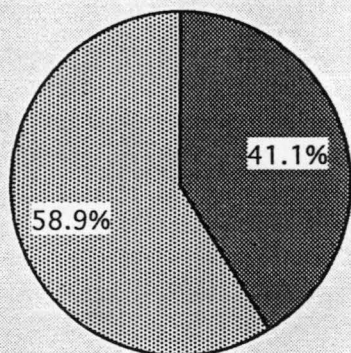
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1.01

Tasmania lies to the south of mainland Australia and in a temperate climate

B

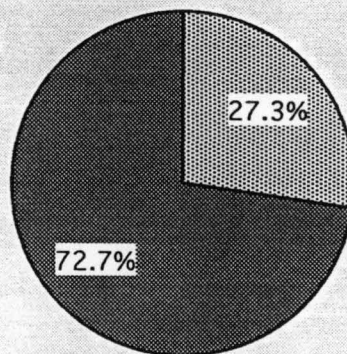


■ HOBART
■ REST OF TASMANIA

1.02

Tasmanian population distribution: A- Urban/Rural
B- Hobart/ State

A



■ RURAL POPULATION
■ URBAN POPULATION

TASMANIA

POPULATION - 1991	452,800
RURAL POPULATION	123,500
URBAN POPULATION	329,300
POPULATION - 1994	472,357
HOBART	194,167
REST OF TASMANIA	278,190

SOURCE: ABS (1995)

*A study of the value of Transferable Development Rights
as a planning tool for addressing rural planning issues
such as land fragmentation, landscape protection
and productive land use.*

PART 1: INTRODUCTION

▼ TOPIC OUTLINE

The island State of Tasmania is situated south of mainland Australia between latitude 41° and 43° S [map 1.01]. Of all Australian states, it has the least centralised distribution of population, with only about 40% of the population in the capital (Hobart) and 27% defined as 'rural' [charts - 1.02 A & B]. It also experiences lower population growth rates than most of Australia, with Hobart's population growing at only half that of many other state capitals. Nevertheless pressures are placed on productive rural land from both expanding urban areas and the increase in those seeking a 'rural' lifestyle.

The issues of farming rights, rural residential living and fragmentation of land holdings are significant planning concerns. In common with other states, local government is primarily responsible for administering planning schemes and attempts to address these rural issues have often been piecemeal. Recent 'Right to Farm' legislation has been passed by State parliament, but this still leaves many aspects of rural planning unresolved. This paper examines the possible application of one control mechanism that can be used to address such rural issues; that of *transferable development rights* (TDRs).

KEY FINDINGS OF THE PROJECT ARE:

- 1.** *That there are a range of rural planning issues, in particular those of;*
 - fragmentation of land holdings,
 - farming rights,
 - landscape protection, and
 - rural residential growth,*that are not being adequately addressed by current planning mechanisms.*
- 2.** *That the case study area within the D'Entrecasteaux Channel region is subject to a range of potential land use conflicts, particularly as an area of;*
 - high natural and modified landscape values,
 - productive levels of primary industry, and
 - as an area well suited to rural residential living.
- 3.** *That whilst the study region is at present predominately rural, there exists a capacity within existing land holdings that could result in a significant increase in residential numbers based on the provisions of the current planning scheme.*
- 4.** *That such an increase in dwelling numbers, if done without adequate planning controls, could substantially alter the rural character of the region.*
- 5.** *That of the range of planning mechanisms available, only transferable development rights offer the reasonable possibility of;*
 - revising past zoning and subdivision patterns, and
 - achieving compensation for those who may lose from such changes through 'taxing' those who benefit.
- 6.** *That TDRs alone will not result in favourable outcomes without parallel use of complimentary mechanisms, in particular;*
 - clustered developments,
 - flexible lot sizing, and
 - design guidelines for subdivision and residential construction.

Given Tasmania's history of regional and State planning, it cannot be concluded that transferable rights are likely to be an imminent option for local planning authorities, but their possible use should not be ignore as the rural planning problems discussed are unlikely to be resolved without planning interventions.

▼ STUDY APPROACH

The project initially examines the general approaches taken to rural planning. This is achieved in Part 2 by:

- An outline of the rural planning arena;
- The identification of current rural planning issues, such as fragmentation, landscape protection and productive land use; and
- A look at some of the history of rural planning.

Part 3 examines the theory and application of a particular planning tool, *transferable development rights* (TDRs). Covered is:

- A summary of the history and theory of transferable development rights; and
- A study of past and current uses of TDRs, including international and Australian comparisons; and
- Their recent application in rural planning.

In Part 4, a study is made of a selected rural area to the south of Hobart. This area provided the opportunity to:

- Assess the possibilities of applying a transferable development rights scheme in Tasmania; and
- Allow the rural issues discussed in Part 2 to be seen in a local context.

It was found that a range of alternative planning mechanisms can be used to address the planning issues encountered in the study area. These are discussed in Part 5.

In concluding, Part 6 outlines how the application of a TDR scheme:

- May address planning issues in the study area; and
- Provides a realistic assessment of how such a scheme may be implemented.

The key findings of the report are listed opposite at [1.03]

PART 2. RURAL PLANNING :

AN OVERVIEW OF THE ISSUES

▼ INTRODUCTION TO RURAL PLANNING

- 1. THE RURAL PLANNING ARENA**
- 2. WHAT IS RURAL**
- 3. PLANNING AND THE PUBLIC GOOD**
- 4. LAND USE CONFLICTS**

▼ RURAL ISSUES

- 1. FRAGMENTATION**
- 2. RURAL RESIDENTIAL LIVING**
- 3. NUISANCE RISKS**
- 4. BEST LAND USE**
- 5. INFRASTRUCTURE COSTS**
- 6. RURAL VILLAGES**
- 7. LANDSCAPE PROTECTION**
- 8. HISTORIC AND CULTURAL SITES**

▼ BRIEF HISTORY OF RURAL PLANNING

- 1. RURAL PLANNING IN AUSTRALIA**
 - ◆ *New Planning Dilemmas*
- 2. RURAL PLANNING IN THE UK**
- 3. RURAL PLANNING IN THE USA**
 - ◆ *Mumford and Stein: Early Rural Planners*

▼ SUMMARY

“Firstly, rural planning is not merely a sub-set of that higher profile, more widely understood field of urban planning. Certainly there is a common ancestry in the early town planning movement, but rural planning also draws strongly on fields like resource management and agriculture as well as different fields of geography.”

Peter Houston (1990:p5)

2.01

THE RURAL PLANNING
ARENA ACCORDING TO
HOUSTON

PART 2: RURAL PLANNING: AN OVERVIEW OF THE ISSUES

▼ INTRODUCTION TO RURAL PLANNING

1. THE RURAL PLANNING ARENA ▼

It is argued by many planners that rural planning is a neglected area in the profession. Planning practitioner and educator, Peter Houston introduced a special issue of *Australian Planning* with the claim that "Rural planning in Australia is very much an ignored theme and undoubtedly a poor relation to its older and more established urban cousin." (Houston 1990:p5)

Even in the UK, where there has been a longer history of 'countryside' planning, it is claimed that "... no comprehensive view of rural land use has been arrived at. In many ways, planning still waits for planners and the public to decide what kind of rural environment they want" (Doyle & Tranter 1978:p289)

Much of the literature on rural planning seems more concerned with the history and the theoretical aspects of land management than practical planning approaches. Research is often by those versed in geography and physical science, resulting in information but rarely planning solutions. Common in the literature though is the identification of a number of conflicts in land use between farming and logging communities, traditional native owners, rural-urban residential occupants and conservation groups. A less cohesive view is to be found on what approach may ameliorate the conflicts.

Rural planning has traditionally been driven to serve specific interest groups. Predominant is the desire to maintain a healthy level of primary production, particularly food for the nation. So even when rural planning is undertaken..."Early concerns over the rural ramifications of the confident years of expansion in the 1950s & 1960s has led to the establishment in many developed countries of forms of countryside planning machinery geared mainly towards a rather negative counteraction of growth coupled with policies of selective development" (Clope 1985:p1)

RURAL INDICATORS

VARIABLE NAME	CENSUS DATA
1. POPULATION DENSITY	Population/acre
2. POPULATION CHANGE	% change between census dates
3. POPULATION OVER AGE 65	% of total population
4. POPULATION MEN AGE 15-45	% of total population
5. POPULATION WOMEN AGE	% of total population
6. OCCUPANCY RATE	% population at 1.5 per room
7. OCCUPANCY RATE	Household/dwelling
8. HOUSEHOLD AMENITIES	% households with unshared use of; a) hot water, b) fixed bath, c) inside WC.
9. OCCUPATIONAL STRUCTURE	% in socio-economic groups; a) employed farmers/managers, b) owner farmers, c) agricultural workers.
10. COMMUTING-OUT PATTERN	% employed residents working outside the rural district
11. IN-MIGRATION	% population resident for less than 5 years
12. OUT MIGRATION	% population moved out in the last year
13. IN/OUT MIGRATION BALANCE	% in/out migrants
14. DISTANCE FROM NEAREST	CENTRE OF 50,000 POP
15. DISTANCE FROM NEAREST	CENTRE OF 100,000 POP
16. DISTANCE FROM NEAREST	CENTRE OF 200,000 POP

SOURCE: Cloke (1979:p5)

2. WHAT IS RURAL? ▼

Traditionally, living in rural areas has been seen as offering a simpler and slower lifestyle, 'rustic' and free of the pressures of an urban society. Certainly, a comparison between a country household and a city household even 25 years ago would have revealed markedly different levels of amenity. But many of the indicators of a rural life have changed: household amenities such as an internal toilet, electricity, water and of course, information technology (satellite TV, internet etc) are commonplace regardless of location. These are no longer variables that usefully indicate a 'rural life'.

How then can rural land be defined? Cloke (1979:p5) outlines a quantitative means of measuring '*rurality*' (sic). This utilises 16 variables ranging from population density to commuting patterns. [2.02]. Not unsurprisingly, Cloke's mapping of data for England found that there was a strong correlation between rurality and remoteness from urban centres. However, this was not universally the case, with other factors, such as land productivity also playing some part. Essentially though, rural areas are characterised by a landscape free of large areas of housing or buildings for commerce, but modified by humans in pursuit of raw materials such as food, timber and minerals.

Comparisons with Cloke's definition must be cautionary though, as the UK has had a far longer history of modified landscape, with few areas remaining that are not affected by human activity. Tasmania conversely, has been subjected to farming practices for less than 200 years. There are vast areas, prescriptively called 'wilderness', where human impact is minimal and even in areas where farming has occurred for most of European settlement, there remains areas of natural landscape scattered between the 'tilled soil'.

For the purposes of this study, it seems appropriate to simply define 'rural' as land outside the built environment found in cities but otherwise subject to human impact. It can be land that is used for agricultural production, rural living, hobby farming, natural

The rationale for public intervention into free market determination of rural land use

<i>Cause of Problem</i>	<i>Reason for Problem</i>	<i>Consequences</i>	<i>Remedies</i>
1: Lack of knowledge by consumers and producers of the outputs from land	Lack of information property rights, Scale economies in R & D, Insufficient consumer sovereignty	Under use of existing knowledge, Under-investment in R & D, Sub-optimal land resource use	Research - State experimental stations, Training, Resource use controls
2: Restricted entry into industries using land or areas indirectly influencing use	Low market thresholds in rural areas, Locational monopoly, Restrictive practices	Exploitation of consumers and producers, Sub-optimal resource use and production	Licensing, trade regulations eg licensing processors, marketing boards
3: Decreasing cost industries	High scale economics, indivisibilities	Undersupply of goods and services	Subsidies, licensing and public ownership
4: High cost of operating a market	Higher costs of collecting payments, The free rider problem	Undersupply of 'public' goods, roads and water supply	State provision of infrastructure such as bridges, roads, services
5: Absence of a market (a) Producer externalities (b) Regional externalities	Difficulty of defining property rights, Market localisation (dis) economics, Environmental degradation, Joint demands for infrastructure, Diseconomies of concentration	Air and water pollution, production and health effects, Resource degradation by soil erosion etc, Sub-optimal spatial distribution of production	Land use regulations and zoning, Emission regulations and other forms of environmental protection
6: Dynamics (a) Instability (b) Disequilibrium conditions	Bio-physical variability, World market fluctuations, Technical changes in production, Socio-economic change in markets	Income and long term production problems, Equity problems, Sub-optimal rates of change	Public insurance and assistance, Reconstruction and rural development schemes
7: Lack of equity	Socially unacceptable distribution, Distortion to social time preference	Social disruption and pathologies	Tax and welfare, Land reform and financial assistance
8: Social time preference	Private time preference not equal, Distortion to social time preference	Loss of non-renewable resources at greater than optimal rates, Distorted resource evaluation	Resource use controls and licensing, royalties, government ownership
9: Merit goods	Markets fail to reflect social values of merit goods	Undersupply of conservation areas etc	Subsidies, government ownership

Source: McDonald (1989/b:p328)

2.03

Table showing reasons for intervening in the free market

Assume

bushland or recreation reserves but does not include national parks, 'wilderness' areas or state forests. It is generally land in private ownership.

3. PLANNING AND THE PUBLIC GOOD ▼

? What is certain is that without adequate planning, the effects of action which alter land use will be unknown. Ad hoc use has resulted in many of the current problems that appropriate planning may well have avoided. Of course, what is appropriate one year may be seen as inappropriate the next, but this may be more a function of fluctuations in the market value of some items rather than good long term management. Some actions may be temporarily attractive, such as the clearing of bush from areas of marginal soils to increase grazing land at a time that livestock prices are experiencing a boom. To deny farmers this right might, in the short term, jeopardise their living, which suggests that good planning is to simply allow the free market to reign unfettered. McDonald (1989) comments on how a 'perfect' free market "would be socially optimum if it achieved:

- efficiency in production - optimum use of production inputs ;
- efficiency in exchange - optimum arrangement of trade between individuals in the system;
- equity in distribution.

Unfortunately, the assumptions required to make such a system work are so stringent that they are **never** met."

The result of such failures are generally a loss of social benefits and omission of the interests of the 'public good'. Particularly stemming from the environment movement there are now numerous critics of the free market approach who suggest the "driving force of the market (Adam's invisible hand) takes no account of the environment nor can it" (Jacobs 1995). In the area of rural planning, McDonald lists nine problems which provide the rationale for public intervention in the free market (table [2.03]).

For planners, the key problems that they may be able to address include the high cost of operating a market, the absence of a market, the lack of equity and the provision of merit goods.

ACTION	CONFLICT	COUNTERACTION
Clearing of natural bushland for crops or grazing.	Loss of native habitats and species.	Protection of natural habitats, particularly for rare & endangered species.
Residential subdivision of prime farmland.	Expansion of farming into marginal lands due to loss of productive land.	City growth limits, green belts, compact city strategies.
Sale of single paddocks to hobby farmers.	Fragmentation of land holdings creating uneconomic farm sizes.	Farm subsidies, planned hobby farm areas.
Mining, forestry and industrial activity.	Use of chemicals, dams, tailings, water, air and noise pollution.	Environmental protection laws, banning of logging, mining & extractive or polluting industries.
Aboriginal land claims.	Feared loss of investment and development potential.	Land rights legislation, return of land to traditional owners.

4. LAND USE CONFLICTS ▼

McDonald (in Cloke 1989:p215) identifies two major areas of conflict in Australian land use planning: "the rural-urban fringe where there is conflict between the expansion of urban- related uses on to farmland and perhaps on to undeveloped open space areas, and the extensive margin of agriculture/forestry where there is still undeveloped wilderness that is now coming under pressure for logging, water resources developments, or mining."

Changes in rural lifestyle are not caused solely by the influence of an expanding urban area: changing labour demands, mechanisation of the farm and increased mobility have all significantly altered the traditional rural lifestyle. Emerson and Crompton (1968) are quoted by Cloke (1979) as noting that English "rural communities were themselves in a fluid state even before the integration of newcomers became a serious problem."

The pivotal issue for such rural land is its protection against inappropriate uses. The definition of inappropriate use varies significantly depending on a person's socio-political outlook, but in general, a use that results in degradation of the land to the extent of 'useless' must be considered inappropriate. The dust bowls of North America are clearly the result of an abuse of land practice. The use of prime agricultural land for residential living is more subjective and the clearing of native vegetation for agricultural production is supported by some and abhorred by others.

Many of these demands on land use result in competing interests for that land. Such actions include land clearance, protection of natural habitats, marginalisation of farming lands and encroachment of urban 'sprawl'. A range of these are shown in table [2.04].

The dominant land uses influencing rural planning can be seen from this table to be farming, rural living and conservation. The three are necessarily linked, with actions by one sector affecting others in an almost cyclic fashion. A series of interplays of cause and effect creates at times a seemingly insolvable set of planning issues.

RURAL PLANNING ISSUES

- ▼ *FRAGMENTATION*
- ▼ *RURAL RESIDENTIAL LIVING*
- ▼ *NUISANCE RISKS*
- ▼ *BEST LAND USE*
- ▼ *INFRASTRUCTURE COSTS*
- ▼ *RURAL VILLAGES*
- ▼ *LANDSCAPE PROTECTION*
- ▼ *HISTORIC AND CULTURAL SITES*

2.05

Range of rural planning
issues canvassed in the
following text

▼ RURAL ISSUES

These problems range from 'nuisance' effects such as crop spraying, 'feral' domestic pets, and introduction of weeds to major environmental concerns such as land erosion, polluted waterways and loss of species. These give rise to a number of rural planning issues, some of which are listed at [2.05]. The key elements arising out of these issues are discussed below.

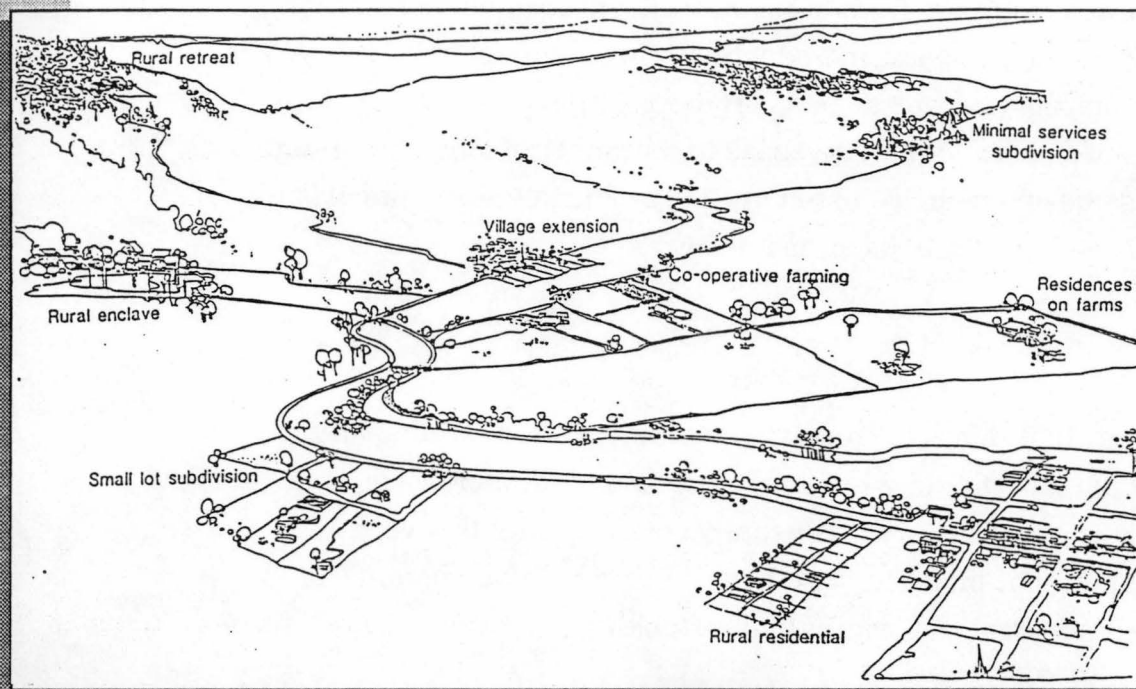
1. FRAGMENTATION ▼

Fragmentation refers to the division of larger land holdings into smaller parcels of land which are then sold to an increased number of land owners. This process usually occurs gradually over time and in an ad-hoc manner, with new smaller holdings being scattered amongst the original larger holdings.

Wellings et al (1985) outlines numerous negative impacts that fragmentation of rural lands may have. These include;

- increased costs for infrastructure provision,
- reduction in the availability of good agricultural lands,
- degradation of water catchment areas and water supply problems,
- nuisance risks such as dogs, weeds, straying stock,
- loss of flora and fauna habitats and ecosystems such as rain forests and wetlands,
- a rise in the cost of land, increasing the expense for farmers wishing to expand, and
- soil erosion.

The process has both historic and ongoing reasons for occurring. These include dividing up the farm to pass on to children, subdivisions for proposed towns or soldier settlements, excising a portion of land from an allotment that is divided by a road or easement or to profit out of the greater value that small holdings have as hobby farms or house lots. This last stimulus of the high price per hectare that can be obtained from smaller lots is seen by many farmers as a source for a 'lump sum' retirement benefit.



2.06.B

BELOW: The downside of rural residential living

2.06.A

ABOVE: A Range of rural living options
SOURCE: Latone in Pullen (1977:p17)

CONCERNS OVER RURAL RESIDENTIAL DEVELOPMENT

AREA OF CONCERN	REASON FOR CONCERN
• SERVICES	<ul style="list-style-type: none"> • Increasing Council commitments; • Increasing land prices; • Increasing water costs.
• ROADS	<ul style="list-style-type: none"> • Upgrading costs, maintenance etc.
• ENVIRONMENT	<ul style="list-style-type: none"> • Increasing risk of bush fires; • Soil erosion due to clearing of land; • Loss of views & natural landscape.
• EFFECTS ON ESTABLISHED FARMING OPERATIONS	<ul style="list-style-type: none"> • Increased rates; • Reduction in agricultural land; • Reduced control over water supply; • Straying stock; • Nuisances such as weeds & dogs.
• PLANNING PROBLEMS	<ul style="list-style-type: none"> • Reduction in potential urban land; • Planning loopholes; • Defiance of controls; • Illegal structures.

Source: Wellings et al (1985:p75)

These smaller lots are usually attractive for rural residential living. For adjoining farmers though, it is not always a desirable pattern of development. The new owners of the smaller allotments are not primarily involved in agricultural production. As such their interests may be significantly different from those solely involved in agricultural production.

2. RURAL RESIDENTIAL LIVING ▼

There is a wide range of residential living options now available to those wishing to live in the country. A number of typical living options are illustrated by Latone at [2.06.A]. These range from the traditional farmhouse on large estates down to small lot 'rural' subdivisions and small village lots.

Increasing numbers of people are seeking the option of rural living and this can cause problems for the existing local communities. According to Petersen (1994:p165), *"The current wave of rural residential development is again placing demands on all users of rural lands."* Wellings identifies five main areas of rural residential living that concerned Local Governments in NSW [2.06.B]. These were essentially concerns about Council's ability to meet the financial commitments that increased residential growth may bring and the negative impact to existing rate payers.

Residential living in proximity to farmland can also be undesirable for a number of reasons including good land management, productive land use and/or protection of resources. Pullen (1977) outlines a range of conflicts that for farmers, includes the menace to livestock from domestic dogs, the wilful shooting of livestock for 'sport', the flooding of fields due to run-off from increased paved surfaces and the theft of animals and produce. For residents, there is the noise and dust from farm operations, the health risks due to the over spray from insecticides and fertilisers and the straying of livestock. He surmises though that many of these conflicts are the result of poor (or non existent?) planning and that it "would be a pity if agriculture on the urban fringe were abolished before the problem and its possible solutions were adequately explored."

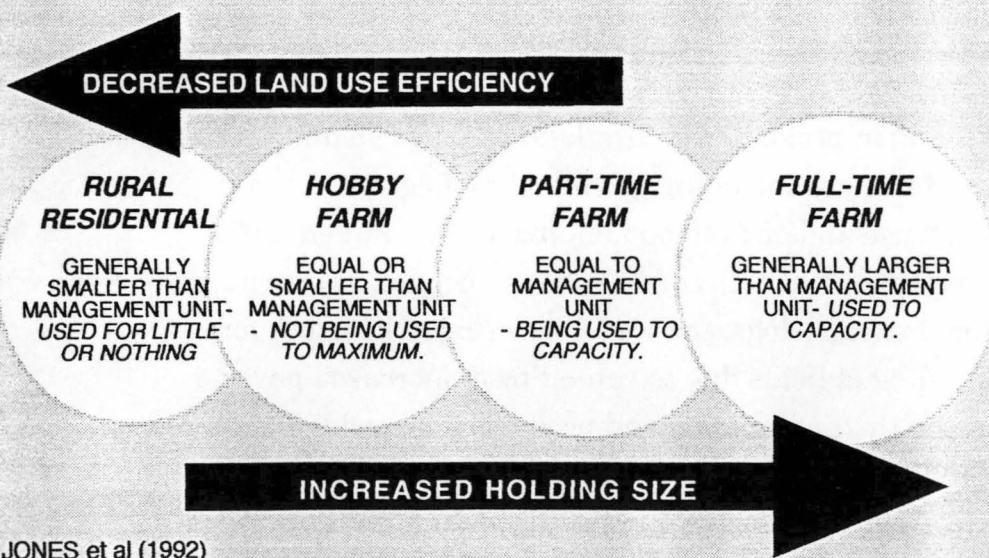
RURAL LAND USERS

- **RURAL RESIDENTIAL** - *those persons seeking a rural environment, but who have little or no interest in agricultural pursuits on their property.*
- **HOBBY FARMERS** - *persons who are pursuing some agricultural endeavour to a greater or lesser extent, but the investment is justified on rural interest and lifestyle with the primary income derived from off the property.*
- **PART-TIME FARMERS** - *where farm size is inadequate and requires the occupant (farmer) to supplement income from off-farm sources.*
- **FULL-TIME FARMER** - *traditional commercial farming operations.*

JONES, et al (1992)

2.07

Categories of rural
'occupations'



JONES et al (1992)

2.08

Diagram showing changes
in land use efficiency
between differing users

3. NUISANCE RISKS ▼

These conflicts between farmers and other rural 'uses' are often referred to as *nuisance risks* to the farmer. Often, the farm activity has been in the district for many years, but as suburbia encroaches, the complaints against farm practice increase. Nor does it need to be urban growth alone that generates increased conflict. Craythorn (1994) also mentions the added costs that under-utilised hobby farms have on a rural economy. Noxious weeds, vermin, wildfires and dogs all place hobby farmers that may harbour such pests in conflict with traditional land users.

Whilst it is arguable that these nuisance risks are unrealised, the perception of them occurring places land users at odds and discourages farm activity near residential areas. It is believed that farmers are more likely to divide up the farm for building lots if they are not protected from complaints and nuisance caused by adjoining land owners.

4. BEST LAND USE ▼

Crucial to the issue of land fragmentation is the assessment of *best land use*. The appropriate size for an allotment depends on the capability of the land to support the intended function. As Petersen (p169) states, "it is up to the owner to decide if that opportunity is taken up"... but it is the role of planning to provide the opportunity and allow for lots "which will be sustainable over time and compatible with the rural activities in which they are created."

A study of rural living patterns by Jones et al (1992) examined subdivision and tenure fragmentation in the Albury-Wodonga region of NSW. Categorised were four main patterns of rural living, defined at [2.07]:- *Rural Residential, Hobby Farmers, Part-time Farmers* and *Full-time Farmers*. The study found that hobby farm holdings were usually under the productive size of land and that once subdivision had taken place, they could not easily be bought back and amalgamated into productive units of land. Thus the introduction of hobby farming can be expected to decrease land-use productivity [2.08].

MINIMUM LOT AREA - HOBBY FARM

METHOD 1: Erosion Assessment		METHOD 2: Water Supply	
Beast carrying area, from table 1:	14.5 ha	Catchment area, from table 2:	2.8 HA
House site:	0.05 ha	House site:	0.05 ha
Lawn area:	0.1 ha	Lawn area:	0.1 ha
Cropping area:	0.2 ha	Cropping area:	0.2 ha
Tree crops (20):	0.05 ha	Tree crops (20):	0.05 ha
Kennels (2 dogs):	0.005 ha	Kennels (2 dogs):	0.005 ha
Bird shed (20):	0.005 ha	Bird shed (20):	0.005 ha
Equivalent beasts:	0.01 ha	Equivalent beasts:	0.01 ha
TOTAL:	14.92 ha	TOTAL:	3.22 ha

TABLE 1

MINIMUM AREA (HA) REQUIRED FOR CARRYING 2.9 EQUIVALENT BEAST UNITS

Soil Type	0 - 2% Slope	2 - 6% Slope	6 -12% Slope	12-25% Slope
A	2.3	2.9	*	*
B	2.32	3.48	8.7	*
C	1.45	2.9	5.8	4
D	2.9	4.35	14.5	16

TABLE 2

MINIMUM CATCHMENT AREA (HA) FOR WATER SUPPLY - 80% RELIABILITY, 5ML STORAGE

Soil Type	0 - 2% Slope	2 - 6% Slope	6 -12% Slope	12-25% Slope
A	*	*	*	*
B	14.5	*	*	*
C	*	*	*	*
D	2.1	2.1	2.8	*

"What ever type of rural residential lot is created, it is essential that it be provided with the level of services which will allow the proposed use ...to be conducted."

Source: Petersen (1994:p165)

The authors concluded that rural living should be “*provided for at the nodes in which fragmentation has already been occurring, and that development of rural living areas should only proceed ... with regard to agricultural quality, water catchments, landscape quality, ... and sound site planning and design principles.*” (Jones et al p44)

There have been a number of studies which have researched the factors that best determine the suitability of land for various uses. These include Woodward & Neilson (1981) *Land Evaluation Manual* and Austin & Cocks, (editors) (1978) *Land Use on the South Coast of NSW*. Main factors included in the evaluation of rural lands were;

- Urban suitability,
- Agricultural suitability,
- Bushfire, flood, landslide and erosion potential, and
- Other factors such as mineral or forest wealth, scenic value, cultural significance and water catchment potential.

The assessment of best land use is then made after consideration of these factors. Petersen outlines performance guidelines used in Gooburrum Shire (Queensland) that use two factors to determine rural residential lot sizes - potable water supply, stock and crop carrying capacity assessed against erosion potential and water supply. The results obtained from the two assessment methods varied considerably; in the example given at [2.09] a lot size of 3.3 ha was appropriate if based on water requirements and 15 ha if based on erosion potential. Clearly, the blanket application of minimum allotment sizes without adequate assessment could lead to less than desirable outcomes.

5. INFRASTRUCTURE COSTS ▼

Other reasons for stemming, or even reversing the degree of fragmentation of rural lands is the added costs of infrastructure services for scattered rural dwellings when compared to the costs for compacted ‘village’ allotments. The full cost of providing roads, water, sewerage, power and other services to rural lots is hard to establish. Craythorn (1994) however mentions that Wellington

PART
2

MASTER OF TOWN PLANNING

PROFESSIONAL PROJECT

Shire (NSW) is charging developers \$10,000 as part of the costs of servicing remote allotments (greater than 10 kms from existing services). This he believes, is to be about $\frac{1}{3}$ of the true cost of around \$30,000. This may compare to costs of between \$5,000 and \$10,000 for allotments close to existing services. That this cost is often not passed on to the land owner or developer creates (in the jargon of the economists) an unequal playing field, which shields development patterns from the true market costs.

Whether rural lots should expect or be supplied with the same level of service as urban lots is of course debatable. If the reason that people seek rural living is to escape some of the pressures of a city life, the trade off may well be a lesser level of both social and physical services.

6. RURAL VILLAGES ▼

A crucial issue in the viability of rural communities is the level of amenity and population of the local 'village'. In Australia, as with most other rural areas in developed countries, the population growth rate in urban centres has far outstripped rural centres. Lees (1987:p356) reported that "of the 1200 or so towns in Australia with 200 people or more, about one third of them are losing population." This trend of urbanisation has however reversed in the last two decades, with researches such as Hugo and Smailes (1992:p29) reporting "a non-metropolitan renaissance."

This repopulation of the bush is not however universally even across rural Australia. The growth has been concentrated "in the well watered and attractive areas of the southeast and east coast and the areas around the margins of the commuting zones of the large cities." (Hugo and Smailes p29). Populations have continued to decline in most of the more arid and remote parts of rural Australia. Other factors noted by Hugo and Smailes are that growth rates are generally in an inverse proportion to the size of the urban centres but that overseas born migrants dominate the growth of the larger cities. This is particularly so in Sydney, where in 1986 overseas born residents comprised 28% of the population compared to rural areas, where they made up only about 14% of the population.

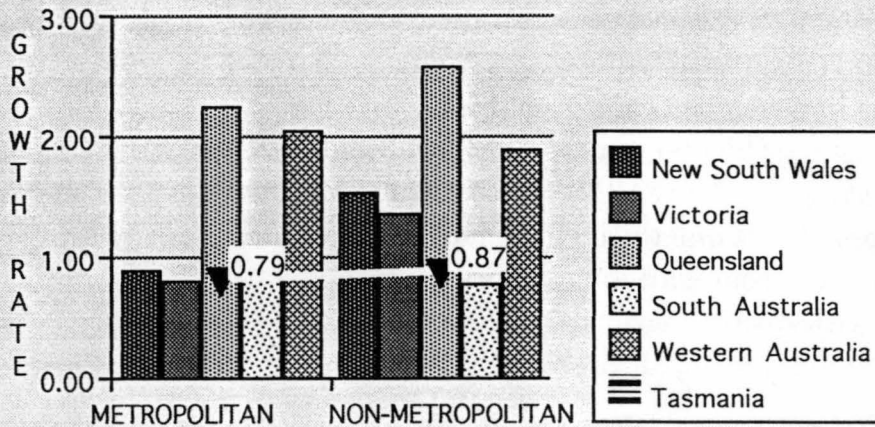
Australia:- States and Territories:

Growth rates of metropolitan and non-metropolitan population, 1981 - 1986

State	Annual population growth rates 1981-1986	
	Metropolitan area	Non-metropolitan Area
New South Wales	0.90	1.53
Victoria	0.80	1.35
Queensland	2.25	2.57
South Australia	0.96	0.77
Western Australia	2.04	1.89
Tasmania	0.79	0.87
Northern Territory	3.50	5.78
Australian Capital Territory	2.42	-4.02
Australia - Total	1.19	1.74

Source: Hugo & Smailes (1992:p32)

Chart of Growth Rates: Australian States - 1981-1986



Whilst Tasmanian growth rates are considerably below those of other states, the same trend is indicated [Table 2.10]. The impact of such change to rural villages is hard to predict. Many in small towns "...fear that the growing regional capital will continue to bleed them" (Lees:p356). It also seems that people are moving from cities to nearby rural areas as a lifestyle choices, and if these once rural areas simply become swallowed up into urban conurbations, they will need to move even further out to achieve the same lifestyle.

This pattern in movement can be seen in the population figures for the towns in the case study area examined in Part 4 of this project. Margate, Snug, Kettering and Woodbridge have all shown a steady decline in population through the 1950s and 60s, generally reaching their lowest figures in the 1971 Census. Since then, they have either stabilised or in the cases of Margate and Snug, returned to the population levels of the 1950s.¹

What is an appropriate size for these towns to grow to without losing their rural identity yet ensuring sufficient population to support infrastructure and service development? Some of the research required to answer these questions is well beyond the scope of this project, but it can be surmised that these towns could warrant a doubling or even tripling in size and still remain 'small towns'. Even combined with their catchment of nearby rural populations, these towns do not exceed the population levels most texts define as 'small'.

The classification of what is a village or country town varies significantly between authors. Cloke (1979:p30) has collated a number of classifications, reproduced at table [2.11]. These indicate that a village might have a population of between 1000 and 5000, clearly exceeding the current population figures for the area. Such small communities have difficulty maintaining viable services. There are also a range of opinions as to what size rural settlements need to be to support various service levels, but those that might

¹ Refer to Part 4, page 44 for further analysis of census characteristics.

Suggested maximum sizes for rural settlements

VILLAGE	1,000	Everson & Fitzgerald (1969)
	1,500	Stirling (in Green, 1971)
COUNTRY TOWN	2,500	Everson & Fitzgerald (1969)
	5,000	Green (1971)
VILLAGE	5,000 - 7,000	Best & Rogers (1973)
	8,000	Thorburn (1966)
	10,000	Town Map Threshold (UK)
COUNTRY TOWN	15,000	Green (1971)

Source: Cloke (1979:p30)

2.11

Table defining various settlement sizes

Rural settlement categorisation according to services

GRADE 1	170 - 600	Public house, post office, general store, village hall
GRADE 2	600 - 1,100	As above plus primary school, playing field, garage
GRADE 3	1,100 - 1,800	As above, plus police station, butcher, ladies hairdresser, resident doctor
GRADE 4	1,800 - 3,000	As above, plus electrical goods shop, licensed club, hardware shop, gents
GRADE 5	3,000 +	As above plus secondary school, chemist

Source: Cloke (1979:p46)

2.12

Table of amenities available in typical town sizes

typically be supported at various population levels are shown at table [2.12].

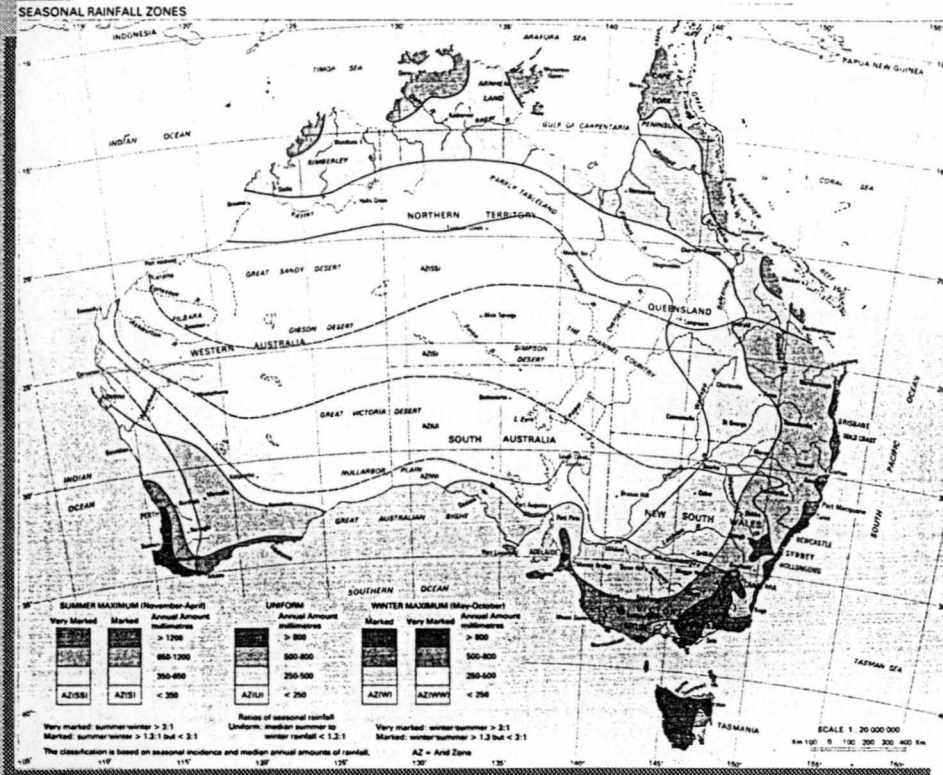
7. LANDSCAPE PROTECTION ▼

Another reason to stem land fragmentation is the need to retain rural land for uses other than farming practice. Many functions other than commercial farming exist such as water catchment areas, erosion protection, recreational pursuits, bio-diversity, and the scenic value of a natural environment. These are merit goods that the free market rarely values and it is often up to governments (and planners) to provide for their protection.

Much marginal land that is not economic to clear traditionally fills this role but is not protected for this exclusive use. The continuing fragmentation of prime agricultural land places more and more pressure on marginal land. The economics of farming and clearing this land becomes viable if it is the only land left not broken into smaller holdings close to a growing number of urban consumers. Hence, in addressing the issues of farm protection, fragmentation and the demand for rural living, the landscape can indirectly benefit by the removal of a major market driven threat to its survival.

8. HISTORIC AND CULTURAL SITES ▼

Many historic and culturally important sites exist in rural areas. These have often been neglected in favour of more 'high profile' urban sites. They also often involve larger tracts of land on a number of titles held by different owners. In order to plan for the protection and/or improvement of such sites it may at times be advantageous to amalgamate these titles or extinguish their development potential. Traditionally this may have been achieved by cash settlement from the public purse but there are recognisable limits to such expenditure. With the increasing demands made by both conservation groups and aboriginal groups for the protection or ownership of large tracts of land, the protection of such sites using mechanisms other than public expenditure needs consideration.



2.13

Map of Australia's rainfall pattern
highlights the large arid interior
Source: Macquarie Atlas (1984)

▼ BRIEF HISTORY OF RURAL PLANNING

1. RURAL PLANNING IN AUSTRALIA ▼

As commented earlier, there is not an extensive amount published on the subject. Houston laments that most Australian planning instruments have “comparatively little to say about rural areas compared to urban situations and, at worst, seem to regard them as one large urban zone.” This contrasts, he claims, with the situation in the UK and USA where there is a far greater extent of literature, specific journals and organisations devoted to rural planning. The result is far more “innovative approaches to land use conflicts.” (Houston p6)

“Australia’s rural land use planning is dominated by its colonial past.” (McDonald 1989b:p207). As for many countries with a colonial past, Australia was seen as a ‘land of opportunity’ for the European settlers. Land was abundant and regularly made available by government grant to ‘selectors’ desiring a ‘life on the land’. Others simply ‘squatted’ on the land on the basis that occupation was ‘nine tenths of the law’. Land tenure initially followed British law with farmers paying ‘quit rents’ and absolute ownership remaining vested in the Crown. But there developed a politically powerful ‘squatocracy’ who lobbied and eventually won the right to own land freehold. The rights of owners were reinforced “to the extent that the public origins of the owner’s original title was forgotten and the public interest disregarded.” (Else-Mitchell 1967 in Bryant 1972:p104)

The necessity for farmers to be allowed full ownership of the land unhindered by government regulation was reinforced by Australia's trading position. Throughout the nineteenth and early twentieth century, Australia had a weak manufacturing base, relying predominately on imported European and American goods. To balance these imports, the nation came to rely on the export of farm produced commodities such as wheat, wool and meat. Any regulatory impediment to land exploitation was seen as negative to Australia's well being.

M Y T H	A tradition of 'the outback'. Stories and poetry of 'bushies', swagmen and rovers.	A land of boundless opportunity with freehold land for all.	A wealth of rural produce; 'living on the sheep's back'.	A blind faith in being able to beat isolation and hardship and 'tame the land'.
F A C T	Highly urbanised nation; less than 15% of the population living in rural areas.	Limited land suitable for living and food production. Only about 132 million Ha or 17% of the land.	low intensity of land use; less than 1/3 the yield per Ha of cereal crops than Europe and America.	Large areas of 'untamed' deserts, bush and wilderness now seen as worthy of conservation.
R E S U L T	A misunderstanding of the Nation's real culture and a 'us versus them' rivalry between rural and urban communities.	Sprawling cities built over large tracts of arable land; marginal land poorly farmed, resulting in soil erosion, salination and destruction of native species.	An almost crippling foreign debt from living beyond our means on foreign imports not balanced by exports of primary produce.	A strong and growing conservation movement pitted against those who still believe in the 19th C concepts of 'progress' and 'development'.

Primary produce is however very sensitive to fluctuations in world commodity prices which have at times fallen sharply (1930s, 1980s). The free market attitude to farm production is hence modified by a degree of agrarian socialism whereby governments have covered many of the losses in times of crisis. Even in times of boom, farm operations have been given favourable financial treatment by successive governments in order to pursue productivity increases. These have included various 'rural programs' such as subsidised land clearance, drought relief in marginal lands and irrigation schemes. Many of these have 'back fired' in environmental terms, with increased soil salinity being a major problem in many regions of rural Australia.

Whereas early European settlers viewed Australia as a new America, the reality was very different. Westward expansion in North America revealed 'unlimited' fertile land capable of supporting millions of people in an agrarian lifestyle. Australia however is a dry continent, with less than 10% of the land suitable for cultivation (see table x). The reality of rural Australia is :

- Low intensity of use, with less than 1/3 the yield (tonnes per Ha) of cereal crops than Europe and America.
- Limited land suitable for living and food production (about 132 million Ha or 17% of the land mass).
- A highly urbanised nation with less than 15% of the population living outside metropolitan and urban centres.
- Large areas of bushland, arid 'deserts' and 'wilderness' areas that are not cultivated and either cannot (due to climatic and geographic constraints) or will not (due to political/environmental constraints) be developed.

These realities often contrast with the perceptions held both in Australia and overseas of the vast and limitless nature of the country. These myths and their ramifications are set against the 'facts' at table [2.14].

For planners, it is important to recognise that "There is very little usable land left that is not claimed by foresters, pastoralists, cultivators, recreationists or miners and the image of limitless

space in the country is fading" (McDonald 1989b:p233). Land use planning is thus important if the lessons of past mistakes are to be heeded.

The impact of development is now far greater, with farm mechanisation, pest control technologies (spraying of cotton crops), major irrigation systems (such as Murray River and Ord River) and mining on a large scale close to sensitive areas (Kakadu) all increasing the potential for conflict.

◆ *New Planning Dilemmas*

A gradual repopulation of the bush since the mid seventies (Jones et al & Hugo and Smailes) has resulted in new pressures and influences affecting the directions rural planning should take.

New uses for land including recreation, rural living, tourism and conservation and land rights must be accommodated within the now traditional farming and extractive land uses. All compete for similar resources and at times cannot coexist, being essentially exclusive in their nature of land use. They also impact on large areas of rural Australia, crossing both local and state government boundaries. Solutions often need to be enacted nationally.

Stemming however from Federation in 1901, the six originally separate colonies have, as State Governments, retained most of the power of land use planning. The States have been individually concerned with maintaining output of primary produce for the benefit of their State budgets, and accordingly vested much of the decision making power for rural land in the Primary Industry portfolio. Many land use decisions are based on research designed to increase farm outputs. Other planning powers such as building and infrastructure planning has been largely divested through State Planning Acts to the local government level. Consequently, regional and even State planning has been very weak in Australia and Federal land use planning almost non-existent. Only the short-lived Department of Urban and Regional Development formed by

the 1972 Whitlam Government saw any direct Federal involvement in regional land use planning. Accordingly, the vested interests within local governments have had significant power in dictating rural land use.

As there is less of a history of broad rural planning measures and in particular, planning statutes, in Australia, a brief look at the history of rural planning in the United Kingdom and the United States of America may be instructive. This selection is made as the UK is the source of much of Australia's planning law, and the USA has a similar pattern of colonisation and rural settlement resulting in many of the same rural planning problems.

2 RURAL PLANNING IN THE UK ▼

Along with similar legal and governance systems, Australia has also followed the UK in many socio-political issues including the growth of the conservation and heritage movement and the concepts of sustainable use of resources. Having often faced these issues earlier than Australia, the background to rural planning in the UK is instructive.

The population density of UK is 228 persons per km², about 35 times that of Tasmania (6.5 persons per Km²)², so there is a lot of difference in terms of 'rural'. Nevertheless, "the vast majority (of England) is perceived to be 'countryside' and therefore subject to rural land-use planning." (Clope 1989:p21).

The direction of rural planning in the United Kingdom was largely set in 1942 by the Scott Report. Written at a time when the UK was at war, protection and development of land for food production was seen as the crucial issue. Key elements were;

- self sufficiency in food,
- protection from urban sprawl,
- restrictions on ribbon development, and
- controls on where industrial estates could occur.

² (Clope 1989:p20 - Macquarie Atlas 1984 and ABS 1986)

FIVE MYTHS IN BRITISH RURAL PLANNING

- *A vast expanse of the country is sterilised by urbanisation at wastefully low density.*
- *Urban sprawl is continually engulfing good quality land, and before long all our precious countryside will be built over.*
- *Urban take of agricultural land is on a large scale, particularly in South-East England.*
- *Agricultural output is threatened if continuing losses of farmland are not substantially reduced.*
- *Britain's small size and high levels of urbanisation make it unique so far as land-use patterns and the severity of land competition are concerned.*

SOURCE: Cloke:p19

Protection of landscape values, wetlands, moors, or species habitats was not seen as crucial. The countryside was not for the enjoyment of others.

This was not the view of Professor Dennison's minority report. His dissenting report expressed the view that the 90% of people who don't live and work on the land should have as much say as the 10% who do. This sentiment was far-sighted in the 1940s, well before the impact of the conservation cause, championed largely by an urban populace.

Despite the views of a few 'luminaries' such as Dennison, the 1947 Town and Country Planning Act exempted farming and forestry from development control as it was seen to be in the nation's interest to place no restraints on increased production. The result was control of urban sprawl and a surplus of food production. Flora and fauna were not protected, neither were rural 'assets' such as hedgerows and country lanes. The result was in fact a gradual reduction in landscape variety. Once in place, this approach to planning was hard to alter as it suited the major players; farmers, land developers and food processing industry. This dominance by the agricultural lobby has, according to Copeland (1988, p74) "led to a blinkered approach to development in rural areas."

Best (1981) in Cloke (1989) believes however that the approach of planners is clouded by what he refers to as 'five myths in British rural planning' [2.15]. There is not the major loss of farmland occurring as is being claimed by many planners. It has not been though the planners so much as the major interest groups that have dictated planning outcomes.

As is so often the case world wide, much of the wealth is in the hands of a few. 37% of rural land in Britain is in the ownership of insurance & pension companies and the landed aristocracy. The largest farms, which account for 12% of the total, produce 50% of food (Cloke 1989:p20). These groups have a strong interest in the prosperity of farming and forestry and are opposed to taxation of land values or taxation of capital gains from land speculation. It is

hardly surprising that they are "hostile to the suggestion that planning permission should be extended to agricultural land use."

(Dawson 1984, quoted in Cloke 1989:p22)

The second group of players influencing rural land use is the housing construction industry, controlled largely in the UK by a few major companies³. They have been very successful in lobbying for the release of land for sub-division, particularly through the New Towns strategy. The release of land has inevitably been controlled by the development lobby and not planners.

The third major group of players affecting rural policy are those who view the countryside as 'an expression of the good life away from the stresses and strains of the city and the symbol of everything which is considered truly British' (Best & Rodgers 1973 in Cloke 1989:p20). Their interests are not for productive agriculture, but for the conservation of the countryside for their enjoyment and as an adjunct to the vastly more hectic city life.

It would seem then that despite a history of planned intervention in rural issues, the United Kingdom still faces a similar range of planning conflicts as does Australia, driven generally by the same interest groups and political forces.

3. RURAL PLANNING IN THE USA ▼

Peter Houston (p5) observes that in the United States, "many land use planning schemes ... do recognise the distinctiveness of rural areas and quite deliberately establish a strict urban-rural dichotomy ..." He also comments on the far more innovative approach taken to rural planning issues such as land use conflicts, resource management and economic development. Certainly, and despite that much of the theory of transferring development rights originated in Britain, it is in the USA that such schemes have found widespread application. A short look at key elements to American rural planning history is therefore warranted.

³ Ball (1983) has calculated that 60% of construction is by 3% of building companies. (Cloke p23)

Table 1. Distribution of farmland preservation policies by states of the U.S.A.

	Pure preferential assessment	Preferential assessment with use or change penalty	Deferred taxation with rollback penalty	Restrictive agreements with cancellation penalty	Circuit breaker	Capital gains penalty	Right-to-farm	Non-exclusive zoning	Exclusive zoning	TDR	PDR
Alabama			X				X				
Alaska			X				X				
Arizona	X						X				
Arkansas	X						X				
California		X		X			X	X			
Colorado	X						X	X			
Connecticut		X	X			X	X				X
Delaware	X		X				X	X			
Florida	X						X	X		X	
Georgia			X				X				
Hawaii			X				X	X	X		
Idaho	X						X	X			
Illinois			X				X	X			
Indiana	X						X	X			
Iowa	X						X	X			
Kansas			X				X	X			
Kentucky			X				X				
Louisiana	X						X				
Maine		X	X				X	X			
Maryland		X	X				X	X		X	X
Massachusetts		X	X				X				X
Michigan					X		X	X			
Minnesota			X				X	X			
Mississippi	X						X				
Missouri	X						X				
Montana			X				X				
Nebraska			X				X	X			
Nevada			X								
New Hampshire		X	X	X			X	X			X
New Jersey			X				X	X		X	X
New Mexico	X						X				
New York			X				X	X			X
North Carolina			X				X	X			X
North Dakota	X						X				
Ohio			X				X	X			
Oklahoma	X						X				
Oregon			X				X		X		
Pennsylvania			X				X	X			X
Rhode Island			X				X				X
South Carolina			X				X				
South Dakota	X										
Tennessee			X				X				
Texas			X				X				
Utah			X			X	X				
Vermont		X	X			X	X		X	X	
Virginia			X				X	X			
Washington							X		X		
West Virginia	X						X				X
Wisconsin					X		X				X
Wyoming	X										

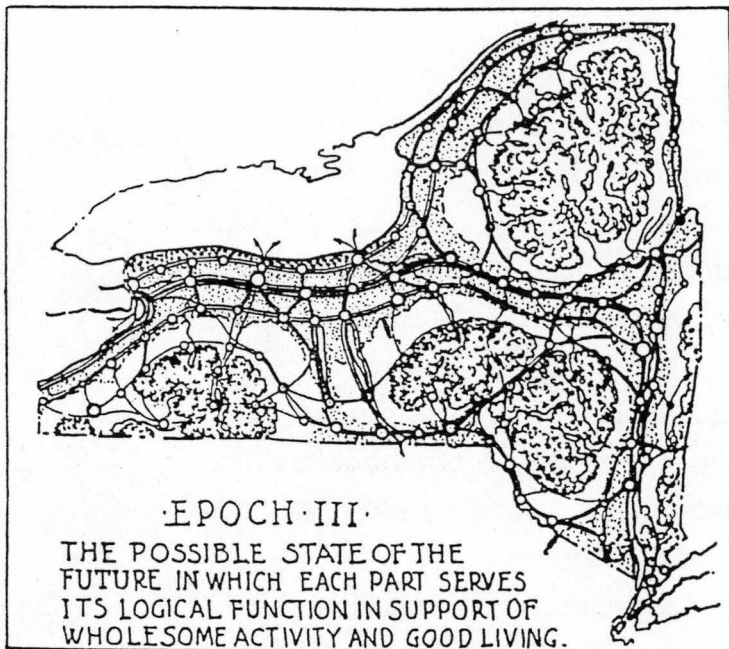
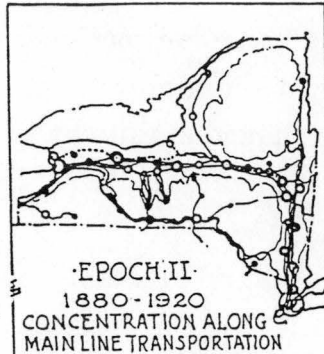
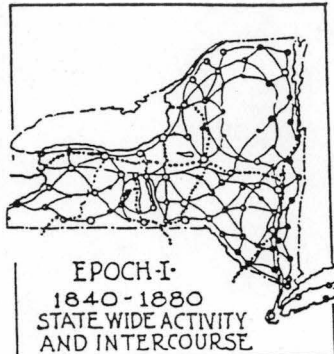
SOURCE: Nelson (1990:p120)

Overriding any attempt at land use planning has been the American commitment to the free market and the concept that "a land owner should have considerable discretion over the use of the land." (Daniels et al 1989:p153). These authors also assert that land use has traditionally involved a minimum of government intervention with controls being shaped mainly by local town and county governments.

Nevertheless, in reviewing US farmland preservation policies, Nelson (1990:p119), notes that "all 50 of the United States employ some kind of policy to preserve prime agricultural land." These range from income adjustment mechanisms such as taxation relief to complex land management schemes utilising transferable rights, special agricultural zones and right to farm legislation. A table of these various approaches is shown at [2.16].

This concern for farm preservation developed in America since at least the last part of the nineteenth century (Jacobs 1989:p138). Westward expansion and changes in farming technologies throughout this period saw a gradual decline in farm numbers in the originally settled eastern states. The abandonment of mostly small family hill farms led many to push for a policy of 'repopulation'. It was argued that this was essential to maintaining the vibrant nature of the rural landscape. Policies of settler recruitment and the development of support programs and services were suggested.

These moves were countered by those maintaining a position of free market economics; the social Darwinists. Such lobbying culminated in 1909 with a Federal Government "Report of the Country Life Commission", endorsed by President Theodore Roosevelt. This early example of American (and world) rural planning nevertheless leaned towards accepting the role of market forces and inevitable abandonment of unproductive land.



Key features of Stein's policy was:

- Widening the existing concentration of population along a so called 'L' belt that was a transport corridor formed by the Hudson and Mohawk rivers.
- An activist program of state aid to farming and forestry,
- The recognition that certain areas were unsuitable for agriculture and best left to forest practices and
- A clear framework for the development of responsible local planning.

SOURCE: Jacobs (1989:p141)

◆ *Mumford and Stein: Early Rural Planners*

The development of one of planning's first significant rural policies was in response to this period of rural change. The State of New York, an area which experienced some of the fastest and extensive levels of farm growth in the eighteenth and nineteenth century, was also one of the hardest hit by the farm downturn in the eastern states. Accordingly, its administration was less supportive of the free market approach and between 1906 and 1921, undertook to encourage repopulation of rural areas. By the 20s though, this policy was abandoned and studies were carried out to determine which lands were marginal and sub-marginal. These, it was proposed, should be repurchased by the state and replanted as forests.

The views of the repopulationists were not however dead, and a modified version was taken up by members of the Regional Planning Association of America. In a report based on earlier work by Lewis Mumford (1925), Stein drew up a concept plan [2.17] for the State of New York, showing three phases or 'epochs'; past, present and future. This report was "a landmark in American planning, being the first statewide regional plan prepared in the U.S." (Jacobs 1989:p140) and proposed unique planning approaches for the time.

Essentially, the Report rejected the uncertainties of a totally free market approach whilst looking beyond the romantic/historical view of earlier repopulationists. Its vision was of a "yet to be achieved future in which the advantages of modern city living and those of classic country living were to be combined." It was envisaged that local governments would "remain the initiating force in land use planning ... but that their work would be nestled within an activist state role which facilitated such cooperation and sought to coordinate state level actions so as to not counter local ones" (Jacobs 1989:p141).

This overarching role of State and Federal policy guidance with local government implementation has largely remained the norm in United States planning.

PLANNING MECHANISM

- ◆ *ZONING REFORMS*
 - ◆ *DEVELOPER CONTRIBUTIONS*
 - ◆ *DIFFERENTIAL TAX RATING*
 - ◆ *RIGHT TO FARM LEGISLATION*
 - ◆ *PERFORMANCE ZONING*
 - ◆ *RESIDENTIAL CLUSTERING*
 - ◆ *FLEXIBLE LOT SIZING*
 - ◆ *TRANSFERABLE RIGHTS*
-

Issues of conservation, pollution, logging and over intensive farming all remain current problems. At one level, Federal environment laws attempt to protect natural areas and native species whilst concurrently, the Government runs massive farm subsidy and infrastructure programs. Daniels et al (1989:p160) cite some 400 federal rural development programs administered by 27 different agencies. Combined with state and local farmland preservation policies, the rural land use debate appears to remain dominated by the desire to sustain agricultural output, a theme relevant to land use policy in Australia today.

▼ SUMMARY

Nevertheless, American rural planning policies are significantly ahead of Australian both in using innovative approaches and in the range of measures intended not just to protect farm interests, but alleviate many other rural issues such as urban sprawl, land fragmentation and landscape protection. Planning measures employed to deal with these issues are listed at [2.18] and include;

- ◆ Clustering,
- ◆ Differential Rating,
- ◆ Performance Standards, and
- ◆ Transferable Development Rights.

It is the last of these, 'TDRs', which is the planning tool to be examined more closely in the next section of this paper. All approaches though have 'cross benefits' if used together. In particular, *clustering* and *performance standards* are planning measures often integral to the use of a transferable rights scheme. These other various planning approaches are hence discussed in Part 5.

PART 3. PLANNING **THEORY:**

TRANSFERABLE DEVELOPMENT RIGHTS

- ▼ TDR's DEFINED
- ▼ A SHORT HISTORY OF TDRs
- ▼ USE IN RURAL AREAS
 - 1. NEW JERSEY PINELANDS
 - ◆ Performance of the scheme
 - 2. WELLINGTON SHIRE, NSW
 - 3. MOUNT LOFTY RANGES - SA
 - ◆ Introduction
 - ◆ Planning Initiatives
 - ◆ Outcomes
- ▼ MANAGING TDR SCHEMES
 - 1. ADMINISTRATION
 - 2. METHODS OF TRANSFERRING RIGHTS
 - 3. SOME DISADVANTAGES OF TDRs
 - ◆ Economic
 - ◆ Administration
 - ◆ Legal
- ▼ POTENTIAL FOR USE IN TASMANIA

Bundle of Rights Constituting Private Ownership of Land:



- Right to use for, farming, forestry, etc.
 - Right to mine.
 - Right to exclude others.
- Right to sell, give away or bequeath to others.
 - Right to develop for other purposes.



Transferred to another location.
Bought by public and retired.

Source: Bindon (1992)

PART 3: PLANNING THEORY:

TRANSFERABLE DEVELOPMENT RIGHTS

▼ TDR's DEFINED

This is a generic name commonly used to describe a planning tool that compensates owners of land on which development rights have been restricted by regulation. The compensation is achieved by allocating an amount of development that may be transferred from the restricted site to another site. Alternatively, the rights may be bought by the State and extinguished. In the latter scenario, they are often referred to as *purchase of development rights* (PDR).

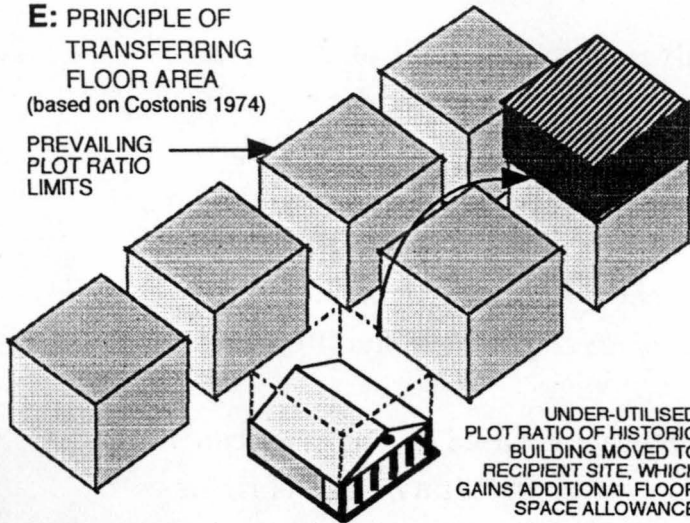
According to Bindon (1992) the concept is based on the American idea that title to real property has attached to it a bundle of rights such as those at [3.01]. Each of these may be separated from one another and from the property and transferred, by way of sale, to another owner and/or site. *Transferable development rights* (TDRs) may be used to compensate owners when rights (or perceived rights) are extinguished by new planning legislation. They may also be used more creatively as a mechanism in planning schemes to obtain assets or outcomes that are otherwise not commercially viable or only normally obtained by public expenditure. Thus, they can work as a mechanism of controlling or at least influencing the actions of private property holders.

▼ A SHORT HISTORY OF TDRs

The use of transferable development rights is best known in the planning arena as a tool for heritage conservation. According to Craythorn (1994), they were first proposed in the USA in 1961 by Gerald Lloyd. Early American examples of transferring rights include the protection of historic landmark buildings in New York (1971 zoning ordinance) and in Chicago (ca 1973). These schemes were developed in response to the increasingly vocal public outcry over the destruction of America's 'physical history'. In 1974, a third of the 16,000 buildings listed by the *Historic American Building*

**E: PRINCIPLE OF
TRANSFERRING
FLOOR AREA**
(based on Costonis 1974)

PREVAILING
PLOT RATIO
LIMITS



UNDER-UTILISED
PLOT RATIO OF HISTORIC
BUILDING MOVED TO
RECIPIENT SITE, WHICH
GAINS ADDITIONAL FLOOR
SPACE ALLOWANCE

3.02

Principle of transferring
floor ratio to another site

Betterment: an increase in the value of land that results when government undertakes public works or other improvements on adjacent or nearby land.

This concept includes the principle that persons whose property has clearly been increased in market value by an improvement effected by local authorities should contribute to the cost of the improvement. *Betterment charge* is the term ascribed to the exacting of such costs.

Floating value; the potential increase in value of all undeveloped land in an area.

In the early stages of development of an area, predicting with any certainty the exact parcels of land which will benefit, and to what extent, is practically impossible. Public control of land use however, inevitably results in the floating value shifting from some sections of land to others.

(Levin 1974:p55)

3.03

Definitions of 'betterment'
and 'floating value'

Survey had been demolished.¹ In a market driven economy such as that in the USA, the question of 'who will pay?' for the protection and restoration of privately owned historic buildings resulted in TDRs being a more palatable means of revenue raising than direct State intervention. In a straight forward use of the process, the right to build additional floor area on a site occupied by an historic building is transferred to another site as illustrated at [3.02].

In Australia, the concept has been applied to the protection of historic buildings within the *City of Sydney Strategic Plan 1971* and the *City of Adelaide Plan 1986-91*.

The antecedence to TDRs though is to be found in planning at the rural/urban fringe. The theory of being able to separate land ownership and the right to develop that land was developed in Great Britain in the late 1930s and early 1940s. The British concern was for the need to decentralise industry and regenerate congested urban areas. Three government committees studied and reported on these issues, resulting in the Barlow Report, the Uthwatt Report and the Scott Report².

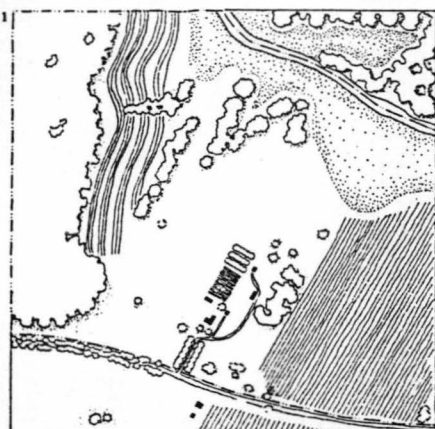
In particular, the Uthwatt report recommended that the use of private land be regulated to achieve national goals. Specifically, the report identified two new land-use concepts; *betterment* and *floating value*. These are defined at [3.03].

The Committee also recommended two important concepts:

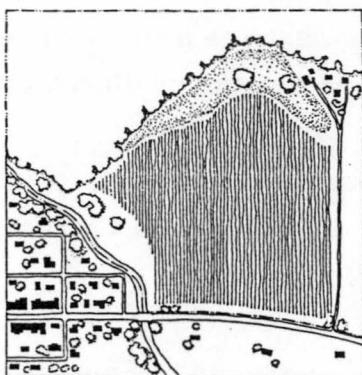
1. That a system be established to recoup the *betterment* from land owners who had benefited from government action and to compensate landowners whose land's *floating value* had been shifted.
2. That the rights in all land be vested with the government, with compensation paid for those rights and thereafter, such land could not be developed without approval and ***the repurchase of the development rights***.

¹ Costonis (1974:p4)

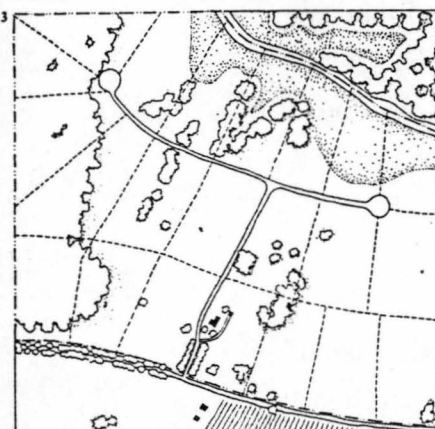
² see Levin (1974:p55)



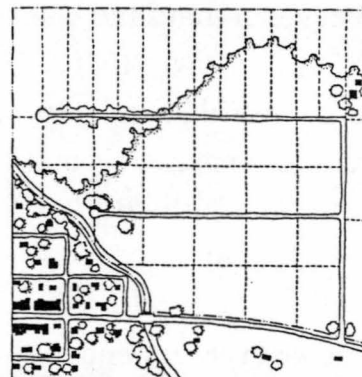
Brown's farm before subdivision



Smith's property before subdivision



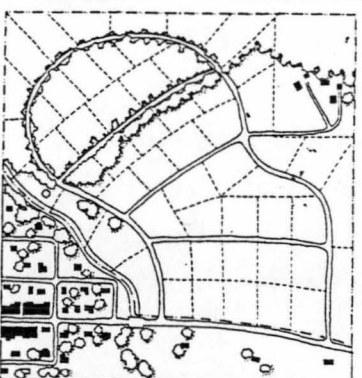
Brown's farm subdivided into 22 lots



Smith's property subdivided into 38 lots



Brown's farm after transferring 18 lots to Smith



Smith's property has 56 lots after receiving 18 lots from Brown

SOURCE: Stokes (1989:p152)

These recommendations were tried from 1947 to 1954 and again from 1967 to 1971, but the system failed to result in the expected revolving land fund that the government required to operate the scheme. Owners preferred to leave land undeveloped than pay the development charge required to buy back rights.

The system did however result in two key planning principles that remain today and are also entrenched in Australian planning approaches;

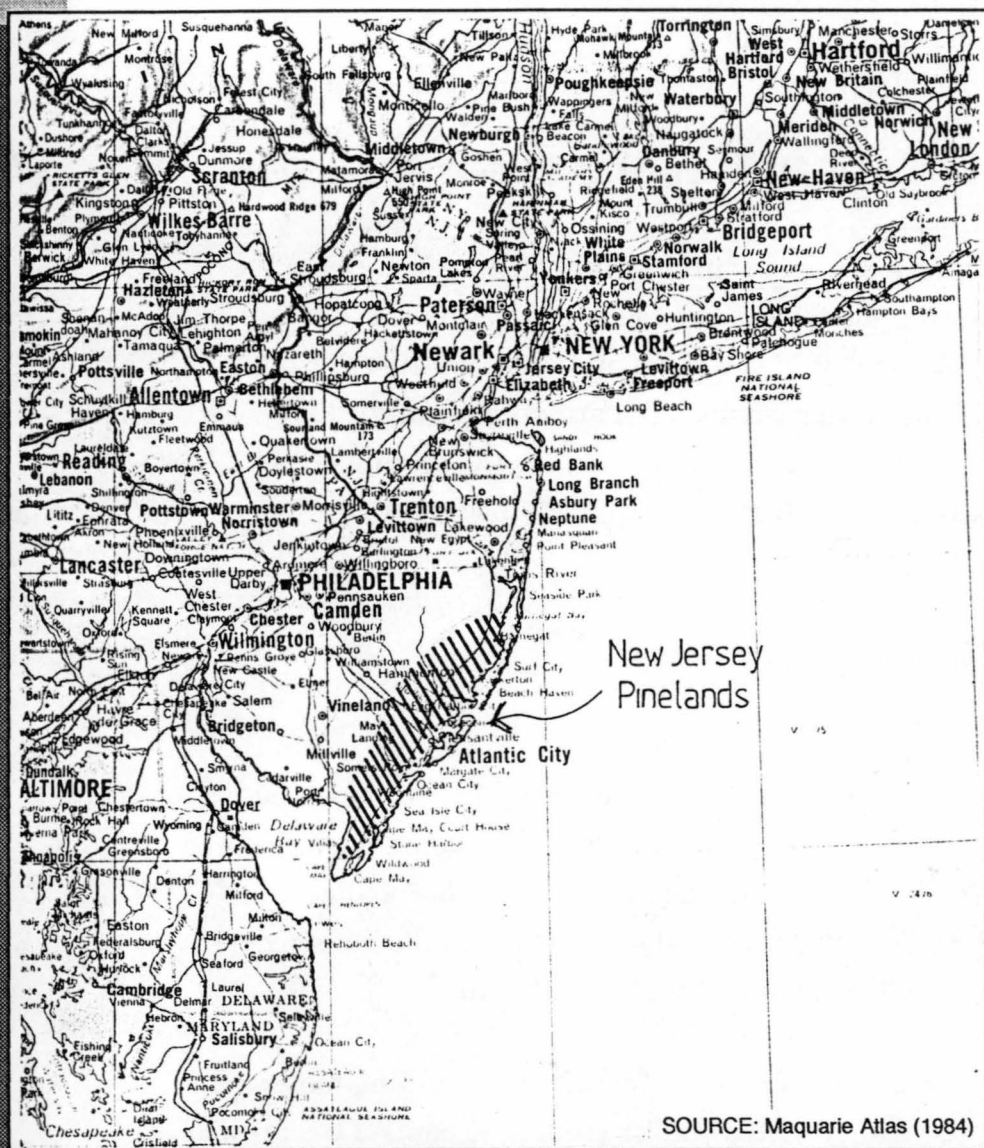
- a) that the right to develop land is not automatic and is by government approval; and
- b) that the beneficiary of development approval (the land owner) can be expected to relinquish by way of charges or taxes at least some of the *betterment* development approval has brought.

Application of these principles in the United States is affected greatly by the strong legal ties between property ownership and rights of use. Whereas under British and Australian law, the rights to mine, develop or otherwise use land are not automatically attached to that land, in the United States these 'bundle of rights' can only be extinguished in certain circumstances, usually involving 'fair compensation'.

▼ USE IN RURAL AREAS

In Australian planning, the concept has had most currency in the protection of historic buildings in urban areas, but its use need not be limited to this. Particularly in the United States, they have been used to conserve open space, protect rural and urban fringe bushland and, in Toronto, to subsidise low-cost public housing. A typical application for rural planning is shown at [3.04].

The State of New Jersey (USA) has introduced planning measures incorporating the transfer of 'dwelling credits' to control the growth of housing in an environmentally sensitive area. Known as 'the Pinelands' the area has had relatively low population density with large tracts of undisturbed pitch pines and cedar swamps now threatened by the expansion of nearby urban centres.



In the Wellington Shire of mid-west NSW, the local Council is using TDRs in an attempt to extinguish house building entitlements previously allowed under the planning scheme. Landowners of designated 'productive' land in remote 'unserved' areas of the Shire are listed on the Council's '149 Register'. Developers may then approach such landholders and offer to purchase their dwelling allotment entitlements for transfer to approved locations closer to already serviced nodes. (Craythorn).

They are also one of a range of planning tools used to protect the water catchment area in Adelaide's Mt Lofty Ranges (Evans, 1993). The aim is to encourage amalgamation of allotments in sensitive bushland areas with the 'reward' of small lot sub-division going to designated 'township' areas.

These three examples are outlined further below as illustrative of how transferable rights have been applied in rural planning.

1. NEW JERSEY PINELANDS ▼

The New Jersey Pinelands are a unique tract of coastal plain pine forests extending along the eastern seaboard of America south of New York to Cape May [Map 3.05]. For 300 years of European settlement in America, the Pinelands experienced only limited exploitation and development. Locally called 'the pine barrens' the "visually unspectacular Pinelands have until the last 20 years, coexisted with humanity in a dynamic balance." (Poole 1984:p34). But sandwiched between the cities of New York, Philadelphia and Atlantic City, they have come under increasing development pressure from growing suburban sprawl. Calls for protection of the area began in the 1960s, coalescing into a regional and national campaign in 1976. This resulted in a Pinelands Planning Commission and the *1979 Pinelands Protection Act*.

With most of the land in the area in private ownership, opportunities for publicly owned reserves were limited. Acquisition of private land would have been prohibitively expensive and local

owners, whilst in support of some level of protection, could not be expected to relinquish land title.

Accordingly, planning restrictions placed on environmentally sensitive lands were to be compensated through a transfer of rights scheme called *Pinelands Development Credits*. The scheme takes some account of the relative value of lost development potential by allocating 'credits' at different rates on different land types; two PDCs/39 acres for farmland and 0.2 PDCs/39 acres for wetlands. Each PDC purchased allows a developer four additional dwelling units in a receiving zone. With 8315 PDCs created, a maximum of 33,260 additional houses could be built.

The potential number of receiving sites however was set such that there were about two potential purchases for each PDC. Combined with a level of 'pre approval' in order to avoid rezoning delays, it was envisaged this would ensure a healthy demand.

Additionally, the scheme contained a proposal for a *TDR Bank* authorised, for an initial period of five years, to buy PDCs in hardship cases. After the first five year period, the bank had a further five years to sell or exchange PDCs acquired. The banks purchase price was set at US \$10,000 per PDC (\$2,500 per each additional dwelling created).

◆ *Performance of the scheme:*

Three constraints limited the initial success of the scheme throughout the 1980s. Initially, the municipal conformance process delayed the effective start of the scheme. The region incorporated 52 different municipalities and each of these needed to amend their land use ordinances. Some were understandably apprehensive about legislation proposed from a regional body and this was aggravated by a community bias against increased densities in an area traditionally comprised of houses on large lots. The most significant factor though in the slow start to the scheme was the general downturn in the economy throughout the mid to late 1980s.



Housing sales were so slow that most of the demand could be met by development applications approved prior to the introduction of the TDR scheme.

The 1990s has seen however the scheme 'settle in' and what appears to be a growing trade in credit units occurring. County planner J. Ross reported to the April 1995 issue of *Farmland Preservation Report*³ a growth in trades from 37 in 1993 and 134 in 1994 to an expected 200 plus in 1995. The average cost per PDC was \$16,000 to \$20,000 (\$4,000 to \$5,000 for each additional house lot created), nearly twice the level paid by the TDR Bank in the early 1980s.

The real success of the scheme in protecting the Pinelands cannot probably be assessed until well into the next decade. The impact of an additional 30,000 houses in the area will undoubtedly place new pressures on the land. The scheme does not try to prevent this growth, but contain it in areas better able to cope. If the scheme is successful in this, it will be a significant planning achievement.

1. WELLINGTON SHIRE, NSW ▼

The Wellington Shire lies in mid western New South Wales and covers an area of about 4,130 km² [map 3.06]. About $\frac{2}{3}$ of the population of 9,200 live in the urban and village zones, with the remaining 3,000 living in areas zoned rural. The land is similarly divided between approximately 1,380 km² of prime farmland and 2,755 km² of land which is low productive and hilly land. Despite a Department of Agriculture recommendation that the minimum holding on prime land should be 800 ha, the Council's 1987 Planning Scheme set the minimum at 400 ha.

Craythorn argues that this could well be based on the existing dwelling numbers (1,193) divided by the Shire area, giving an average holding per house of 347 hectares. He further surmises, that if the Department of Agriculture area required is correct, there is a surplus of 852 rural dwellings. Added to this, any lot, even if

³ Farmland Preservation Report April 1995:p6-7, Bowers Publishing, Maryland USA

ADMINISTRATION OF TRANSFERS IN THE WELLINGTON SHIRE

The proponent ... approaches the owner of the development right with an offer to purchase, subject to the concurrence of Council. The consideration for the purchase of the development right is of little interest to Council, only the locations of the donor and recipient holdings.

The proponent subsequently approaches council with the details of the donor holding and council prepares a Memorandum for attestation by the vendor.

Following attestation by the vendor, the proponent includes the Memorandum with the development application pertaining to the 'recipient' site. An additional fee of \$75 for registration of the Memorandum is added to the Development Application Fee.

Any subsequent application for a 149(5) Certificate on either the 'donor' or the 'recipient' sites will raise a copy of the Memorandum. The copy of the 149(5) certificate explains any variations between the number of dwelling entitlement rights conferred on the appointed day and the number currently attached to the subject holding.

SOURCE: Craythorn (1994:p213)

less than 400 ha that had the right to build a dwelling prior to the 1987 planning scheme retains that right and any holding over 40 hectares has a right to an additional dwelling (for other family members). This is granted at the ratio of one dwelling per 200 ha. These exceptions to the scheme result in a possible further 2,000 dwelling entitlements.

The nett result for the Shire is:

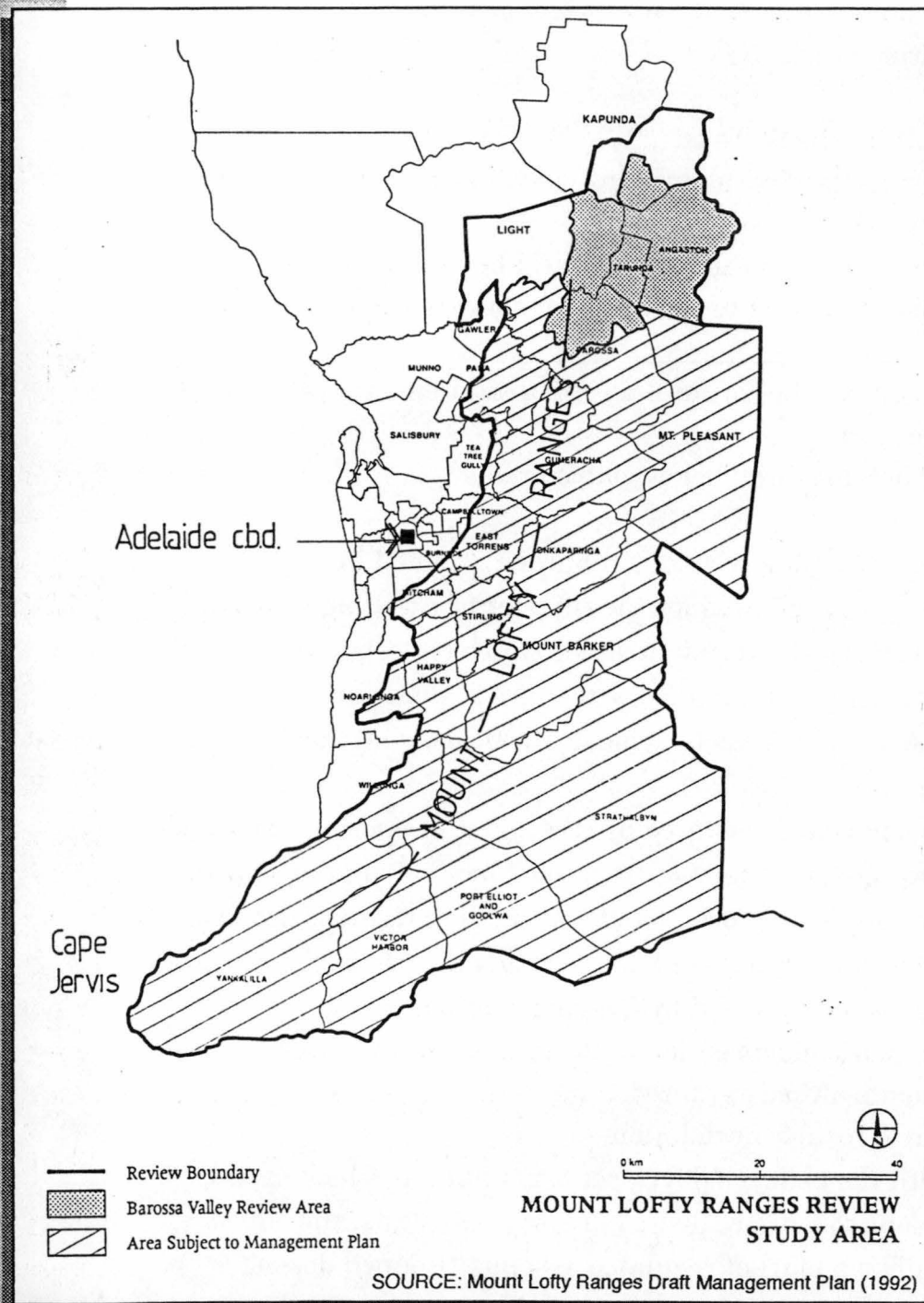
1. A large surplus of rural dwelling stock in excess of agricultural requirements;
2. A high number of rural dwellings still being constructed;
3. A high potential cost to the Shire for servicing remote rural lots;
4. A very high number of rural dwelling entitlements yet to be exercised; and
5. existing holdings well below viable area.

To address this 'oversupply' and cost burden, Council in 1990 adopted a policy that allowed for the transfer of 'dwelling rights' to other sites, provided the recipient site is closer to designated existing service nodes. Combined with more realistic infrastructure charges, the scheme's aim is to achieve 'rural consolidation'.

The TDR scheme is administered by creating a 'Memorandum' which records the dwelling entitlement from the donor site and its transfer to a recipient site. This procedure of transferring rights is detailed by Craythorn in the extract at [3.07]. The advantages to the Shire of the transfer scheme are listed by Craythorn as achieving:

1. Minimal political opposition to the removal of dwelling entitlements already granted, and;
2. A degree of rural consolidation.

Combined with the policy of developer contributions which expose new subdivisions to more realistic infrastructure costs, the outcome it is hoped will be a market regulated system. "Council doesn't have to say no to a specific location on subjective grounds. The decision has been converted into an economic one which is essentially taken by the developer." (Craythorn p214).



3. MOUNT LOFTY RANGES,- SA ▼

◆ *Introduction*

The Mount Lofty Ranges run north-south from Williamstown, north of Adelaide to Cape Jervis, at the tip of the Fleurieu Peninsular [map[3.08]. Their value to the city of Adelaide cannot be underestimated. In a State characterised by a hot dry climate and vast areas of low level flat plains, the Mt Lofty Ranges provide not only a physical boundary to the east and south of the city, but welcome visual and climatic relief. Their predominately bush covered 'hills face' is a notable contrast to the often brown Adelaide plains and the blue waters of Spencer Gulf to the west.

Amongst some of the Ranges most important characteristics to the State's social and economic life are:

- As a crucial water catchment area;
- As an area of significant farm production, including grazing, cereal cropping, fodder crops, softwood production and of small farms and market gardens suitable for growing cooler climate fruit and vegetables;
- As a local recreation and tourist area, offering climatic relief from summer heat, and;
- As an alternative residential option for city residents, either on hobby farms, bush blocks or in the numerous and picturesque hill towns such as Handorf, Mt Barker, Birdwood and Stirling.

The unique features of climate and scenery that have attracted these activities are also in part those that have contributed to problems such as erosion, loss of water quality and conflict between competing users. Land use controls have typically been urban focused, utilising minimum lot sizes and schedules of uses. "Such controls have led to the fragmentation of properties, the inappropriate extension of townships and the creation of inappropriately located rural living areas in the Region." (Mt Lofty Ranges Nø 2 D.P. Amendment 1994:p6).

MT LOFTY RANGES SA

The Consultative Management Plan (1987) made six specific recommendations pertaining to the possible use of TDRs:

- examine the feasibility of the trading of development rights separately from land titles;
- enable the right to create a new allotment to be traded through the use of 'transferred development rights' created by the amalgamation of two or more existing allotments of titles;
- seek to identify 'source' and 'target' areas for the transfer of development rights prior to any policy being agreed to;
- amend the Development Plan to specify 'source' and 'target' areas for the operation of this policy and to promote the concept of transferable development rights, where land use and land division restrictions otherwise penalise development where such development may be acceptable;
- encourage the amalgamation of titles in environmentally sensitive areas and areas of prime agricultural land; and
- investigate the possibility that land division (currently prohibited within the Watershed) may be allowed through the extinguishing of a title elsewhere within the Watershed if it can be demonstrated that the division would result in a lessening of pollution potential within the watershed and does not conflict with other policies in the Development Plan.

SOURCE: Mount Lofty Ranges Comprehensive No 2 Development Plan (1994):p6

◆ *Planning Initiatives*

As early as the 1970s, calls for better land management in the ranges were being made⁴. It was not till 1987 though that the State Government established the *Mount Lofty Ranges Review* with the aim of preparing a comprehensive regional management plan. This resulted in an *Investigations Report* (1987) and *Consultative Management Plan* (1987). The plan, amongst other things, made the six recommendations at [3.09] in respect to residential development and the introduction of a transfer of rights scheme.

These recommendations were issued for comment as the *Mount Lofty Ranges Review Strategy Report 1990*. In order to manage future urban and residential encroachment into the hills area, this report also recommended:

- No expansion of towns and prohibition of land division in the Watershed;
- Limited land division outside the Watershed (not on prime agricultural land);
- Incentives for the retention of rural activities; and
- Transfer of development rights, particularly from the Watershed.

The aim in allowing the transfer of development rights in the Mt Lofty Ranges was to achieve a system of voluntary transferable development rights appropriate to single as well as conjoined titles and that such development rights be transferable to target areas. These target areas must be of low agricultural, conservation and water catchments value and be in either townships or designated rural living areas.

In 1992, the *Draft Mount Lofty Ranges Management Plan* was published which brought together previous reports and the five years of community consultation.

⁴ Seminars at the University of Adelaide, *The Future of the Adelaide Hills* (1972) and *The Adelaide Hills, Plans for Preservation* (1974)

MT LOFTY RANGES PLANNING DOCUMENTS

Under the *South Australian Planning Act 1982*, amendments to the state *Development Plan* are made by the issue of *Supplementary Development Plans*. In cases such as the Mount Lofty Ranges, which cover more than one local government area, these amended plans are issued by the Minister. The first of these affecting the Ranges was the *Mount Lofty Ranges Watershed Supplementary Development Plan* in 1987, prior to the Mount Lofty Ranges Review.

It was subsequently replaced by the *Mount Lofty Ranges Supplementary Development Plan No 1* in September 1990 and the *Mount Lofty Ranges Supplementary Development Plan No 2* in November 1990, followed by the *Adelaide Hills/Fleurieu Peninsula Supplementary Development Plan* in 1991, followed by a fourth plan, the *Mount Lofty Ranges Comprehensive No 1 Supplementary Development Plan* in 1992. This was subsequently amended by the *Mount Lofty Ranges Comprehensive No 2 Supplementary Development Plan* in May 1994.

SOURCE: Mount Lofty Ranges Comprehensive No 2 Supplementary Development Plan 1994

◆ Outcomes

The enactment of these recommendations has taken a somewhat circuitous route, with significant public opposition and numerous redrafts as listed at [3.10]. However, the goal of utilising transferable rights to lessen the impact of planning changes has been steadfast and the current Development Plan (Mt Lofty Ranges Comprehensive Nø 2 D.P. 1994:p8) continues to pursue these aims.

The first system introduced involved a scheme called '*Transfer of Titles*', introduced by the *Draft Management Plan* in 1992. This was designed to encourage the amalgamation of small allotments in the Water Catchment Area. The idea was that by combining one or more lots, owners would also extinguish their right to sell these lots and/or build more dwellings on each lot. The problem was that farmers saw these lots as a means of flexibility in their land management. They could pass them between family, other farmers or sell them outright (as house lots) for cash flow far greater than the value achieved through the sale of the development rights.

A revised scheme therefore allows for the transfer of 'development rights'. Whilst under Australian property law, there are no development rights 'pre assigned', to land, there is however a perception that such a right exists. The right to sub-divide or build is subject to development application to local government, and certainly the right exists for landowners to lodge such applications in most instances. Therefore, the scheme currently proposed for the Mt Lofty Ranges is now based on extinguishing the right to lodge an application.

The Development Plan allows each landowner the *right* to lodge an application for a detached dwelling. On allotments where this right would cause conflicts with the intent of the Management Plan for the region (ie water quality) owners would have an option to transfer this right to another location. This has been labelled a '*Dwelling Application Transfer*' (DAT). Once the Dwelling Application Right is removed, the 'sending' allotment will be issued

MOUNT LOFTY RANGES - TRANSFERABLE TITLE RIGHTS SCHEME**SUMMARY OF TRANSFER PROCEDURES**

1. APPLICATION FOR ALLOTMENT AMALGAMATION.
2. REGISTRAR GENERAL CANCELS ALLOTMENTS AND ISSUES NEW CERTIFICATE OF TITLE.
3. REGISTRAR GENERAL NOTES THE NUMBER OF ALLOTMENTS SURRENDERED THROUGH AMALGAMATION IN A REGISTER.
4. REGISTRAR GENERAL ISSUES CERTIFICATES CONFIRMING OWNER HAS TRANSFERABLE TITLE RIGHTS, (QUALIFIED IF AMALGAMATION HAS NOT ACTUALLY OCCURRED).
5. OWNER OF CERTIFICATES ENTERS INTO AGREEMENT WITH THE LAND OWNER IN THE TARGET ZONE TO PURCHASE CERTIFICATES.
6. LANDOWNER EITHER HOLDING OR HAVING AN OPTION OVER CERTIFICATES, LODGES A DEVELOPMENT APPLICATION IN THE TARGET ZONE IN ACCORDANCE WITH THE REQUIREMENTS OF THAT ZONE PLUS THE ADDITIONAL NUMBER OF ALLOTMENTS EQUAL TO THE NUMBER OF TRANSFERABLE TITLE RIGHTS CERTIFICATES HELD.
7. APPROVAL ISSUED BY THE PLANNING AUTHORITY WITH STATEMENT OF REQUIREMENTS.
8. STATEMENT OF REQUIREMENTS FULFILLED AND CERTIFICATION OF COMPLIANCE THEN ISSUED BY PLANNING AUTHORITY.
9. CERTIFICATION OF COMPLIANCE (INCLUDING CERTIFICATES OF TRANSFERABLE TITLE RIGHTS), PLANNING APPROVAL AND FINAL PLANS LODGED WITH REGISTRAR GENERAL.
10. REGISTRAR GENERAL CONCURRENTLY ISSUES NEW CERTIFICATES OF TITLE, CANCELS TRANSFERABLE TITLE RIGHT CERTIFICATES (AND ORIGINAL TITLE FROM SOURCE AREA IF THIS HAS NOT ALREADY OCCURRED) AND REDUCES THE NUMBER OF TRANSFERABLE TITLE RIGHTS IN THE REGISTER BY THE NUMBER OF NEW TITLES ISSUED.

SOURCE: Mount Lofty Ranges Management Plan 1992:p180

with a new title to be called a 'Rural Title'. Land with such a title will only be able to be used for purposes such as agriculture or remain undeveloped, with construction of a dwelling not allowed. It is envisaged that Parliamentary legislation to enact such a land title will be introduced.

▼ MANAGING TDR SCHEMES

1. ADMINISTRATION ▼

Recording the transfer of rights is obviously important and most schemes set up an authority to deal with this. Some are empowered to purchase available development rights in anticipation of selling them at a later date to developers (This was the system originally used in the British Town and Country Planning Act of 1947). Generally though, the sale and purchase price of TDRs is left to the respective landowners and the authority merely records the transaction, noting (obviously enough), the reduced allowance of the donor site and increased bonus available to the recipient. The administrative procedure proposed for the *Transferable Title Rights Scheme* for the Mt Lofty Ranges SA is shown at [3.11]. This is for the earlier 'amalgamation of titles' proposal, but the need for government regulation and administration are similar with any scheme.

For the transfer of development rights to be of public benefit and not just serve private gain, it is essential that donor sites contain an asset worthy of protection. It follows therefore that a prerequisite of any TDR policy is the preparation of an 'assets report' and that the community endorse the protection of those assets as the aims of the scheme. For heritage conservation, the identification of assets is often made easier through work already completed by agencies such as the National Trust. Even for rural areas, there are a significant number of scenic landscapes, forests and landmark structures listed under either the National Estate, National Trust or at local government level. Many of these are on private land and the use of development credits may enable protection and or restoration of such features.

TDR PLANS: PROPOSED GOALS, TRANSFER AREA SELECTION BASIS

LOCATION

Scottsdale, Arizona

PROPOSED GOALS

"to preserve the natural character and aesthetic values of the McDowell Mountains"

BASIS FOR TRANSFER AREA SELECTION

The locations of the (transfer areas) shall be designed "to minimize public outlays for utilities." No mention is made of a relationship to the preservation area.

LOCATION

Windsor, Connecticut

PROPOSED GOALS

"To provide the flexibility to promote the most appropriate relationship of residential development to transportation, community facilities, and public and private services"

BASIS FOR TRANSFER AREA SELECTION

"The land to which density shall be transferred shall be... adequate to accommodate the greater density with minimal adverse effects on adjacent development." No mention is made of a relationship to the preservation area.

LOCATION

Collier County, Florida

PROPOSED GOALS

"Within Collier County there are certain areas, which because of their unique assemblages of flora and/or fauna, their aesthetic appeal, historic or archeological significance or their contribution to their own and adjacent ecosystems, make them worthy of special regulations... The purpose of this... regulation is to assure the maintenance of these environmental and cultural resources and to encourage the preservation of the intricate ecological relationships within the systems"

BASIS FOR TRANSFER AREA SELECTION

The transfer shall be "any area not specified as an area to be protected." Except in a trivial (N-1) sense, no mention is made of a relationship to the preservation area.

LOCATION

Hillsborough Township, New Jersey

PROPOSED GOALS

"to add flexibility to develop proposals, to preserve land for public and agricultural purposes, to prevent development on environmentally sensitive areas and to aid reducing the cost of providing streets, utilities, and services"

BASIS FOR TRANSFER AREA SELECTION

"this... permits owners of lands in the (transfer) Districts to increase the density of development on that tract in exchange for dedicating separate... lots of either open space, school site or other public use." This ordinance has the greatest potential for abuse. Not only need there be no relationship between the transfer and preservation areas, but the ordinance does not specify either. Any landowner can offer a tract of land for "public use" in exchange for the right to develop a parcel. Often, this results in a designation of neighboring land as open space—preserving the view for the landowner and reducing his property tax bill.

LOCATION

New York City

PROPOSED GOALS

To protect Historical Landmarks

BASIS FOR TRANSFER AREA SELECTION

"The City Planning Commission may permit development rights to be transferred to adjacent lots from lots occupied by landmark buildings."

LOCATION

Buckingham Township, Pennsylvania

PROPOSED GOALS

"the purpose of this article is to permanently protect a vital natural resource: farmlands and agricultural soils.

BASIS FOR TRANSFER AREA SELECTION

"the creation of a market for certificates of development rights is essential if the transfer of such certificates is to be real alternative to development." The implication here is that the location of the transfer area will be determined primarily by the ability of that area to generate a given market value for DRCs. Any connection between the preservation and transfer areas will be purely coincidental.

LOCATION

New Jersey

PROPOSED GOALS

"to encourage the retention and preservation of aquifer recharge area, flood plains, swamps,... and other open space land."

BASIS FOR TRANSFER AREA SELECTION

Based upon existing and future demand conditions which would guarantee, if possible, a certain value for DRC. "In order to protect the marketability of development rights certificates... and the capacity of the transfer zone to accommodate... uncanceled certificates..."

SOURCE: Barrese (1983:p239)

Other assets, or 'goals', considered relevant in rural areas of the United States for the application of transferable rights and the basis on which the transfer is to be made, are listed at [3.12]. These include the protection of farmland and agricultural soils (Pennsylvania), preservation of aquifer recharge areas (New Jersey) and to promote appropriately located residential areas (Connecticut).

Depending on the method chosen for administering TDRs, recipient sites may be either adjacent to the donor sites or in a selected precinct that is capable of development above that generally allowed without undue loss of public amenity. In the most market driven versions (Sydney 1971 Planning Scheme) there is no requirement to specify a recipient site at the time of sale. Thus, the purchase of rights from donor sites may be by any party, who may not intend to utilise the rights in any construction, but merely speculate on their future growth in value. In 1984 it was estimated that there was 40,000 m² of extra floor space purchased but unallocated 'floating above' Sydney. (Hamnett 1987:p68).

2. METHODS OF TRANSFERRING RIGHTS ▼

There appear to be numerous methods of managing the transfer of rights. Though all are intended to result in the transfer of development potential, they approach the administration of the process differently. The four main systems appear to be:

1. *Direct link method* - one for one. (New York scheme). In this situation the rights of the donor site are transferred directly to an adjacent site. It presupposes that a developer is in control of both sites and that approval is given on the total development application. This has the advantages of;

- a) directly linking bonus approval to conservation of an asset in the immediate vicinity,
- b) obtaining an immediate result of development and conservation in a short span of time,
- c) keeping the negative impact of greater density of development

- in the area that is to directly benefit from the protected assets,
- d) ensuring that there are no 'floating' TDRs bought for mere speculation and
 - e) allowing for local administration of the scheme, either by local government or under a local management plan.

2. The free purchase of TDRs - only restricted by predesignated donor and recipient precincts (Sydney Scheme 1971). In such a scheme the authority classifies all possible sites that can offer for sale their unused development rights and a precinct where it is deemed they can be used. The main advantages to such an approach is;

- a) that the owner of a donor site need no involvement in any new construction project, but merely has to sell their TDRs,
- b) the TDRs are 'received' away from what may be a large area of productive farmland or environmentally sensitive land,
- c) greater opportunity for owners of donor sites to sell, with the possible number of purchasers for the TDRs (recipient sites) usually set at about two to every one donor site⁵, and
- d) the involvement of third party speculators who may offer cash up front to landowners well before the demand to develop occurs.

3. The use of a dwelling rights bank - where available excess plot ratio from heritage sites can be lodged and from which developers must buy their bonus ratios. This, according to Bindon, is the proposed new Sydney Scheme and is intended to achieve;

- a) the elimination of a speculative market in TDRs,
- b) more control over the distribution of funds raised and
- c) greater control over fluctuations in the market price of TDRs.

4. Purchase of development rights - A fourth but less common administrative approach is for the authority concerned to buy the TDRs itself, selling them on to developers at a later date as required (New Jersey Pinelands). This has the clear advantages of;

- a) kick starting the scheme with money flowing to donor sites immediately and

⁵ Poole (1984)

- b) allowing significant control over the use to which the moneys paid to donor sites is put (ie building restoration, farm preservation or protection of natural habitats).

Clearly though it also places the authority in a awkward position in the marketplace should demand not meet its estimated buying rate and price.

3. SOME DISADVANTAGES OF TDRs ▼

Ultimately, the issue arises as to what value the public have obtained from the sale of TDRs. In conservation planning, the protection of an historic building or of areas of native habitat is generally an acceptable public benefit, but there are pitfalls in realising this and a number of side effects that mitigate some of the benefits. These disadvantages can be categorised in three main groups:

1. Economic - the need for growth within a region and the effects of market fluctuations (donor sites compared to recipient sites).
2. Administrative - the effectiveness of a public authority attempting to modify market forces.
3. Legal - the validity of conditions and covenants placed on the transfer of rights.

◆ *Economic:*

There is no point in having development bonus rights to sell if there are no potential purchasers. The potential to sell depends largely (as does most real estate sales) on the current economic growth rate and the perceived economic outlook of the time. This will either create a sluggish market, with little demand for bonus development, or a high demand market where bonus development rights are 'sought after'. If the level of demand is weak, the price offered for the purchase of rights will be insufficient to encourage owners of rights to sell.

These changes in supply and demand are beyond the control (and prediction) of planners, but ultimately, the successful use of TDRs depends on the region in question being consistently below its

BUNDLE OF RIGHTS - WHAT A PROPERTY OWNER REALLY OWNS

The interest held by a property owner is called the 'fee simple' interest. This interest is like a bundle of sticks, each which represents a right associated with the property. Such rights include the right to farm, to extract minerals, to cut timber and to do anything else with the property unless prohibited by law. These rights can be separated from the 'dominant estate' and transferred to other parties as 'less than fee simple'. An easement is one such less-than-fee interest.

In granting an easement, an owner gives up some of the rights in a property, as specified in the deed of easement (the legally recorded document); that is, the owner agrees to certain restrictions in what could otherwise be done with the property. For example, an owner can sell to a mining company the right to extract ore or give a neighbour the right to cross a field; easements covering mineral rights and rights-of-way have been in use for centuries.

Under a conservation easement, the owner must give up all or most of the rights associated with construction on the property - often called the 'development rights' - or the rights to remove vegetation or alter building exteriors. The property owner continues to experience the rewards and responsibilities of ownership, and the property can still be sold, rented, bequeathed, or otherwise transferred while subject to the easement.

Easements can be condemned - that is, purchased, at appraised value without the owner's consent - a power generally available only to government entities and public utilities. Although condemnation is used most frequently to obtain rights-of-way, it can also be used for conservation easements.

SOURCE: Stokes et al (1989:p178)

optimum or desired development potential. That is, that somewhere in the general vicinity of the site to be protected, there is a desire to develop more than otherwise allowed. In regions with slow growth rates, such as Tasmania, this is often not the case.

Unless potential recipient landowners perceive an economic benefit from purchasing increased development potential, there will be a glut of donors and no buyers. In cases where an authority (State or semi-government) has pre-purchased some rights, they may be caught holding them for a considerable period or forced to sell at a loss, and this raises a significant administrative issue.

◆ *Administration*

In most cases the introduction of TDRs is by planning authorities motivated by a sense of 'public good'. This is unquestionably the correct charter for public administration, but where the scheme proposed to achieve this public benefit is so market driven, involvement of the public authority must be cautious. It is generally not their charter to invest large sums of public monies into planning mechanisms that, due to the vagrancies of the commercial market, may incur even greater long term liabilities.

Most schemes also fail to recognise that not all donor sites are equal. In many instances, remote land of little value is traded first. Owners of land with greater development potential but which the public see as worthy of retaining undeveloped, may 'hang out' for unrealistically high prices for their 'asset'. The planning goals may therefore be frustrated, yet the administration of a scheme that factored all these considerations into its charter would be complex.

◆ *Legal:*

In the United States, the use of TDRs encounters a range of legal problems associated with their constitutional rights to own and use property. This is despite their general acceptance of the 'bundle of rights' concept as described at [3.13]. Australian schemes have not yet encountered the same degree of legal problems, the power of the

IDEALISED OUTCOMES FOR THE USE OF TRANSFERABLE DEVELOPMENT RIGHTS

PLANNING DILEMMA	PLANNING TOOL: TDRs	OUTCOME
WHO PAYS FOR EXTINGUISHING 'DEVELOPMENT POTENTIAL' ON PRIVATE LANDS THE COMMUNITY REGARDS AS BEST LEFT UNDEVELOPED OR RESTRICTED IN USE?	1. THE PUBLIC PURSE OR 2. THE DEVELOPMENT POTENTIAL IS SOLD TO BE USED ELSEWHERE	OWNERS COMPENSATED FOR THE LOSS OF DEVELOPMENT POTENTIAL AT EITHER: 1. VALUE SET BY THE STATE, OR 2. A VALUE SET BY THE MARKET
HOW ARE THOSE OWNERS OF PRIVATE LAND THAT GAIN FROM FAVOURABLE PLANNING AMENDMENTS TO CONTRIBUTE FINANCIALLY TO THEIR 'WINDFALL'?	1. NOT AT ALL OR 2. BY PURCHASING THE RIGHT TO DEVELOP FROM THOSE WHOSE LAND IS RESTRICTED BY THE PLANNING CHANGES.	1. PLANNING AMENDMENTS MADE TO FAVOUR ALL OR 2. AMENDMENTS MADE FOR THE BEST PLANNING INTENT

State to alter or extinguish property rights being stronger. Nevertheless, ensuring that land owners utilise the 'benefits' of TDRs as intended can raise significant legal issues.

Why shouldn't an owner decide when and how to use bonuses rather than have the state decide. To some extent, this public concern over individual rights has been the cause of the many redrafts and public meetings during the formulation and redrafting of the Mt Lofty ranges scheme in South Australia. Hence, most schemes provide for voluntary agreement to the conditions of transfer. Even so, issues arise if owners of benefits die, wish to 'cash in' their benefit in some alternative manner or simply fail to proceed in the manner intended.

▼ POTENTIAL FOR USE IN TASMANIA:

Notwithstanding these administrative issues, it would seem that transferable development rights have the potential to address a number of current Tasmanian rural planning issues. These include:

- The stemming and possible reversal of fragmentation of rural land holdings.
- The retention of fertile farmland for productive use.
- Protection of landscape and native bushland from undue clearing.
- Preservation of historic or culturally important sites on private land.

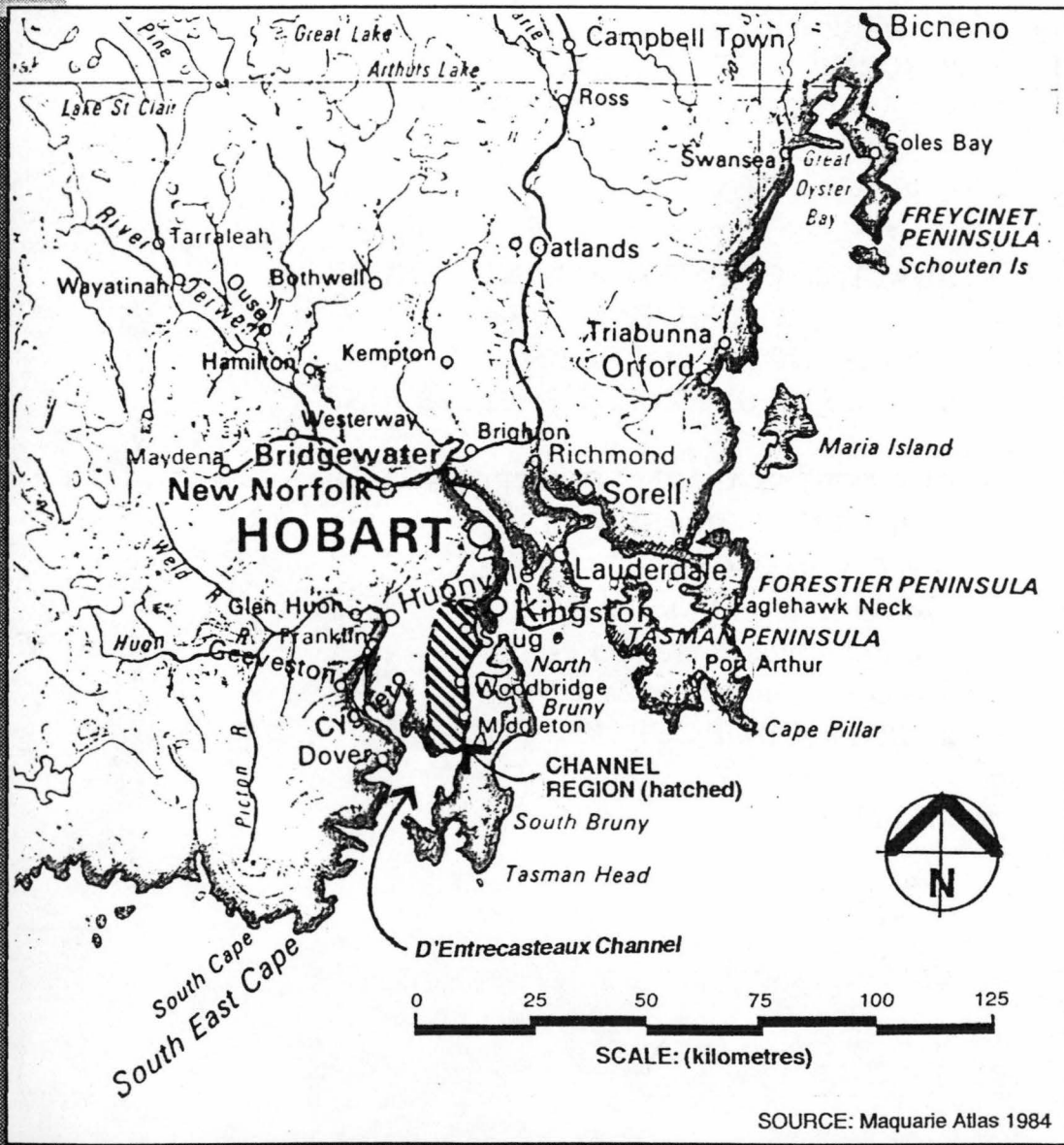
TDR's offer planning authorities a mechanism by which these issues may be addressed whilst 'answering' the two planning dilemmas at [3.14] with a fair and equitable outcome: *Those who benefit from planning amendments compensate those who are disadvantaged.*

Their use is consequently reviewed in the next section in the context of a rural 'study area'. This is a region close to Hobart and subject to many of the planning issues raised.

PART 4. CASE STUDY:

THE D'ENTRECASTEAUX CHANNEL

- ▼ THE STUDY AREA
 - 1. INTRODUCTION
 - 2. BRIEF HISTORY
 - 3. SCENIC LANDSCAPE QUALITIES
 - 4. LAND CAPABILITY & LAND USE
 - 5. SETTLEMENTS
 - 6. POPULATION
- ▼ ANALYSIS OF EXISTING LAND TENURE
 - 1. LAND OWNERSHIP
 - 2. EXISTING OF LOT SIZES
 - 3. PATTERN OF RECENT SUBDIVISIONS
- ▼ CURRENT PLANNING CONTROLS
 - 1. THE PLANNING SCHEME
 - ◆ *Fragmentation*
 - ◆ *Rural Residential*
 - ◆ *Landscape Protection*
 - ◆ *Other Conflicting Zone Uses*
 - 2. CRITIQUE OF CURRENT SCHEME
- ▼ SUMMARY



PART 4. CASE STUDY:***THE D'ENTRECASTEAUX CHANNEL*****▼ THE STUDY AREA****1. INTRODUCTION ▼**

The case study area is located in a region known locally as 'the Channel'. Defined as municipal area *Kingborough 23 South*, the region starts at Lower Snug, extending south past the town of Gordon to Ninepin Point. The western edge is defined loosely by a range of hills which separate the area from the Huon Valley whilst the eastern border is formed by the D'Entrecasteaux Channel, a waterway which separates Bruny Island from mainland Tasmania and from which the region takes its name. A portion of this region, as shown on map [4.01], is used as the study area. It is also covered by the Tasmap¹ 1:5000 orthophoto maps *Cygnets 35, 45 & 55*, parts of *Cygnets 25, 44 & 54* and parts of *Barnes Bay 21 & 31*.

This area was chosen due to the availability of these maps which contain cadastral information corrected to 1986 and 1987, its use in two relevant previous studies (Urquhart 1991 and Paterson et al 1978) and as it appears to present an appropriate range of rural planning problems akin to those identified in the previous sections.

Urquhart in particular identifies the fragmentation and loss of farmland in the area as being of concern for the maintenance of environmental, rural and scenic quality. "The halting of fragmentation and loss of good farmland must be based on land capability and backed by other measures" (p117). She also suggests that TDRs may provide one of the planning tools necessary for achieving this goal.

¹ Land Information Bureau (1986 and 1987)
Department of Environment and Land Management, Tasmania



4.02

GENERAL MAP OF
THE STUDY AREA
IN THE
D'ENTRECASTEAUX
CHANNEL REGION,
SOUTH OF HOBART

The map is a
photo reduction of
eight 1:5000
'TasMap'
orthophoto maps,
hand coloured to
show the general
landform, road
and creek system
and settlements.

2. BRIEF HISTORY ▼

The first European exploration of the region was by the French Rear Admiral Bruni D'Entrecasteaux. Geographic features bearing his name and that of his second in command, Commander Huon de Kermadec, remain as testimony of their visit in 1792-93. However, the inland areas were densely forested, confining their exploration to the coastline. They did however record "the most interesting and comprehensive descriptions of the life style, customs and appearance of ... (the friendly Aboriginal people of the area) ... just ten years before white settlement and their ultimate virtual extinction". (Rosenman 1992:p xix)

Partly out of concern that the French might claim Van Diemen's Land as their own colony, the British settled at Risdon (and then Hobart) in 1802. Both Urquhart (p25-29) and Paterson (p45-48) provide a brief history of early European settlement in the region on which the following is based.

With shipping being the main means of transport in the new colony, the River Derwent, D'Entrecasteaux Channel and the Huon River provided an easy means of movement from 'Hobart Town'. Explorer John Oxley in 1810 noted the large stands of timber in the area and thus logging begun as the first exploitative industry of the area. From the early 1800s, temporary whaling stations began using the bays and waterways of the channel for shelter, boat building and repairs. Demand for timber increased with the development of a fishing industry, coastal transport and the production of such products as fence posts, shingles, firewood and dried and dressed timbers. Increasingly, the Channel area became a valuable source of raw materials and produce for the growing town of Hobart.

Urquhart (p25) identifies the impact of these early industries on the settlement and land tenure pattern and the extent to which it is still current today. "The existing pattern of generally small properties and 'patchwork' appearance is essentially a result of this initial development." Coal from the Kaoota area and timber from the hills behind Gordon, Middleton, Woodbridge and Kettering were carried down to the coast by a network of tramways. As illustrated on map [4.02], there remains today this pattern of roads and cleared areas running westward up into the hills, a legacy of both the timber and latter apple industry.



4.03

Typical view looking south at
D'Entrecasteaux Channel
and Bruny Island



4.04

Typical rural scene of
cleared paddocks and tree
covered hills and ridges

3. SCENIC LANDSCAPE QUALITIES ▼

A striking and attractive feature of the area is the wooded hills and ranges which provide “an aesthetically pleasing contrast to the agricultural development of the river and coastal areas.” (Patterson p148)

Urquhart identifies a number of these landscape qualities, some intrinsic, others the result of human settlement patterns. They can be summarised as:

- The protected bays and waterways, with distant views often available of landmark features such as Bruny Island and Mt Wellington.
- The wooded hills and remnant natural vegetation around buildings, along streams and fence lines.

These natural landscape elements contrast with altered aspects of the landscape such as:

- A patchwork pattern of fields on flat alluvial lands and on the lower slopes.
- The introduction of regularly planted hedgerows, imported tree species and fruit trees.

Characteristic of the entire region is the fine grain of the pattern and also the extent to which views alter dramatically at different points in the area. Combined, these features contribute to an overall pattern of modified and natural landscape elements identified by Urquhart as of “high quality and sensitivity” (p117) Photographs at [4.03] and [4.04] illustrate this general land pattern.

These landscape qualities are often the very features that attract new rural residential settlers to the area (Patterson:p148) but also the ones most probably threatened by the current pattern of rural residential settlement. Subdivision is occurring mostly on the already cleared land of the alluvial ‘valley’ floors and along the existing east-west inland roads. The wooded lots on steeper land have largely remained undivided. Yet disregarding the issue of bushfire risk, these presently wooded lots may be more appropriate for rural residential living than land on the best agricultural soil.



4.05

New dwelling built in the
remnants of an orchard
along Watsons Road



4.06

New grapevine plantings
on a small 2.5ha lot on
Groombridges Road



4.07

View looking N.E. at Bruny Is
over a patchwork of fields &
bushland

4. LAND CAPABILITY & LAND USE ▼

The agricultural land capability is characterised fairly easily by the soil types of the region. Based on work by Hepper Marriot and Assoc (1986), Urquhart (p35) lists these soils generally as:

- A shallow rubble clay not suitable for agriculture throughout most of the moderate to steep slopes of the area.
- Fertile alluvium in the lower reaches of the valleys.
- Medium quality podsolic soils on a dolerite base extending roughly from Pickett Hill south to Snug Falls.
- Lower quality clay loam on triassic sandstone on the coastal plains south of Kettering.

The land use pattern has developed around the productive capabilities of these soils. The original promotion of settlement was through grants of large areas of between 200 and 250 Ha running from the coast back into the hills. These proved, even with convict labour, too difficult to develop as single holdings and were subsequently subdivided into smaller lots ranging from 4 to 20 Ha. Early farmers carried out subsistence farming, supplementing income from orcharding with timber cut through land clearing and vegetable, fodder crops and berry fruits. As early as the 1820s it was found that the Huon and Channel areas were well suited to the production of pomme fruit. However, it was not till the 1870s that the value of the apple and pear markets increased sufficiently to warrant full scale investment in orchards, partly due to losses of production caused by codling moth to orchards in the north and midlands of Tasmania.

Orchards were first developed on the relatively flat alluvial coastal plains before being planted on the north and east facing slopes of the flanking hills. Once again, the 'export' of this product reinforced the east-west road pattern as produce was brought from the hills down to the jetties for shipping by steamer to Hobart. The trade in orchard fruits continued in boom bust cycles until the early 1970s when a downturn in the market combined with Britain's entry into the European Market saw the Government offer a bounty to assist farmers clear their land of now redundant apple trees.

[4.05] More recently though, the development of new varieties of



4.08

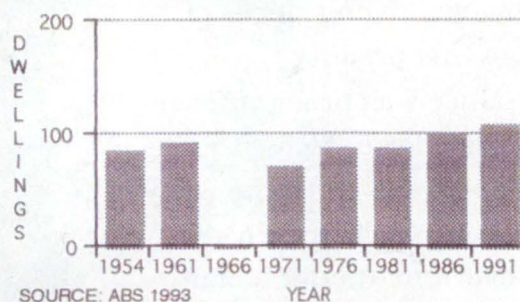
Kettering, now a pleasure boating centre and growing area for 'rural' living

4.09

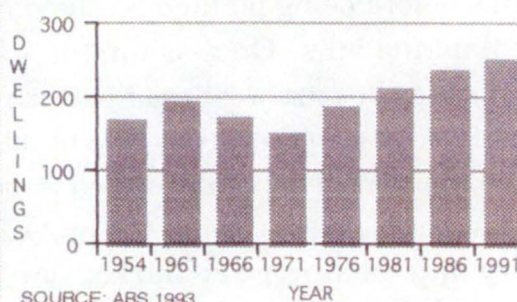
Traditional village corner store in Woodbridge built to the street line



A: KETTERING: OCCUPIED DWELLINGS



B: SNUG: OCCUPIED DWELLINGS



4.10

Change in dwelling numbers for Kettering (A) and Snug (B)

fruit such as Fuji and Nashi, attractive on Asian markets, has seen a resurgence to some parts of the industry. Other 'new' industries in the area include deer farms, vineyards [4.06] and the recent introduction of an aquaculture industry in the form of Atlantic salmon farming.

The existing pattern of land clearance closely matches the original farming areas, with the alluvial soils along valley floors supporting the majority of farm production.

The naturally vegetated bushland extends down the length of the north-south skyline with 'fingers' running out on the east-west spurs as seen in photo [4.07]. The settled areas are divided between those in the traditional coastal villages such as Kettering and Woodbridge (photos [4.08] & [4.09]) and scattered rural residential lots spread along the existing road network.

5. SETTLEMENTS ▼

Larger settlements throughout the Channel region are all coastal, having developed essentially as transportation and distribution points. Coastal shipping remained the main communication and transport for the area until well into the twentieth century. In fact road travel to Hobart remained difficult due to narrow winding roads until the construction of the 'Southern Outlet' highway in 1970. This, along with the collapse of the Tasman Bridge in 1975 resulted in a boom of residential development in Kingston and south into the Channel area. Large portions of farmland adjacent to the coast and accessible by the existing road infrastructure have as a result been subdivided and sold for rural residential living.

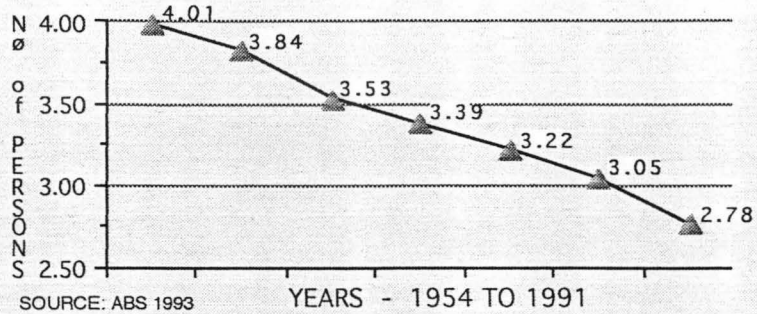
At the 1991 census, the Kettering and Woodbridge collector districts² had 203 occupied dwellings and 14 unoccupied dwellings, making a total of 217. This represents a significant increase in dwelling numbers since the 'slump' in growth experienced in the early 1970s. For Kettering, 110 occupied dwellings represents the highest number of houses in the district in the period 1954 - 91 and a 55% increase since 1971 (chart [4.10.A]). Whilst Woodbridge has not returned to its 1961 high of 108 dwellings, it is still up almost

² Australian Bureau of Statistics 'CDs'

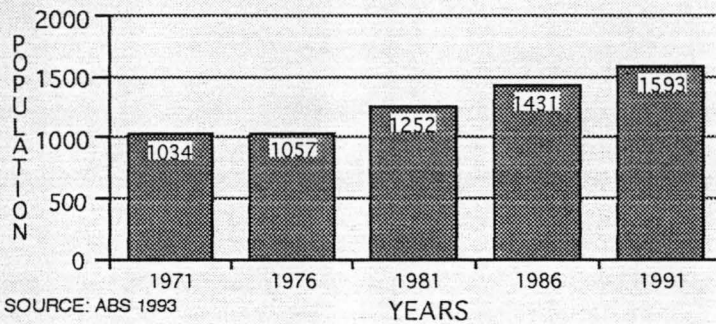
4.11

Chart of
persons/
dwelling

A: CHANNEL REGION: PERSONS PER HOUSEHOLD



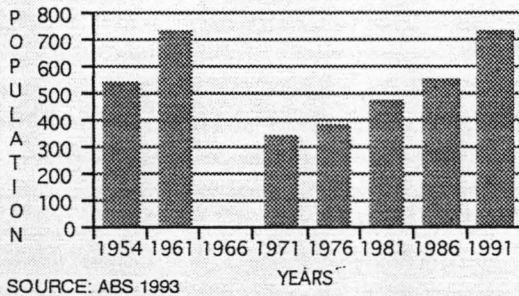
CHANNEL REGION: POPULATION



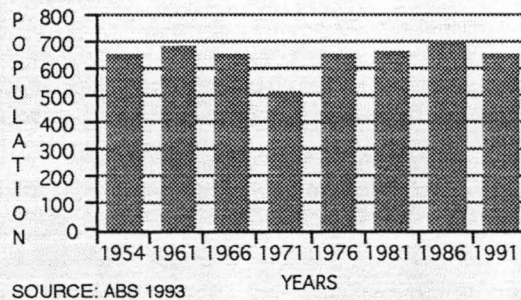
4.12

Population
chart

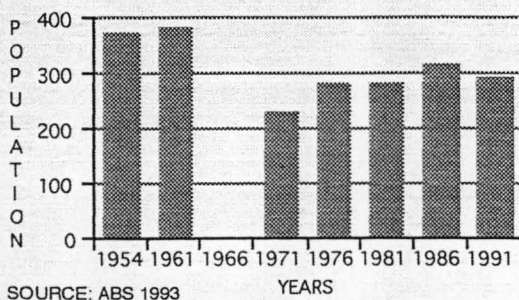
MARGATE: POPULATION



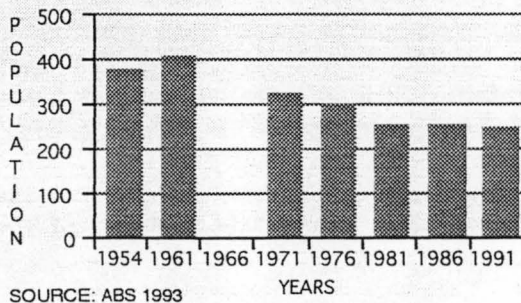
SNUG: POPULATION



KETTERING: POPULATION



WOODBIDGE: POPULATION



4.13

Population graphs for
Channel region towns
SOURCE: ABS 1991 & 1993

10% from 1971 (85 - 93). The towns of Snug (chart [4.10.B]) and Margate, closer to Hobart, have the largest increase in housing stock since 1971, with Margate up 148% (100 - 248) and Snug up 67% (152 - 254). These increases to dwelling numbers has not however translated to proportional increase in population. In line with trends Australia wide, the number of occupants per household has fallen significantly from over 4 in the 1950s to an average of 2.8 in 1991 (chart [4.11]).

6. POPULATION ▼

The 1991 census figures showed that the population of the Kettering and Woodbridge districts in 1991 was 295 and 253 respectively. The surrounding rural collector district of Birchs Bay had a population of 579 whilst to the south, the collector district for Gordon and Middleton had a population of 466. This results in a total population of 1,593 in the region that affects most directly the study area (chart [4.12]). The towns of Snug and Margate, with a total population of 1,410, are closer to Hobart and hence rely less on the services of Kettering and Woodbridge.

Since 1954, Margate and Snug have shown the greatest population 'regrowth'. Their populations have now returned to the 'high' of the early 1960s. Kettering has experienced a limited 'regrowth', up 27% from the low of 1971 and returning about half way to the 1960s high. Woodbridge has continued to decline up to the 1981 census, since when the population decline has stabilised. (charts [4.13 A-D]).

Many of the new residents are coming from Hobart's suburban areas and often still rely on commuting to Hobart for employment. Accordingly, the recent growth in population may not translate proportionally to an increase in local economic activity. Some 'spin offs' can be expected though, such as increased expenditure at local shops, employment of local tradepersons and from hobby farmers, a demand for rural services such as dam construction, mowing of paddocks and seasonal harvesting of crops.

For any given parcel of land in Tasmania, there can be up to five numeric means of identification. The most common and widely used is of course the street number. This is rarely applicable in rural areas, and for postal delivery, Australia Post assigns road side mailbox numbers (RMB #)

The Unique Parcel Identifier (UPI) is a seven digit number developed by TasMap for the purpose of identifying cadastral information on maps issued by them. Each land parcel in each of 40 municipal areas is marked with a four or five digit number. This is then prefaced with the two digit municipal code, which, for Kingborough is 23. A zero is added to four digit numbers to ensure a total of seven digits

For land tax and rating purposes, the Valuer General and most local government data bases utilise a different indexing system. This is based on a Property Identity number (Property ID) which can be up to ten digits. This number is however attached to property owners and not necessarily to each individual lot. Where a parcel of land in common ownership consists of a number of individual lots, the data base shows either the same Property ID or, often, records the ID number only once, against the 'first' entry and no ID against subsequent entries. A certain amount of detective work is often required to elucidate land parcels in common ownership.

Ultimately, all land parcels that exist in law have recorded titles. The Certificate of Title (CT) is assigned a number which, in conjunction with the folio and volume number within which it is filed at the Lands Titles Office, provides a further numeric system by which to identify land.

Some councils (eg Glenorchy) have devised their own numeric code for the recording of ratable property.

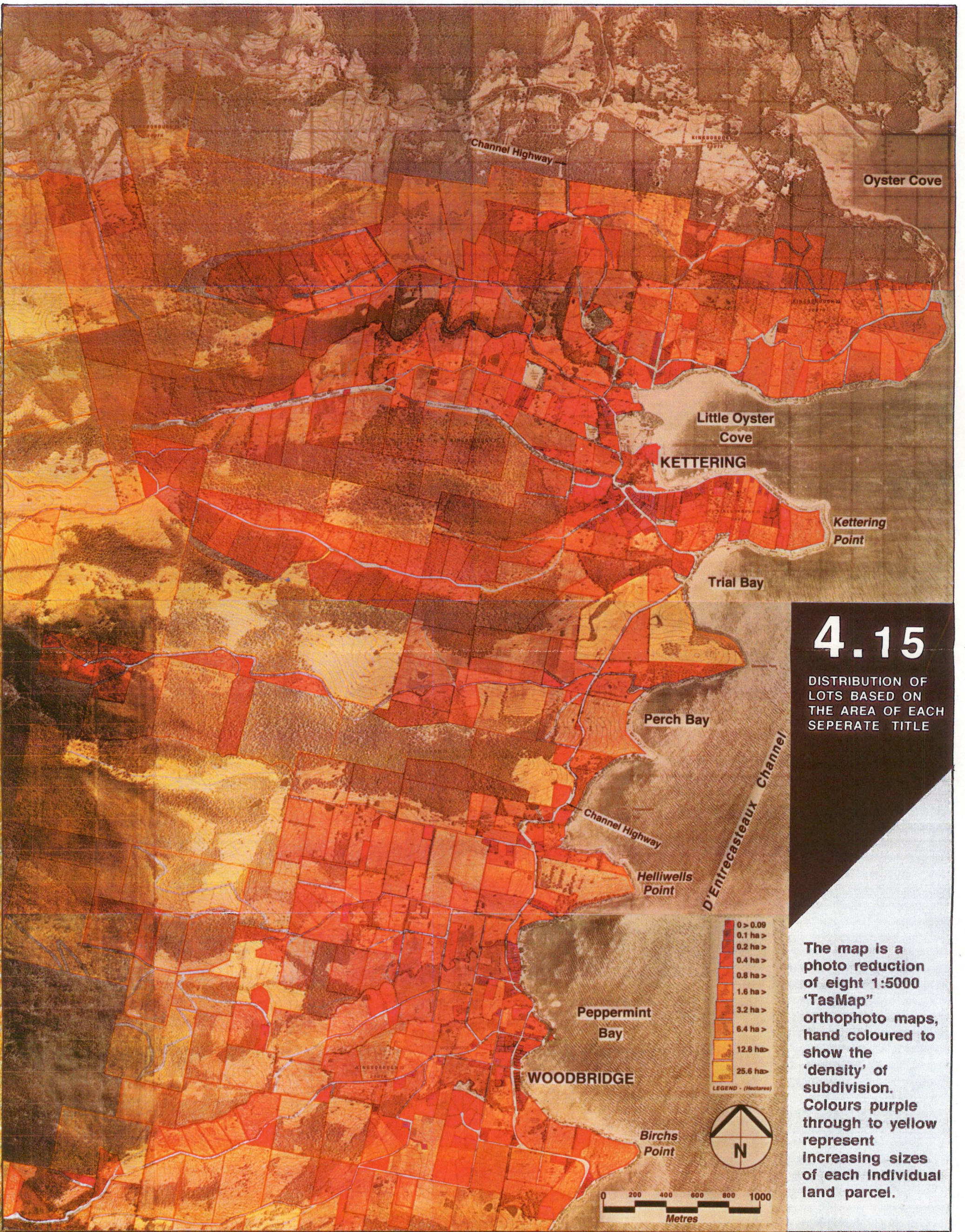
There is a current move to correct and rationalise the system in the process of producing up-to-date GIS information. Many familiar with the current systems welcome such moves but doubt that the process can be completed quickly and without a degree of inherent error.

4.14

The long path to
'information'

4.15

A3 map of lot sizes:
FOLDOUT



4.15

DISTRIBUTION OF
LOTS BASED ON
THE AREA OF EACH
SEPERATE TITLE

The map is a photo reduction of eight 1:5000 'TasMap' orthophoto maps, hand coloured to show the 'density' of subdivision. Colours purple through to yellow represent increasing sizes of each individual land parcel.

▼ ANALYSIS OF EXISTING LAND TENURE PATTERNS

Today, the study area contains just over 700 land parcels on separate titles. These were identified using the Unique Parcel Identifier (UPI Number) marked on the 1:5000 orthophoto maps. To ascertain the size and nature of each holding involved a rather tortuous process utilising a number of data bases and cross referencing via different indexing systems, as noted at [4.14] Valuable assistance in this task was given by Mr D Mackay of the Kingborough City Council Planning Department.

The information gathered proved both informative and impinged significantly on my views as to the likely relevance and/or success of using a transferable rights scheme. At various stages of the data gathering process, these views swung from regarding the use of TDRs as ideal to regarding the case as 'lost'. It certainly highlighted the need for planners to have access to complete and reliable information on which to base decisions. It cannot be claimed with complete confidence that this project has collected all the necessary data, but it is considered to be reasonably indicative of the state of affairs.

1. LAND OWNERSHIP ▼

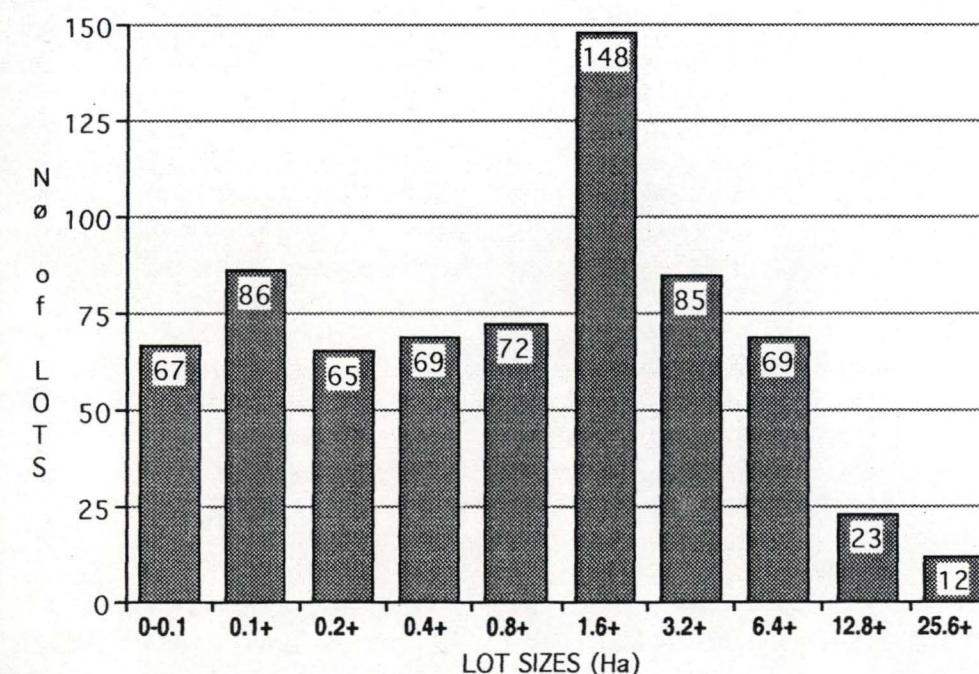
Of 705 lots identified in the sample area, 65 are in public ownership of Council or the Crown. These including recreation reserves, road reserves, coastal reserves and State schools. Forty seven (47) are of unidentified ownership, but are assumed to be private holdings. Hence, over 90% (640) of lots on the area are privately owned. The size of each of these lots (in hectares) is presented on map [4.15]. Each colour represents one of ten size 'categories', on a logarithmic scale from less than 0.0999 ha (999m²) to those lots over 25.6 ha.

For these 640 'private' lots there are 463 separate owners. 83% (385) land owners have only a single holding each whilst the remaining 17% (78) own two or more of the remaining 274 lots.

4.16

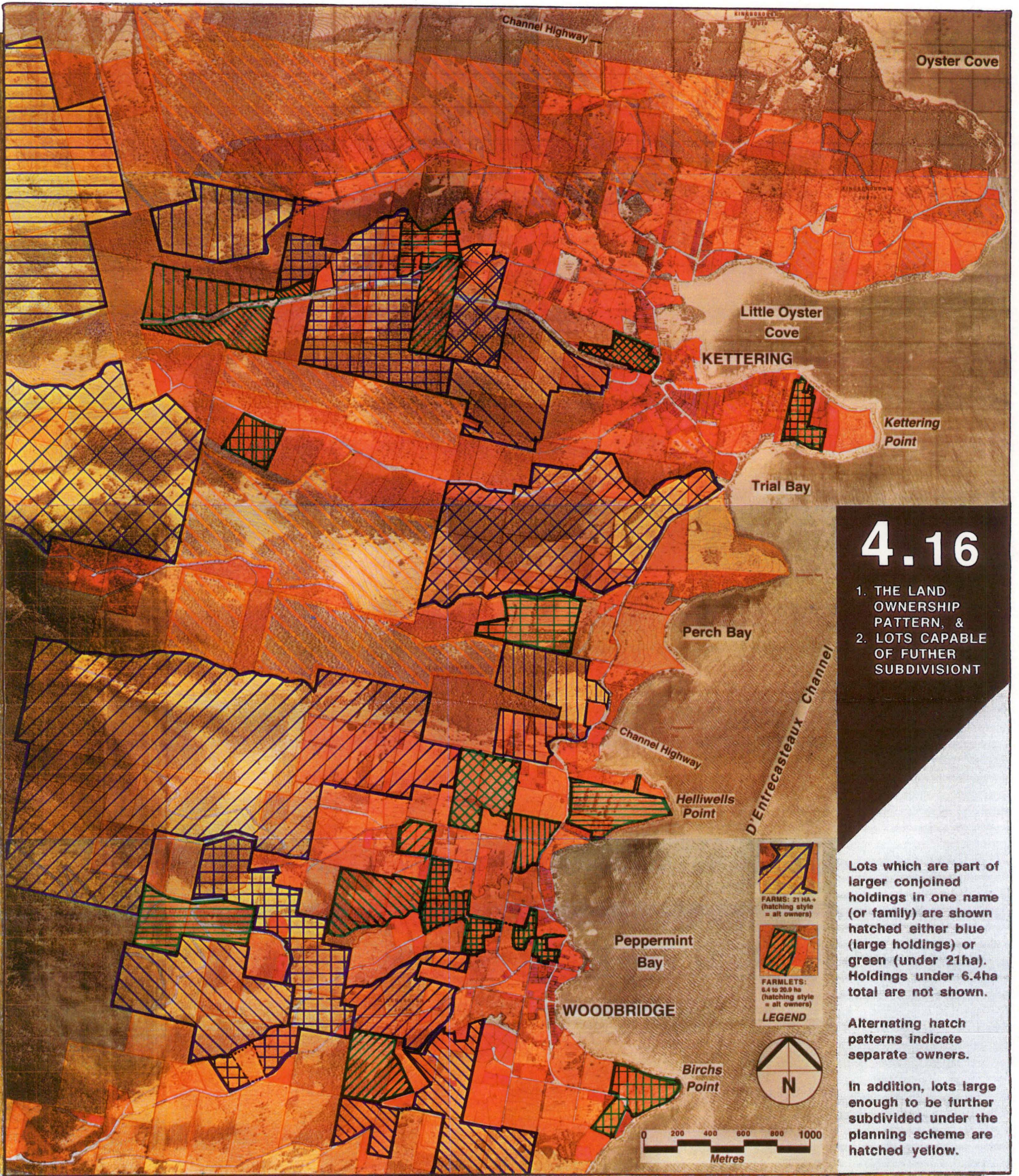
A3 map of land ownership:
FOLDOUT

DISTRIBUTION OF LOTS



4.17

Distribution of 698 lots in
the study area into
various size groups



To further examine ownership patterns, the 78 owners of more than one lot where recorded on map [4.16] as either green hatching (small holdings) or blue hatching (large holdings). In addition, large single holdings capable of further subdivision under the present Kingborough Planning Scheme are marked (yellow hatch).

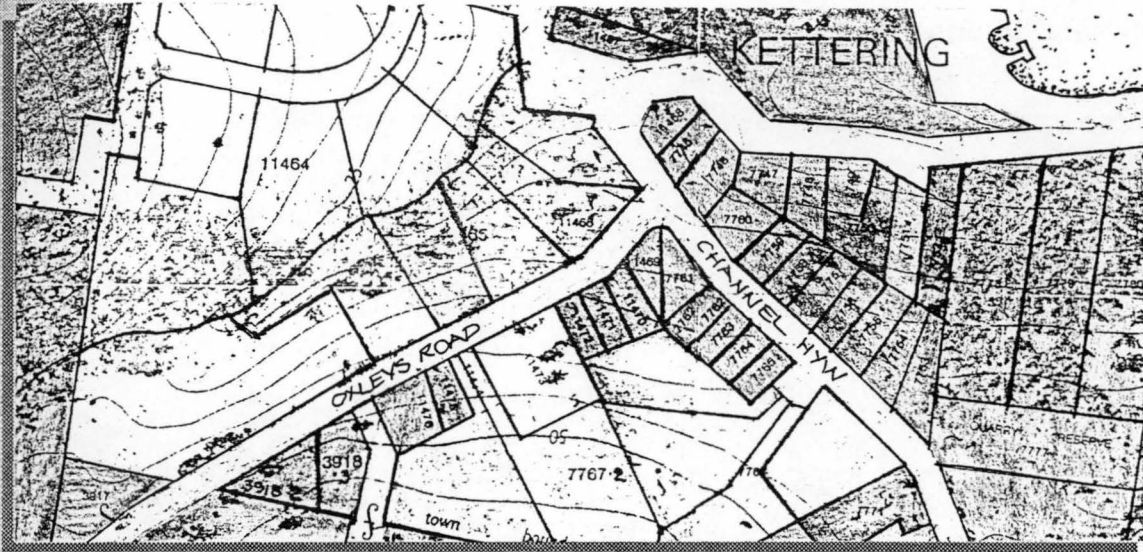
Just under $\frac{1}{3}$ (31%) of these 78 own only two adjacent 'town lots', often of a similar size and of a combined area of less than $\frac{1}{2}$ hectare. A house has generally been built on one lot whilst the other remains as additional open space. A further 40 'share' in the ownership of 207 lots. They typically own between two and four lots ranging in combined size of less than a hectare to just over 16 hectares. Their reasons for owning more than one lot is varied but appear to include;

- subdivided land waiting to be sold,
- remnants of once larger holdings (farms) the rest of which has been sold off, and
- farmlets and hobby farm of between 6 and 16 ha.

The remaining 104 lots (nearly $\frac{1}{6}$ th of all private holdings) are parts of larger holdings that can reasonably be considered farms. They are in the hands of 16 land owners and range in size from 21 ha to 285 ha and with an aggregate size of 1175 ha. This represents over 46% of the total land area in the study region which is held by less than 4% of the land owners. Nearly half of the area of land (49.5%) is in the ownership of 83 land owners, whilst the remaining 50.5% (1,289ha) is held by 359 people.

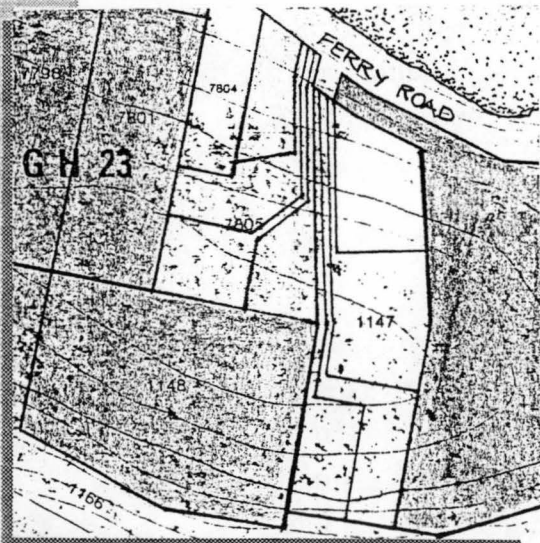
2. LOT SIZES ▼

The distribution of lot sizes into ten size categories is shown on chart [4.17]. The categories are the logarithmic groupings used on map [4.15]. More than half the lots (51.3%) are less than 1.6 ha in size whilst only 14.7% are larger than 6.4 ha. The largest group is in the 1.6 to 3.2 ha range. By observation the majority of the lots less than 0.4 ha are either in the towns or are small lots which are part of a larger farm and occupied by the farmhouse. This leaves the majority of lots (53.5%) in the study area in the range of between 0.4 ha and 6.4 ha. This is a size range that appears to be popular for rural residential living and hobby farms.



4.18

Recent 3,200m² - 8,000m² subdivision in the Kettering 'Village Zone' (scale 1:5000)



4.19

Extreme example of subdivision resulting in long driveways (scale 1:5000)



4.20

Recent (post 1987) subdivision of an orchard into 0.8-1.5ha lots (scale 1:5000)

If the average farm is about 74ha ($1175 \text{ ha} \div 16 \text{ 'farms'}$), then a farmer would need at least 10 to 20 'average' lots at minimum to constitute a working property. There seems ample scope therefore to implement a planning mechanism that can amalgamate some lots into larger holdings. Certainly, as discussed later, the size of lots does not seem to match the minimum lot size for the Rural A zone (10 ha) and if an aim is to minimise fragmentation of the lots into separate ownership, amalgamation may be a necessary step.

3. PATTERN OF RECENT SUBDIVISIONS ▼

The pattern of recent subdivisions³ appears to be;

- • on flat 'agricultural' land,
- • close to existing infrastructure (Kettering and Woodbridge) and
- • often utilises 'battle axe' shaped lots with individual driveways.
- Some examples of these patterns are illustrated at [4.18, 19 & 20].

There are a number of undesirable aspects to this pattern of subdivision. In particular, the preference of dividing flat agricultural land, whilst easier to build on, seems to run counter to good rural land management. Many subdivisions appear to be on land once used for orchards or crop fields with the original farmhouse remaining in the 'sea' of new residential lots.

New lots within the town boundaries have the advantage of being close to existing services. This is sensible in regards to infrastructure costs but the size of these new lots is significantly greater than the *Village Zone* minimum. This is 600m², whereas many of the recent subdivisions are for lots of between 0.4 ha (4,000m²) and 1 ha. These sizes do little to engender a traditional village atmosphere of 'close knit' building fabric nor are they planned to allow for 're-subdivision' into smaller lots in the future.

In fact, many of the recent subdivisions seem somewhat selfish with regards to future changes in land patterns. The use of private access roads to battle axe blocks results in a significant 'wastage' of land and seems an undesirable planning outcome. It would be better if these subdivisions were part of a considered whole, with appropriate new roads and a range of lot sizes applicable to the area.

³ Comparison made between the orthophoto maps (cadastral information to 1986-87) and current cadastral maps held in the Kingborough Council planning office.

ZONE	DESCRIPTION
• RURAL RESIDENTIAL B	Minimum lot size of 1ha, with an average of 2ha.
• VILLAGE	Minimum lot size of 600m ² . (Recognises existing service centres such as Kettering and Woodbridge).
• OPEN SPACE	land reserved for public use, bush protection, recreation and the like.
• SPECIAL PURPOSE	in the case of the area examined, a cemetery.
• RURAL A	minimum allotment size of 10ha.
• RURAL C	minimum allotment size of 40ha.

4.21

Kingborough land use zones in the study area.

4.22

Fold out for map of zones

▼ CURRENT PLANNING CONTROLS

1. THE PLANNING SCHEME ▼

The area contains six out of a possible eight 'rural' development control zones described in the *Kingborough Planning Scheme 1988*. These are shown at [4.21] and on map [4.22].

When these zones are overlaid on the topographic map of the area, it seems that the current zone boundaries take little account of the existing allotment patterns, topography, existing native vegetation or land capability. Three of the rural issues raised in Part 1 of this project seem to have immediate currency in the selected area and these are reviewed below:

◆ *Fragmentation*

Currently, there is a great diversity of lot sizes that already exist in the region, (from 2ha to 100ha in the Rural A zone). Whilst this is certainly a benefit in terms of diversity and choice, it becomes somewhat problematic when attempts are made to limit fragmentation.

The 1973-74 crop statistics indicate the average farm holding in the region to be about 75 hectares. (Paterson:p9). Based on the data gathered for this study, this figure seems to still be about right, with the 15 holdings identified as 'farms' ranging from between 21 to 285 hectares. However, most of these holdings are already divided into numerous small lots with an average size of 5 to 10 hectares. The blue hatching on map [4.22] indicates those lots that are already well below the *Rural A* and *Rural C* zone minimums of 10 and 40 ha respectively.

Whereas generally subdivision of land can only occur by planning application to Council, in the Channel region the demand for small 'farmlets' can be met by the existing pattern of lot sizes. There is no need to apply for subdivision as the farms are already comprised of small lots of between 4 to 10 ha. The result can be a gradual separation of farmland into multiple ownership.



4.23

A modern bush retreat designed to fit the setting but at risk from bushfire?



4.24

The new country estate with mowed lawns and 'colonial' grandeur



4.25

A simple but fitting owner built house at the lower end of housing costs



4.26

A modern house to suit all locations, with land cleared only around the house

Furthermore, whilst the Scheme states that a detached dwelling is discretionary in Rural A and prohibited in Rural B and C, in practice, there are no real impediments to being able to build a house on practically all allotments in the area. For Rural A, the grounds for refusal would need to be specific, such as inability to deal with septic waste on site, or inappropriate access to a highway. Anecdotal evidence is that there has not been any recent refusals in the Channel region. For Rural B and C, the 'X' (prohibited) check mark is annotated:

"Except that where the application is for a house on a lot which existed as a separate title prior to the Effective Date of this Scheme, such use shall be a 'P' use."

This in essence excuses all the lots included in the study area. Note that the 1:5000 orthophoto maps are dated 1987 and thus represent all the lots in existence prior to the Scheme's 'sealing' in 1988.

Identified from these maps were over 700 lots, whereas the 1991 census gives the number of dwellings for the area as only about 400. The nett result of this situation is that the current land subdivision allows for the possibility of an additional 300 dwellings spread throughout the rural landscape without any planning impediment. This would be a 75% increase in housing numbers and a population increase of maybe 800 to 900 people.

◆ *Rural Residential*

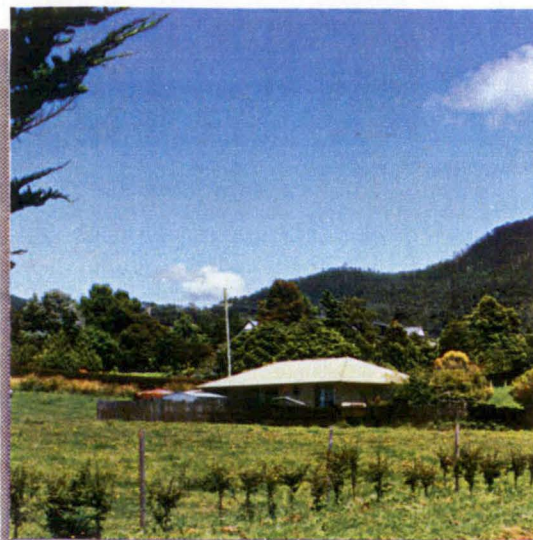
The growth in housing numbers and population since 1971 is greatest in the rural parts of the area. Whereas populations in the townships of Kettering and Woodbridge have increased 27% and decreased 23% respectively since 1971, the surrounding rural area (collector district of Birchs Bay) has increased by 226% (183 to 576) in the same period. (ABS 1993)

Many of these new residents are building houses on small rural lots. Photos [4.23] to [4.26] show a sample of these, from the simple to the ostentatious, some enjoying bush settings whilst others prefer mowed lawns. The planning scheme however offers little in the way of guidance or siting controls for this significant human change to the existing landscape.



4.27

A typical 'country lane' with introduced trees set against the natural hills



4.28

Paddocks, modest housing and trees all create the 'rural blend'



4.29

A typical row of introduced pine trees along a property boundary



4.30

East-west roads soon lead into pleasant and winding forest drives

◆ *Landscape Protection*

The Kingborough Planning Scheme defines the *Rural Residential* zone as intended for rural living with lots “large enough to support rural activities in the nature of hobby farms and the keeping of livestock” or to “provide open space living in a semi-rural or bushland environment”⁴. The intentions of the two *Rural* zones is described as; “to retain land for Rural purposes such as farming and grazing, forestry, mining, aquaculture, rural industries, waste disposal areas, **landscape protection**, recreation and the like.” (emphasis added). Specifically, Rural A is described as land for ‘predominately agricultural purposes’ and Rural C as land for ‘predominately forestry and landscape purposes’⁵.

It is difficult to describe rural character without indulging in value-laden statements. Whereas bushland may be scenically desirable to some, it may represent an unwarranted bushfire hazard to others. The common theme to the attractive nature of the landscape in the Channel area is undoubtedly its combination of landscape features, some shown in photos [4.27] to [4.30] and include: water views, headlands and bays, undulating terrain and hills interspersed with fenced paddocks and orchards, rural outbuildings, weather board cottages, hedges and natural wooded areas. Accordingly, landscape protection is presumed to include natural bushland and whilst many elements of a modified landscape (poplar trees, hedgerows, etc) are valuable landscape features (Urquhart:p117) in many rural districts, it is probably not these elements of landscape that need the greatest protection.

Whereas the removal of specific trees over a certain size requires planning permission in the Kingborough Municipality, for land zoned *Rural* a potential conflict exists between the stated aims of agriculture and landscape protection. The scheme allows for agriculture as a permitted use and there appears to be little that the Planning Scheme can do to prevent landowners clearing native vegetation in pursuit of primary production. The requirements of rural zoned land seems contradictory; either it is land that can be cleared for farming practice, or it is land to be left as natural bush.

⁴ Kingborough Planning Scheme 1988:50

⁵ Kingborough Planning Scheme 1988:52

RURAL A - TABLE OF USES (Kingborough Planning Scheme)

PERMITTED	DISCRETIONARY	NOT ALLOWED
Domestic business	<i>House</i>	Apartment
Home occupation	House & Ancil'ry Flat	<i>Cluster house</i>
Recreation	Active recreation	Grouped house
<i>Agriculture</i>	Guest house	Residential building
<i>Forestry</i>	<i>Holiday cabin</i>	<i>Camping ground</i>
Animal Husbandry	Holiday flat	Community building
<i>Public Utility</i>	Roadside stall	<i>Educational facility</i>
	Tourist operation	Hospital
	Veterinary establishment	<i>Welfare building</i>
	Contractors depot	Car park
	Extractive industry	<i>Garden centre</i>
	Fuel depot	Local shop
	Marine industry	Professional office
	Rural industry	Funeral parlour
	Timber mill	Restaurant
	Timber yard	Motel/hotel
	Wood yard	Service station
	Aquaculture	Scrapyard
	Stockyard	General industry
	Kennels	Light industry
NOTE: selected elements only		NOTE: selected elements only

4.31

Part of the table of uses in
the Rural A Zone

4.32

Marginal land on a hill side
previously cleared, now
supporting to weeds?

◆ Other Conflicting Zone Uses

There also appears to be inconsistencies with permitted and non-permitted uses within rural zones. Table [4.31] shows the permitted activities and a range of the discretionary and non-permitted uses for the *Rural A* zone. Agriculture is permitted, thus land can be cleared for grazing, as shown in photo [4.32], but a house is discretionary and an educational facility such as an outdoor school, a garden centre (for native shrubs) or a camping ground is not allowed. If the area is to retain a reasonable level of economic activity and not merely serve Hobart as a 'commuter's retreat', some of these prohibited activities may be essential employment generators.

2. CRITIQUE OF CURRENT SCHEME ▼

Analysis of the existing land tenure pattern and that specified by the Planning Scheme reveals a number of interesting aspects. The first of these is the great diversity of allotment sizes that already exist in the region, (from 2ha to 100ha in the *Rural A* zone). Whilst this is certainly a benefit for choice, it becomes somewhat problematic when attempts are made to limit fragmentation. It could be argued that the 'horse has bolted'.

The second significant issue, highlighted by the blue hatching on Map [4.22], was the number of allotments in *Rural A* and *Rural C* zones that are already under the minimum prescribed size for that zone (10 and 40 hectares respectively). In many instances the sizes are well below those minimums, with 2 and 5 ha allotments common along Nichols Rivulet Road and Groombridges Road and many allotments of less than 20ha in the *Rural C* zone. In fact the question arises "When is a zone not a zone?...When over fifty percent of the allotments in the zone do not comply?" If lot size was the real determinant, the two sections of *Rural C* zones examined seem to be like calling central Hobart 'Rural Residential'!

Whilst the pattern of subdivision is generally predictable, with smaller allotments following the pattern of valleys and existing road networks, the zonings are much broader in their assumption of future growth patterns. This is particularly so when it comes to



4.33

Land once cleared for orchards
along Little Oyster Cove Ck is
now zoned Rural Residential



4.34

An almost urban standard
of subdivision set against
bush covered hills



4.35

Marginal grazing land now
better suited to housing?



4.36

An example of housing set
amongst trees on
Groombridges Road

topography and land capability. The zonings do not appear to take either of these aspects into account. The presumably fertile and productive land along Oyster Cove Creek (Photo[4.33]) is zoned *Rural Residential B*, permitting division down to 1 ha. From observation, this would appear to be well below the productive land management size of the traditional orchard holdings in the valley. These exist on groups of lots totalling 20 to 50 ha and continued subdivision would not help maintain them as a viable rural activity.

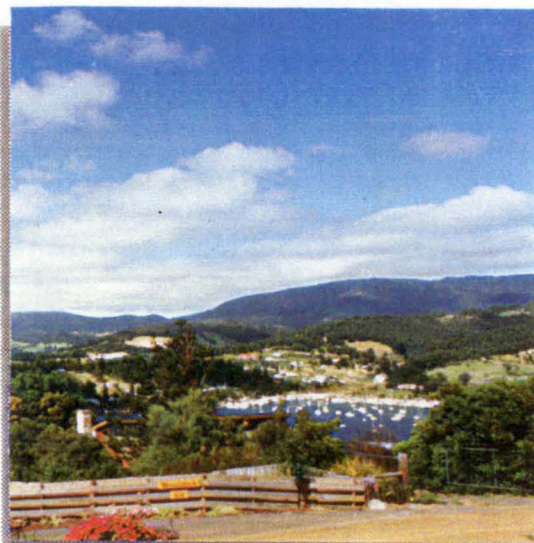
The existing bushland on the southern side of Saddle Road, shown in the background of photo [4.34], can also be divided as rural residential and this may be an appropriate use if provision was made to protect the bush cover from excessive clearing and houses and their associated services (driveways etc) were clustered for minimal impact and safest bushfire protection.

Despite its steep wooded nature, the land south of this is zoned *Rural A* (Photo [4.35]). Past attempts have been made to clear some of this land for grazing, but this appears to have been abandoned now which may point to the marginal productive nature of the land. These lots would have been better suited either as very large holdings (greater than 100ha), or as rural residential lots. Given that the land along Groombridges Road is already divided down to 3ha lots and being used as rural residential (Photo [4.36]) the four lots marked with the red * on map [4.22] are in the strange position of becoming sandwiched between residential land users but permitted to carry out farming activities such as clearing, chemical spraying, animal husbandry, etc; activities that may well cause nuisance to residential neighbours. Whilst this may lead to a future case for localised rezoning, it also highlights the inadequacy of a zoning scheme only seven years old that does not take into full account either land form or use potential.



4.37

Part of the modified
landscape; roads hedges
and powerlines



4.38

Coastal settlements, hills
and bays all provide for
varied views



4.39

Views of the Channel, Bruny
Is and a patchwork of fields
are typical of the region

▼ SUMMARY

In summary, the area is characterised by the contrasting elements of modified and natural scenery shown in photo [4.37] to [4.39]. The landscape is composed of naturally vegetated hills and ridges, coastal scenery interspersed by a multitude of relatively small allotments many of which are already devoted to residential use.

This seemingly idyllic rural setting is attracting an increasing number of 'new settlers', but as Paterson (p148) remarks, "One of the principle attractions of the Cygnet-Channel area to new settlers is its rural character, but it could be that an increasing numbers of people moving into the area could alter the landscape in a negative fashion." Only if subdivisions are to be assessed with regard to their impact on either the landscape or farm viability will any protection be afforded to these positive attributes so dominant in the area.

In this regard, the current planning control of zoning is a 'blunt' instrument that cannot take into account minor variations of land capability occurring in such short distances. The 'assets' of the region are dependent on the maintenance of a fine grain of developed and undeveloped areas. As outlined in Part 2, many states in the US are turning to other planning mechanisms to help address such issues. Hence, before determining the manner in which TDRs may assist in checking the loss of positive and attractive aspects of the region, it may be pertinent to review these other mechanisms and their possible role in rural planning.

PART 5. PLANNING SOLUTIONS:

ADDRESSING THE RURAL ISSUES

▼ INTRODUCTION

▼ PRIMARY PLANNING AIMS

▼ PLANNING ACTIONS THAT MAY ACHIEVE THE AIMS

- 1. ZONING**
- 2. DEVELOPER CONTRIBUTIONS**
- 3. DIFFERENTIAL RATING**
- 4. RIGHT TO FARM**
- 5. PERFORMANCE FARMING**
- 6. CLUSTERING**
- 7. FLEXIBLE LOT SIZING**

▼ SUMMARY

PART 5: PLANNING SOLUTIONS

ADDRESSING THE ISSUES:

▼ INTRODUCTION

The current statutory planning approach in Kingborough relies on a zoning system which does not appear to correlate with the existing sizes of land holdings nor the preferred best land use. There are conflicting uses outlined in the Planning Scheme's *Intent and Requirements* and the *Table of Uses* has many desirable 'rural' activities listed as *not permitted*. In order to address the conflicts between competing interests and promote desirable land uses, an alternative planning approach is suggested.

Before alternatives can be outlined it is necessary however to be clear on which aspects of the region are the most important and therefore require planning intervention to address. This would necessitate the development of a local strategic plan that sets out the aims and goals of the community. This task involves significant input from the local community and other stakeholders and is beyond the scope of this project.

Certain assumptions though can be made regarding the likely aspirations of the community. Coupled with a theoretical planning perspective of what, in planning ideology might be best for the region, a set of broad strategies for the area may be developed.

Their effective implementation is dependent however on community acceptance and this is unlikely unless stakeholders are both fully involved in the development of any planning changes and understand the issues prompting such change.

PRIMARY PLANNING AIMS

- 1: *PROTECT PRODUCTIVE FARMLAND FROM UNSYMPATHETIC SUBDIVISION AND UNPLANNED URBAN/RURAL RESIDENTIAL GROWTH*
- 2: *PROTECT BOTH THE MODIFIED AND NATURAL ELEMENTS OF THE LANDSCAPE THAT FORM THE UNIQUE RURAL CHARACTER OF THE REGION*
- 3: *PROVIDE FOR SENSITIVELY DESIGNED RURAL RESIDENTIAL LIVING AT APPROPRIATE AND PLANNED FOR NODES SELECTED ON SUSTAINABLE CRITERIA*

5.01

The Channel region's three
main assets

▼ PRIMARY PLANNING AIMS

Planning reforms should be geared to addressing the three main assets of the Channel region as listed at [5.01].

The following primary aims are based on what is personally considered as desirable planning outcomes.

- ◆ First of these is the protection of productive farmland from a gradual but 'fatal' spread of unplanned urban/rural residential growth. The region is still produces a wide range of primary produce both for export and local consumption. It would be short sighted of any planning document that did not allow for the continued viability of this sector of the local economy. The aim is not however to simply preserve farmland for productive use. The region, whilst contributing to the State's primary production, has assets other than farmland that are integral to its value as a work and recreational resource and worthy of protection.
- ◆ The second aim of any planning reforms is also the preservation of both the rural 'farm' scenery, valued by both residents and visitors alike, and the preservation of large areas of visually attractive and ecologically significant natural bushland, particularly along the skylines, ridges and hill faces. As Bennett (1991:p35) remarks "bushland conservation is now recognised as an important requisite of good planning. Remnant bushland is seen as a valuable asset in urban areas, enhancing property values and improving quality of life, as well as protecting natural resources."
- ◆ Thirdly, it is seen as inevitable that demand for rural residential living will continue and that sustainable levels of new subdivision should be allowed in locations deemed most suitable for housing. Such new lots should, broadly, include both small 'village' lots and larger rural residential lots. The aim is to both enhance the viability of local services in existing towns and provide sufficient land of moderate price for those wishing an alternate life to city living. Rural residential areas developed under appropriate guidelines should be able to enhance the 'rural setting' and the viability of landscape protection measures.

AIM	SCHEME REVISION
◆ FARMLAND PROTECTION	INTRODUCE A NEW FARMLAND ZONE
◆ CONTROL OF RURAL RESIDENTIAL LOCATIONS	CHANGE ZONE BOUNDARIES TO ALLOW FOR APPROPRIATE POCKETS OF RURAL LIVING
◆ CONTROL OF RURAL RESIDENTIAL VISUAL IMPACTS	INTRODUCE RURAL RESIDENTIAL DESIGN GUIDELINES
◆ LANDSCAPE PROTECTION	INTRODUCE A NEW BUSHLAND ZONE

▼ PLANNING ACTIONS TO ACHIEVE THE AIMS:

To achieve the aims outlined above, a number of revisions such as those in table [5.02] could be made to the current Kingborough Planning Scheme. The most immediate reform may be to develop a 'finer grain' of zoning classifications more in keeping with the existing situation and the desired outcomes. A second planning reform, already being adopted by many local governments is the application of more realistic developer contributions that reflect the true costs of servicing remote rural residential lots. Neither of these mechanisms would however reverse to any degree past land fragmentation, only encourage consolidation of future rural living at appropriate existing 'nodes'.

Also, for any proposed planning tool to successfully address the rural planning issues raised, it must work over an extended period of time. This is particularly so in Tasmania where the State's growth rate is slow. Moreover, if most of the land and assets are controlled privately, these owners will have their own time frame of change, independent of any 'master plan'. Thus, in achieving rural 'consolidation' there is a need to:

1. Deal with change over a long period of time; and
2. Cater for the actions of private property owners.

The traditional means of enforcing planning aims may be prescriptive legislation but this is often the stick without the carrot. It is suggested that *transferable property rights* provide the carrot which, in addition to legislation, encourages compliance with planning goals through compensating those owners of private property who 'do the right thing'.

The use of TDRs by the Wellington Shire in NSW and in the Mt Lofty Ranges of SA are both attempts to reverse existing development expectations and to re-amalgamate land parcels into sizes applicable to the best perceived land use. To outline how this may be achieved in the study area is covered later in Part 5.

Transferable development rights are unlikely to work as a tool used in isolation of other planning mechanisms. A range of other tools are often employed in conjunction with any TDR scheme and these are briefly described below. Their use in addressing the planning issues raised is by no means definitive or proven, but they are an indication of the direction current planning theory is moving.

NEW ZONE

DESCRIPTION

- | | |
|------------------|--|
| • BUSHLAND A | House permitted, min 4 ha, max cleared area 1ha. |
| • BUSHLAND B | Bush or forest, min 10 ha max cleared area 30%.
House, tourist facility, garden centre discretionary. |
| • FOREST A | Bush or forest, min 25 ha, available for limited commercial forestry such as firewood or tree farming. |
| • FOREST B | Bush or forest, min 200 ha for commercial forestry. |
| • AGRICULTURAL A | Minimum 4 ha, house and hobby farm. |
| • AGRICULTURAL B | Minimum 10 ha, house discretionary, intensive agriculture (orchard, feed lot etc) permitted. |
| • AGRICULTURAL C | Minimum 50 ha, commercial farming, dwelling prohibited |

1. ZONING ▼

The most straightforward reform may be to develop a more precise and relevant zoning system which takes account of land capability, existing topography, lot sizes and vegetation cover. Whilst there will always be problems of giving blanket zone classifications to large tracts of land, zoning still offers a means of development control that people know and generally accept. It is often wisest to refine an existing, though flawed, system, than alienate the 'users' with a brand new 'foreign' concept.

Certainly, with availability of land capability mapping and the requirements of the 1993 State Planning Legislation, it will become increasingly important to consider best land use in defining zone requirements. Combined with consideration of the existing allotment patterns and the topography, a classification of zones that delineates between farming, bushland protection, commercial forestry, and hobby farms may better reflect the real and intended situation. Zones such as *'Bushland'* and *'Agricultural'* may lead to clearer outcomes and be more akin to the descriptive zones that are used in urban areas such as *'Peripheral Sales and Service Business'* and *'Port and Marine Industrial'*¹.

Clearly, minimum lot sizes should be determined after consideration of land capability information and would vary from region to region. New zones in the Channel region may however follow along such lines as shown at [5.03]:

One of the greatest criticisms of using zone classifications as a planning tool is that they often result in 'mono-cultures', restricting other worthwhile uses. The demise of nineteenth century style 'shop-top' housing in commercial areas is such an example. Therefore, to be overly descriptive with zone requirements may be counter-productive, but the zonings suggested, if applied in an 'organic' pattern following topography and vegetation patterns rather than property boundaries, may result in a diverse mix of zones within a relatively small sector.

¹ Kingborough Planning Scheme 1988, page 70.

There also remains the problem of allotments that have already been divided to less than the desired size. In the Wellington Shire and the Adelaide Hills, the problem is one of how to extinguish previously allowed entitlements and zoning changes do not address this aspect. In the study area, a similar situation applies. There already exists a surplus of lots in relation to the desired dwelling densities. But any new zoning system would have difficulty being accepted if it was retrospective in its effects on individuals rights to develop the land as they previously believed was their entitlement.

2. DEVELOPER CONTRIBUTIONS ▼

Another means of stemming fragmentation, but not reversing past sub-division is the application of more realistic developer contributions that reflect the true costs of servicing remote rural residential lots. As discussed in Part 2 of this project, infrastructure costs to service remote rural allotments can be as high as \$30,000². This mechanism does not however take into account the best use of the land, only encouraging consolidation of rural living at 'nodes' closer to existing services.

The future pattern of development would probably remains similar to that found today, except with perhaps a slowing of development in areas 'waiting' for the extension of infrastructure.

3. DIFFERENTIAL RATING ▼

The spread of suburbs into rural land results in a significant increase in the value per hectare of land. This in turn results in higher land tax and municipal rates as these are generally levied as a percentage of land value. To farmers this is an unrealistic and unnecessary burden, as they are not realising the true financial benefit of either the value of the land or of the reputed increased level of local government service that would come with a suburban infrastructure.

² Infrastructure costs; Part 2 page 10

DIFFERENTIAL TAX RATING

*For differential tax rating to have any impact on fragmentation, the concession should be conditional on either; i) specific 'farm only' zoning, or
ii) amalgamation of separate lots.*

In the case of 'farm zoning', this would prohibit the use of the land for house construction on the basis that this potential value is untaxed.

To address existing fragmentation though would require owners of multiple lots (totalling say more than 15ha to 25ha) to only obtain the lowest rating and land tax value if the lots are amalgamated. Land parcels from these amalgamated holdings could then only be transferred to other 'farm' owners with more than a particular size of holding.

Hence, one of the most common mechanisms used to assist farmers resist the impact of 'encroaching suburbia' is to lessen the impact of higher land values by using 'differential rating'. Essentially, this means that land used primarily for farm production is not valued at its 'best potential use' but for its current use as rural land.

Tasmania is one of the few Australian states to allow for revaluation of land on the basis that the land may not be used as other than farm land. The approach however is in planning terms 'blunt', as it does not discriminate between rural land of different planning values (ie scenic, environmentally sensitive) nor is the nett rate difference going to be so much as to prevent the sale of land to developers when the price becomes high enough. Nor does it offer any assistance to many part-time and hobby farmers. They may be contributing greatly to the rural economy, rural landscape retention and preventing the spread of higher density suburbia, but unless their "principal means of livelihood"³ is obtained from the land, they are not eligible for rate adjustments. An alternative means of determining eligibility which could include this group is outlined at [5.04] and is based on owners amalgamating lots to receive benefits.

4. RIGHT TO FARM ▼

Many of the conflicts raised in the issues section relate to impediments, real or perceived, that prevent farmers carrying on traditional agricultural practices. These include operations that may produce noise, dust and chemical residue such as crop spraying, 24 hour irrigation, water pumping and general use of farm machinery at 'odd' hours. New non farming neighbours often find these activities disruptive to their life style, particularly if they have purposely 'escaped' the city to find 'peace and quiet in the countryside'.

That the reality is different, and that they are living in a area that 'manufactures' primary produce is one of the unfortunate myths of

³ Local Government Act, Division 4 Part 12 section 247

rural life held by many urban residents. To farmers, these complaints regarding farm production techniques are vexatious and inflammatory. They are after all just trying to get on with the job of producing the food which we all eat. The situation is often aggravated further when new rural residents bring ecological and environmental values not yet understood or upheld in the country.

Right to farm legislation is hence a mechanism to protect the operational nature of farming from what is termed nuisance complaints. In 1989, 48 of the American States had some form of right to farm legislation (Nelson 1990:p125) and in 1995, Tasmania became the first Australian State to introduce a right to farm act.⁴

There are two main approaches to legislation of this type. The most common, and that which has been adopted in Tasmania is based on the principal of 'coming to the nuisance'. This protects existing farm operations that were not a nuisance when they began from complaints generated later (usually at least one year). In particular, it affords protection when non-rural activity encroaches into traditional farming areas. It does not protect rural pursuits attempting to establish in non farm areas.

A more complete form of protection is afforded if the basis of protection is 'priority of use'. In this case, protection is afforded regardless of the nature of the surrounding area, in the belief that farm production is the most worthwhile and important activity in an area and thus should be allowed regardless of other interests.

Neither approach however protects farmers from negligent or improper practice, though farmers and the public generally may feel that farm operations can continue as they always have. Changing environmental concerns will affect what is deemed good farm management and a failure by producers to remain abreast of 'best practice' is not intended to be protected by this type of legislation.

⁴ Primary Industries Activities Protection Act 1995

PERFORMANCE ZONE CRITERIA

TYPE	CRITERIA	AIM
WETLANDS	No reduction in wetland area and quality.	Protect sensitive environments and species
VEGETATION	Removal restricted to certain percentages of the development area	Retain landscape amenity, bushland and protect native species
SLOPE	Development to be restricted above and below certain slope angles	Minimise erosion on steep slopes. Restrict development on flat farmland
GROUND WATER	Water quantity not to fall below certain throughput. Water quality to be maintained	Protect existing land owners water access and quality
SOIL TYPE	Development restricted to lower classes of soil	Protect productive soils from development.
TRAFFIC GENERATION	Specified max vehicle movements only to be allowed on minor roads	Minimise costs of upgrading public roads and number of new roads
VISUAL IMPACT	Development to meet appearance guidelines	Minimise visual intrusion in prominent locations (hill tops, ridges)

5. PERFORMANCE ZONING ▼

Whilst most local governments are familiar with zoning, the nature of zones and tables of uses results in what is termed a 'blunt' planning instrument. This is because the extent of zones is usually large, covering a multitude of land forms and situations. Similarly, descriptions of permitted, discretionary and prohibited uses tend to be generalist. Attempts to refine such an approach are both resource intensive for the drafting body and inevitably result in long and complex documentation. If every possible use is to be pre-assessed at a fine grain of land use, the result may be something like one hundred zones and hundreds of categories of uses. An alternative approach, also emerging as an urban planning control, is to assess each development application against a set of performance criteria.

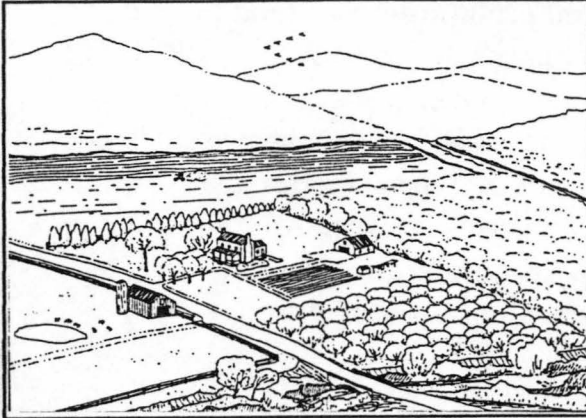
In this situation, a zone is given certain criteria which either must be met (positive attributes) or cannot be breached (exclusion rules). Any proposal may be put forward, but if it does not meet the criteria, it will not be allowed. Examples of criteria applicable to rural areas are listed at [5.05] and include; impact on vegetation, traffic generated, ground water impact and visual impact.

The advantage for the protection of many rural assets is clear. A development proposal can be refused if it reduces availability of prime farmland, creates undue visual impact, threatens native species or does not concur with any number of specified planning goals. The impediment to introducing such a seemingly ideal system is of course the significant human resources required to draft such a new approach. The introduction of performance criteria in an urban planning context is really only being made possible by the input of Federal Government funding for pilot programs such as the Better Cities program and guideline documentation such as AMCORD⁵. It is really only in the United States that such an approach has been implemented in a rural context and any introduction in Australia needs not only to review their approach, but be able to base criteria on solid local data. However, with greater access to land capability mapping and GIS information, performance based schemes are becoming a realistic strategic direction.

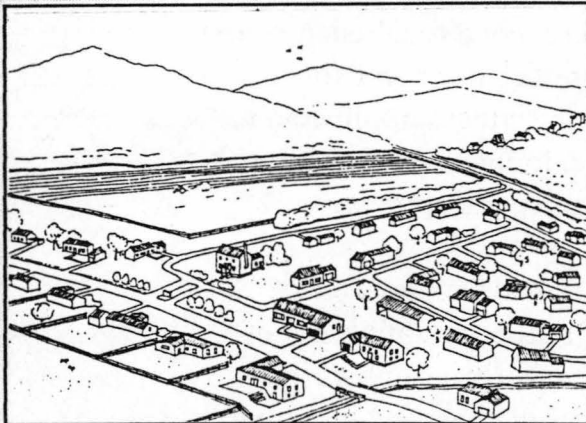
⁵ Australian Model Code for Residential Development (1994) Commonwealth Department of Health, Housing & Community Services

SUBDIVISION OF THE JONES FARM

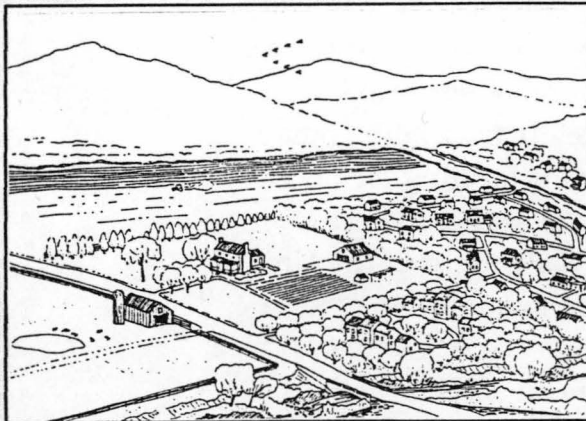
NORMAL SUBDIVISION VERSUS 'CLUSTERED' SUBDIVISION



1. **The Jones farm as it is:** Located on a country road, the Jones farm still embodies the distinct visual character of a late 19C American farm. It retains its farmhouse, out-buildings, farm pond, orchard and woodlot. Adjacent fields are still used for both grazing and cultivation. Respect for the natural environment is evident in the retention of wetlands in the fore-ground, vegetation along the stream and on steep slopes to the right.



2. **Inappropriate subdivision of the Jones farm:** Short-sighted development has resulted in environmental damage and loss of its historic character. The architecture of the farmhouse has been modified and historic out-buildings and landscape elements removed. Development has occurred in the flood plain and the wetland has been filled. Housing along the road has reduced farmland and gives a cluttered appearance. Construction on the steep slope mars the scene and may result in erosion.



3. **Sensitive development of the Jones farm:** This development has the same number of dwellings as the illustration above, but the design is more sensitive to the environment. Traditional buildings and prime farmland are retained and construction on steep slopes, wetlands and flood plains avoided. Ten of the houses have been clustered in the old orchard. More trees have been kept in the woodlot. Although there is development on the hill side, the houses are not on the steep slopes, fewer trees have been cut and the buildings are less obtrusive.

SOURCE: Stokes et al (1989:p145)
NOTE: Text paraphrased

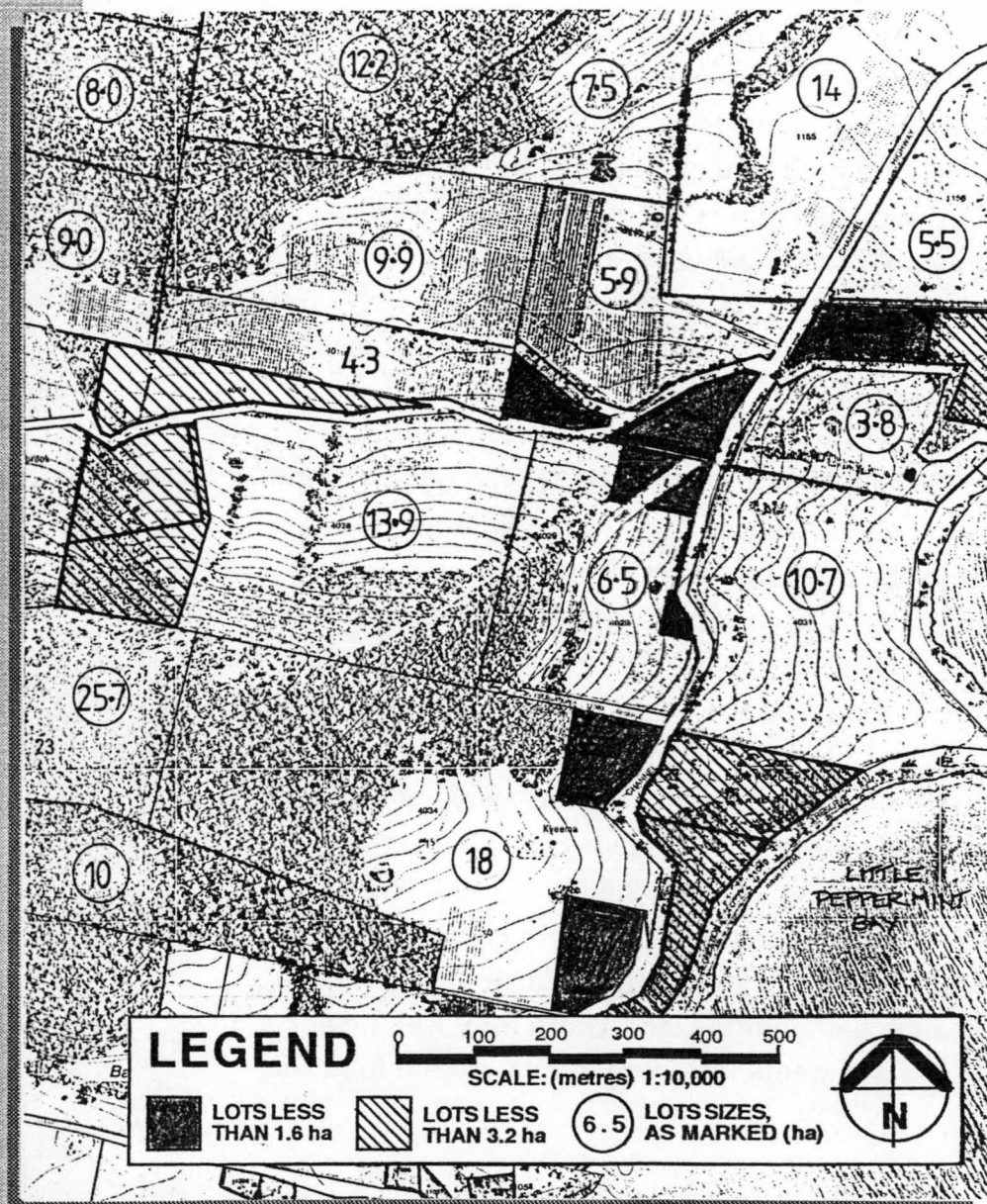
6. CLUSTERING ▼

This approach allows for greater densities of housing in certain areas, whilst maintaining rural activities in the surrounding area. In the example illustrated [5.06] by Stokes et al (1989), rather than subdivide a 100 acre (40 ha) farm into fifty two acre lots, the clustered plan concentrates the new housing on about $\frac{1}{4}$ of the land, retaining the rest for farming. The nett result is not an extension of suburbia, because this is not a transitional stage before all the land is developed to this density, but a one off density increase offset by the permanent removal from possible development of the remaining open space. Nevertheless, many people seek rural living and the large allotments that are available in order to pursue hobbies, keep horses etc. They may not be attracted to smaller lots offered in a cluster arrangement.

There is however a difficulty in assessing the likely demand for this type of development. There is little of this scale of subdivision available or allowed under the current Planning Scheme. *Rural Residential A* allows for lots of between 4,000m² and 8,000m², but is not a zone included in the study area. That which does exist in Kingborough is close to the existing urban areas of Hobart and Kingston and not generally in a 'clustered' settlement pattern.

A crucial element in assessing the validity of clustered development is an assessment of the requirements for those seeking rural residential living. For many, the lifestyle they are seeking could quite possibly be achieved on lots a lot smaller than the usual 2ha Rural Residential B lots. Lots of between 2,500m² and 5,000m² are after all, significantly larger than the typical ' $\frac{1}{4}$ acre' suburban block (~650-700m²) and capable of supporting a large range of hobbies, garden pursuits, 'pet' animals etc. There may well be a market for clustered developments if it were in fact available in the Channel region.

The concept of clustered development is to some extent an inherent outcome of using transferable rights, with the need to increase dwelling densities at chosen locations in lieu of an even pattern of development throughout the area.



7. FLEXIBLE LOT SIZING ▼

To overcome the concern that clustering may result in small pockets of suburbia in amongst rural settings, a greater range of lot sizes can be intermingled. Such an approach of 'flexilot' subdivision is encouraged by some councils for urban subdivisions. The intent is that a range of lot sizes will cater for the diversity of needs whilst maintaining an average density akin to the norm. For a typical suburban subdivision this means lot sizes can range from 300m² to 1,000m², provided that the average remains at about 600 to 650 m², equivalent to the traditional 1/4 acre lot.

In a rural setting such as the Channel region, this approach may allow for lots as small as 2,500m² in amongst lots of up to five and ten hectares. To a large extent, this is the traditional pattern of lot sizes that has existed for some time in the region, as illustrated at [5.07]. Farmhouses are located on separate small lots surrounded by 'paddocks' of between three and ten hectares. The pattern is only slowly changing to one of homogeneous lot sizes as subdivision occurs in line with the current minimum lot requirements.

▼ SUMMARY

If planners are committed to achieving the best outcomes for their 'constituents', the public, they need to be able to utilise the best and most appropriate tools for the job. Those outlined above offer alternative means to achieve a range of outcomes not possible under the current Planning Scheme. Obviously if the implementation of these alternatives is too arduous and their administration too complex, they may not be attractive to planning authorities. Ignoring them however may leave a planning mess for later generations that will only be harder to resolve.

The use of the last three approaches - performance zones, clustering and flexible lot sizes in particular seem relevant to the study area and essential components of a successful transfer of rights scheme, as discussed in the final section.

PART 6. PROPOSALS:

IMPLEMENTING A TDR SCHEME

- ▼ **CRITERIA FOR TRANSFERABLE RIGHTS**
 - 1. THE RIGHT TO BE TRANSFERRED
 - 2. SENDING ZONES
 - 3. RESTRICTION TO BE PLACED ON SENDING LAND
 - 4. CHARACTERISTICS OF RECEIVING LAND
 - ◆ *Determining Sending and Receiving Zones*
 - 5. RECEIVERS BENEFIT
 - ◆ *The Value and Cost of 'Rights'*
- ▼ **IMPLEMENTATION**
 - 1. STRATEGY
 - 2. EXAMPLES OF TDRs IN PRACTICE
 - 3. LEVELS OF IMPLEMENTATION
 - ◆ *Regional Implementation*
 - ◆ *Implementation at the District Level*
 - 4. POLICY AND LEGAL CHANGES
- ▼ **RECOMMENDATIONS**
- ▼ **CONCLUSIONS**

IMPORTANCE OF VARIOUS LOCATIONAL FACTORS FOR SYDNEY
RESIDENTS WHO MIGHT MOVE TO A COUNTRY NSW LOCATION

REASON	%
QUIETER, MORE RELAXED LIFESTYLE	81
MORE SPACE, ROOM TO MOVE	69
COST OF BUYING, BUILDING OR RENTING	69
BETTER CLIMATE	69
LESS TRAFFIC AND PARKING PROBLEMS	58
LESS CRIME AND VIOLENCE	57
BETTER RECREATIONAL FACILITIES	56
BETTER AREA FOR CHILDREN TO GROW UP	49
BETTER REAL ESTATE INVESTMENT	46
LOWER COST OF LIVING	46
JOB OPPORTUNITIES	44
BETTER HEALTH AND MEDICAL FACILITIES	40
CLOSER TO FAMILY AND FRIENDS	34
LESS TRAVELLING TIME	33
BETTER SHOPPING FACILITIES	30

SOURCE: ANOP Survey in Wellings 1985:p94

Many of the urban fringe areas around Hobart will continue to face pressure from rural residential expansion. What buyers will be looking for is probably not more suburbia and certainly Hobart is not growing at the rate which would necessitate such expansion. The survey findings above, of Sydney residents who may move to a NSW country location, found that a relaxed lifestyle and 'room to move' were two of the most important criteria. Lower property and housing costs coupled with real estate gains also played a part. It could be expected that similar expectations exist for many looking to buy in the Channel area.

PART 6. PROPOSALS: *IMPLEMENTING A TDR SCHEME*

▼ CRITERIA FOR TRANSFERRING RIGHTS

Before use can be made of a transferable rights scheme, five key issues need to be decided. These are;

1. What is the 'right' to be transferred?
2. Who can sell rights and what is the required characteristics of a sending zone?
3. What restriction (public benefit) is placed on the sending site.
4. Who can purchase rights and what is the required characteristics of a receiving zone?
5. What benefit will be bestowed.

1. THE RIGHT TO BE TRANSFERRED ▼

In the study area, as for most rural areas near a larger urban centre, the 'commodity' most in demand that can be translated into a transferable right is the right to construct a dwelling on that land. This is an action that requires planning approval, and so can be monitored. It is also a 'right' that significantly increases the value of land. The reasons people seek a rural lifestyle are varied, as shown at [6.01], but included as significant is the ability to build at a lower cost whilst retain a good level of capital gains. Accordingly, land that cannot be built on is not as highly valued as building lots.

In practice, *Kingborough Planning Scheme 1988* allows for a dwelling to be constructed on any separate lot in a Rural A, Rural B or Rural C zone.¹ Accordingly, the right to lodge an application for planning permission is a right that would be removed by any 'down zoning' of these rural zones.

Hence a '*dwelling credit unit*' (DCU) akin to that utilised in the New Jersey Pinelands scheme appears to be the appropriate *right* that can influence the market in the direction required.

¹ Refer Part 4:p47 for a discussion of this

2. SENDING ZONES ▼

In order to establish the two zones, one sending the right (donor) and one receiving (beneficiary), the criteria for land to be 'protected' must first be established. This is land that exhibits one or more of the criteria considered valuable and in danger of being lost should development occur on that land.

For the study area, assets most in need of protection are considered:

- The maintenance of bushland/tree cover along ridges and skylines.
- Maintaining the viability (option to farm) of agricultural land on the higher quality alluvial soils along the valley floors.
- A varied rural landscape of farms intermingled with bushland and rural residential dwellings.

3. RESTRICTIONS TO BE PLACED ON SENDING LAND ▼

In order to achieve an element of public benefit, lots entitled to sell rights need to have restrictions placed upon them in line with the desired aims. This restriction can be either 'automatic' by legislation (independent of the sale of rights), or be a voluntary agreement made at the time of selling the rights.

The seller of the rights (donor) can;

- relinquish the entitlement to build a dwelling on the subject land,
- amalgamate titles of two or more lots to form larger 'farm' lots,
- agree to a 'down zoning' that allows less intense developments (ie rural residential to rural), and
- place restrictions or covenants on the title that dictate such actions as land clearance and tree protection.

Commonly, farmers prefer not to amalgamate lots as they claim it restricts their ability to manage their properties in a flexible manner. This may include buying or selling a paddock (lot) to an adjacent farm as circumstances and farm practice change. These concerns may be addressed in one of two ways;

1. Amalgamate titles but retain the ability to subdivide and transfer rural land between holders of other rural land. That is, allow subdivision from one rural holding provided it is annexed to another holding also classified 'rural' and of a certain minimum size (say 10ha). The disadvantage of this is the extra cost of resurveys and lodgement with the Land Titles Office. It is probably unnecessary in the light of being able to restrict land use by way of zoning or title covenants.
2. The recommended approach is hence that now suggested for the Mt Lofty Ranges in South Australia. This is to only transfer the right to lodge for *planning development*, 'rezoning' the allotment with restrictions but not amalgamating titles. This is seen as having the benefit of maintaining the current patchwork of lot sizes whilst restricting the development options.

4. CHARACTERISTICS OF RECEIVING LAND ▼

Whilst only land that has certain 'valued' assets should be deemed eligible to participate in the sale of dwelling credit units, land that is to 'receive' the development credits also needs to conform to certain criteria that ;

- a) make it suitable for building land, and
- b) exclude it as land that might otherwise be worthy of remaining unchanged.

As a general rule, sloping land facing north may be the best receiving zone for increased residential use in the study area. The existing farmed valley floors would typically be land excluded from additional development. However, rather than predetermined specific receiving zones, a set of performance criteria may be used to determine eligibility. For example, Austin and Cocks (p80) utilised a set of 'exclusion rules' to assist in determining suitable land uses on the South Coast of NSW.

SUMMARY OF EXCLUSION RULES

FUNCTION	SUBFUNCTIONS EXCLUDED	PRINCIPLE OF EXCLUSION	EXCLUSION DATA	SUGGESTED SUPPORT CRITERIA
Urbanisation	-	development costs, demand	soils, landform, location	zoning status, septic tank suitable, infrastructure and coast access
Residues	sewerage, solids	pollution costs	soils, landform	nearness of solid waste disposal areas to settled areas
Agriculture	improved pasture, arable farming	profit prospects	soils, landform, development status	land capability rating
Forestry	hardwoods	profit prospects, erosion risk	timber volume, landform	timber volume
Apiculture	-	profit prospects	vegetation, access	index of honey potential
Recreation	water based recreation	absence of necessary resource	water-bodies, shorelines	shoreline, water and bay quality rating
Conservation	rare natural vegetation	absence of necessary resource	vegetation group	extent of rare vegetation groups, tenure status, disturbance status

SOURCE: Austin & Cocks; ed (1978:p82)

Implied by the use of exclusion rules are both desirable and undesirable criteria for particular functions. These may be the desirability of land that should be kept agricultural as it has the richest soil in the area, the desirability of housing close to schools, roads and transport or the undesirability (exclusion) of building on steep erosion prone slopes. Thus the suggested criteria are a combination of positive and negative rules that define best possible land uses.

◆ *Determining Sending and Receiving Zones*

The rules offered by Austin and Cocks comprised a set of criteria which identified land not suitable for a particular practice or use. "Exclusion rules alone do not define how land should be used (except by default) but, by limiting the range of use possibilities, ... simplify the planning process." (p82) Their suggested criteria for urbanisation, agriculture, forestry, recreation and conservation are shown at table [6.02].

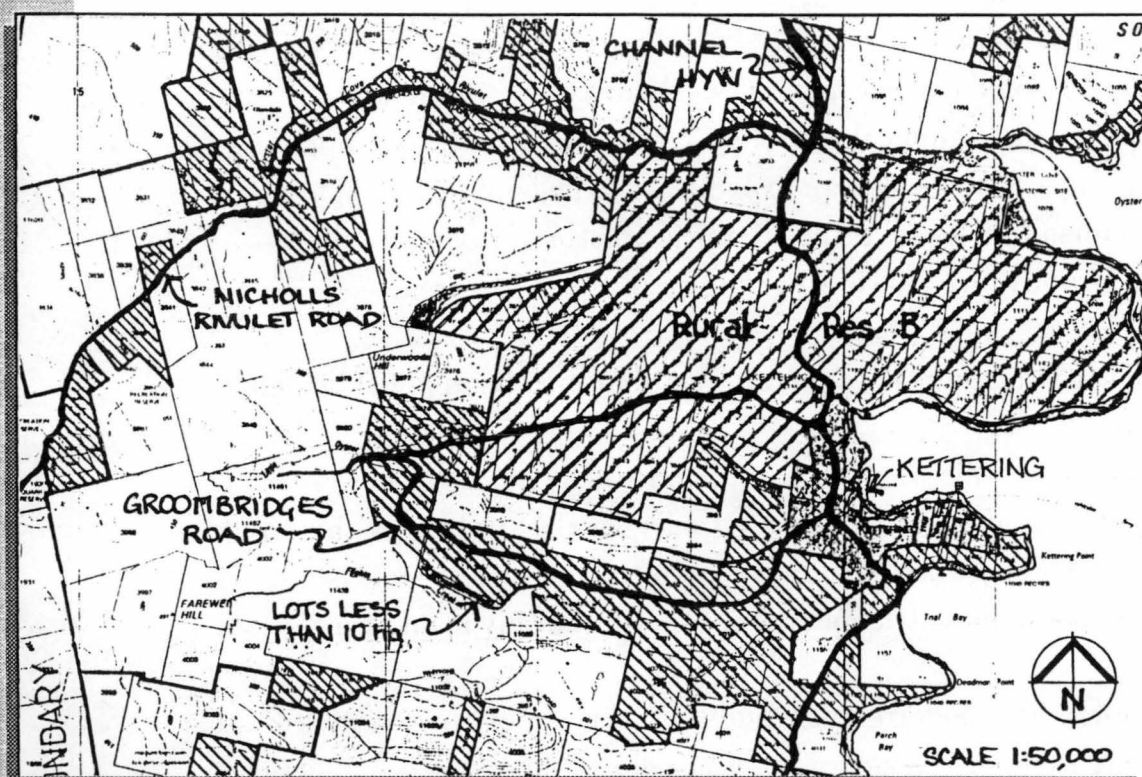
Clearly, some of Austin and Cocks' functions, and hence exclusion rules, are not applicable to the Channel area, but those applying to agriculture; slope, soil and vegetation type, and those applying to urbanisation; waste disposal, infrastructure proximity and topography, are also useful criteria in the study area.

Some of the main selection criteria that may be applicable include:

Soil Type: This would exclude from subdivision any soils above a certain agricultural value. Typically for the study area this would be the two productive soil types of alluvium and podsolic soils with some possible restrictions on the use of the clay loam areas.

Slope: With modern house building techniques such as pole or steel frame, steeper blocks are realistic options for house construction. Such land also offers the resident the advantage of views and avoids use of flat land suited to agriculture. However, the extent and nature of driveways and services needs tight control and with solar access playing a significant role in passive heating, those areas on land facing south would present additional design difficulties to home builders. Preference needs to be given to lots with short access points and facing east (morning sun) or north.

Bushfire: Building in a bush setting is often criticised due to the increased risk caused by bushfires. Certain areas of bush are more prone to fire risk and these may be best remaining undeveloped. The danger is one though that can be reduced by house design and



6.03

Part of the map at 4.21
showing 'strip' development
along existing roads

management of the land around the house and by adequate precautions. Bushfires remain an ever present danger in Australia and homeowners in bushfire prone areas need to be fully aware of the danger, take precautions and accept the risk factor as a price for their style of bush retreat living.

Skyline: The majority of the ridges and hill tops remain forested, contributing an important landscape element to the area. To retain this pattern of vegetation should remain a high priority of any planning. There is some debate as to the compatibility of housing and bush settings. The possibility of living on a secluded bush block is attractive to many. There exists however various problems such as the risk of bushfire, the reasonable extent of clearing and inappropriate forms of building and access construction requiring extensive excavations and fill. Notwithstanding, the use of some areas of existing bush for residential use may prove beneficial to both bush and farm retention. Freeing appropriate areas of bush for residential lots would simultaneously reduced subdivision pressures on farmland and minimise the farmer's requirements to clear replacement land for that subdivided.

Fundamental to the success of allowing development on bush lots is that they be of sufficient size to allow retention of tree cover on the majority of the lot even after clearing has occurred for a house and access road. It is also necessary that if any skyline or hill top is included in the lots boundary, there remain sufficient lower land on the same lot the can be cleared for housing without impeding on the skyline. Guidelines on building appearance and building envelopes marked on development submissions would aid the approvals process in such situations.

Existing roads and services: The current pattern of subdivisions generally utilise the existing road network, as is graphically illustrated at [6.03] by the small lot (2 - 3 ha) subdivided along Nicholls Rivulet Road and Groombridges Road. Developers are using existing infrastructure, but this will not necessarily result in the most appropriate sites. With intensification of new development



6.04

The Government land
valuation, per ha, of 23
selected properties

into clusters, relatively short lengths of new road would service a significant number of new lots. This may be preferable to the current pattern of dispersed larger lots along an existing but often sub-standard road system. Regardless of the existing nature of roads, increased use for residential access creates demand for upgrading. Such upgrading may though change the 'remote rural' nature that first attracted residents and new roads in the receiving zones should not be extravagant. If new roads remain narrow and essentially rural in character, it should not result in any greater financial burden than upgrading longer lengths of existing roads.

5. RECEIVER'S BENEFIT ▼

Whilst donors relinquish an 'asset' upon sale of the rights, those purchasing the rights need to obtain a benefit that is worth the cost of the purchase price plus a level of incentive or 'profit'.

Typically this would be;

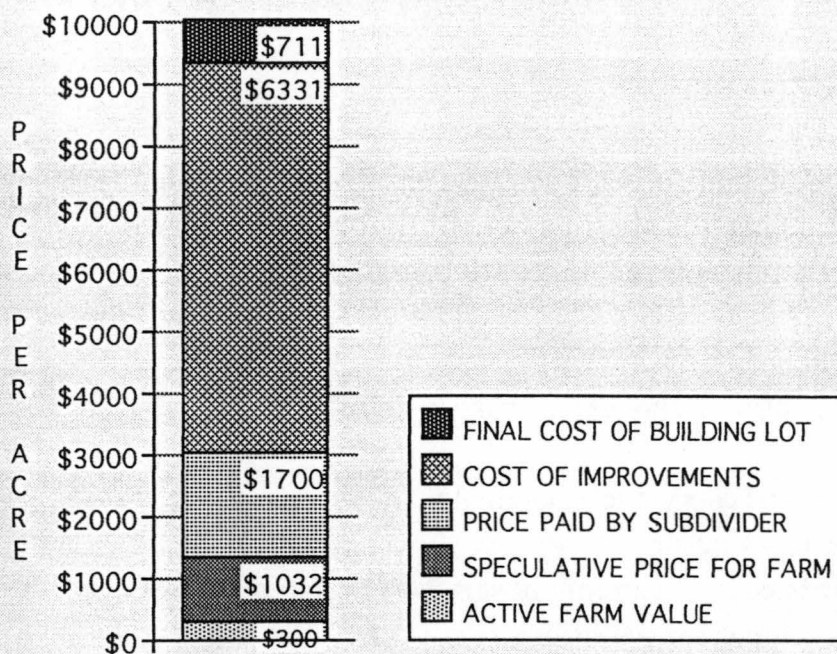
- an entitlement to subdivide at a higher density, but could also include;
- the right to farm or carry out a particular industry such as aquaculture or forestry, or
- a commitment to council funding of services, in lieu of being charged for developer contributions.

If the right is a number of *dwelling credit units* the critical equation becomes how much development does each unit purchased allow and what are they worth?

◆ *The Value and Cost of 'Rights'*

Map [6.04] shows the government valuations that were obtained for a sample of 23 properties in the study area. This indicated that whilst farmland in a Rural A zone was valued at between \$1,350 and \$5,150 per hectare, the same 'quality' of land with the potential of subdivision in either the Village zone or the Rural Residential B zone is about two to three times the value at between \$6,550 to \$13,650 per hectare. Once subdivided, building lots fetch between \$13,800/ha for a 3ha bush lot to an average of over \$62,000/ha for smaller half to one hectare lots at the village fringe.

LAND PRICE STAGES IN THE CONVERSION PROCESS



The price of improved land in a subdivision includes a number of cost components in addition to the value of the land before subdivision. Schmid shows four components that act to increase the value of farmland more than thirty fold (from US\$300 per acre to US\$10,000 in 1968). The largest single increase is the cost of urban improvements such as roads, sewerage and water supply. The implementation of a TDR scheme would at most add an additional cost component of 5 to 10% or, just as likely, reduce the speculative value for the farmer and the developer, with this difference going to the owner of the transferred rights.

Source: Schmid (1968:p42)

Whilst the sample is very small, it can be seen that subdivision increases the value of the land significantly, in some cases as much as \$20,000 extra per hectare and that the potential to subdivide adds something in the order of \$3,000 to \$5,000 per ha. This significant increase in the value of land once subdivided is borne out by other cost studies. An American example by Schmid is shown at [6.05]. If the extra speculative value of farmland was US\$ 1,000 in 1968, it could hence reasonably be expected that owners of 'dwelling credit units' could now expect up to \$5,000/ha for relinquishing the right to develop. Added to a 1ha building lot in a subdivision, this would translate as less than a 10% increase in the land value (\$62,500 plus \$5,000).

Crucial to the workability of any transferable rights scheme is the ability of the market to afford the cost of buying development rights. Critics of the approach claim that the nett result is simply an unreasonable additional cost for developers. This extra cost is passed on to consumers resulting in either a damping of demand or inflationary pressures. If a TDR scheme is only introduced in a relatively small area and purchasers have an alternative to buying in that area, it is argued that the added cost of lots in an area managed by a TDR scheme will force buyers away. With the historic difficulties of achieving regional planning in Tasmania, it must be considered quite likely that TDR schemes will only be introduced in certain locations at any one time.

However, for an area as unique as the Channel, 'going it alone' may not prove a hurdle to the success of a TDR scheme. Issues other than proximity to Hobart can be deciding factors in choice of housing location. The Channel region has specific landscape and recreational assets that attract new residents. It is in fact these assets that a TDR scheme attempts to protect and it could be short sighted to fail to enact planning measures designed to protect these assets for the sake of selling land in the area \$4,000 to \$5,000 dollars less than would be the case if protective planning measures were in place.

What is important is that existing residents, developers and prospective purchasers understand that the planning measures are designed to protect *their* assets and that the added cost of land is hence worthwhile. This highlights the need for community involvement in the development of new planning initiatives and their understanding and endorsement of those changes once operating.

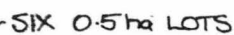
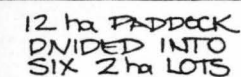
▼ IMPLEMENTATION

1. STRATEGY ▼

Due to the limited size of the study area, it is not possible in this document to draft a transferable rights scheme that would be applicable for all of Tasmania. Certain strategic recommendations can however be made and some illustrative examples of how these may affect development are given.

The first strategic decision that needs to be made is the scale of implementation. Typically, TDR schemes have been applied over relatively large areas spanning between a number of local government authorities. This achieves a coordinated 'result' in all similarly affected area and ensures that the benefits pursued in one area are not undone by a lack of appropriate planning in an adjacent area. Water quality management is a simple example. It is of little benefit to clean up the lower reaches of a river system if pollution is being added upstream, beyond the control of the local planning authority.

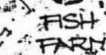
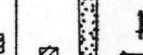
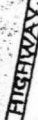
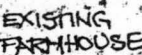
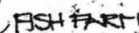
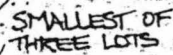
There is also a definite advantage if particular legal aspects of transferring rights is dealt with at State level. Local governments can only affect land use restrictions by requesting covenants be placed on titles. The introduction of State legislation to effect the operation of specific types of titles and assist in the recording of transfers is seen as integral to the implementation of an effective regional TDR scheme.



ROAD

ROAD

Right to subdivide all of
paddock transferred to 6
less than zone min lots



SIX NEW-
LOTS PLUS
TWO FOR
EXISTING
DWELLINGS

Existing lots converted to open space and fish farm & rights transferred to a new subdivision

2. EXAMPLES OF TDRs IN PRACTICE ▼

The following examples illustrate practical outcomes for the use of transferable rights in addressing some of the typical types of rural planning problems found in the study area. As the scope of this project is limited by the extent of the study area, the following examples are put forward on the basis that they may target an area as small as a single subdivision. These would be 'one off' transfers negotiated with council as appropriate. Depending on the use to which the development credits are to be put, a number of outcomes can result. Three possible applications of the process are illustrated at [6.06.A, B & C].

A] *Planning issue:* The subdivision of a 12 hectare paddock, zoned rural residential B, into six residential lots.

Current problem: Typical subdivision in this case results in six evenly sized lots with long driveways accessing the rear lots. There is a complete loss of the land for farm potential.

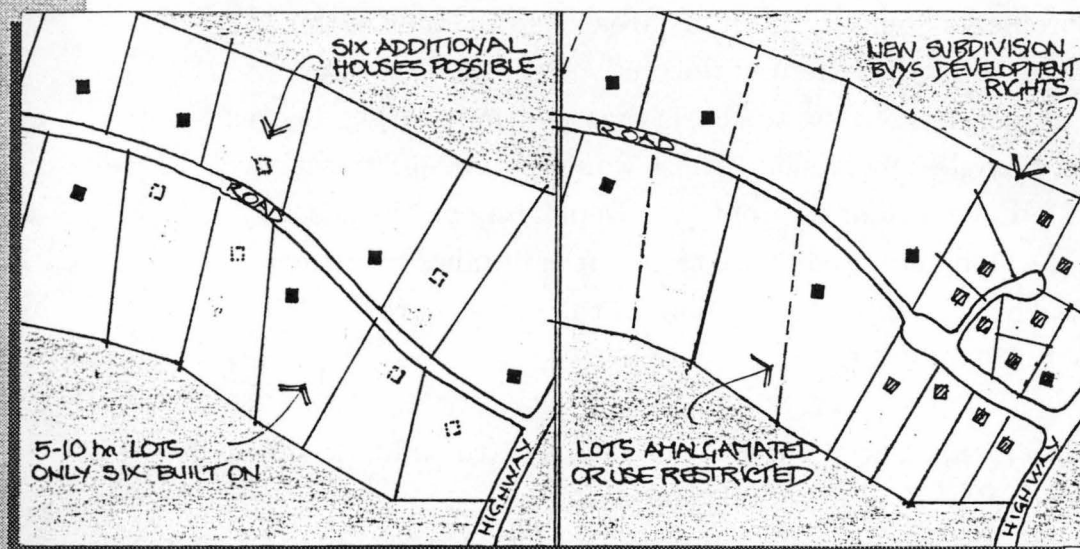
Alternative approach: The developer is allowed to transfer the right of six lots into six lots below the minimum zone requirements provided the remainder of the 'paddock' is undeveloped.

Benefit of TDR: Smaller building lots amongst larger land parcels provides landscape variety. Nine ha of the original twelve is retained for agriculture. The owners of the building lots have direct access to an existing road yet retain a rural surrounding.

B] *Planning issue:* An aquaculture company purchases the smallest of three lots available with water access for construction of its shore based facilities.

Current problem: The development is seen by current land owners and residents as detrimental to their lifestyle and property values.

Alternative approach: The 'right' to farm or carry out an industry such as aquaculture is 'bought' by the extinguishment of the development potential of all three lots. These dwelling rights are then transferred to a farm property south of the fish farm operations at the ratio of two dwellings for each existing right.



6.06c

Development rights
transferred to a clustered
development

Benefit of TDR: The fish farm operates on a small water front lot with the rest being given over to a paddock, a public reserve and a remnant lot around the existing house. New residents are given a buffer zone between them and the fish farm whilst the original owners are financially compensated by the sale of their development rights to the six new lots.

C] **Planning issue:** An existing gravel road provides access along a valley to a number of existing 'farm' lots of between 5 and 10 ha. Less than half are currently built upon, but there is no impediment to house construction on the 'vacant' lots.

Current Problem: Construction of further dwelling places greater demand on upgrading the road and services at Council's expense. The sale of vacant lots for residential uses removes them from agricultural use.

Alternative approach: A developer is allowed to subdivide four lots closest to the main road provided the development rights are extinguished on vacant land further up the valley.

Benefit of TDR: The Council only needs to service a short length of upgraded road. The 'vacant' lots remain as viable farm lots and these land owners are compensated by the sale of their development rights.

These three examples have various shortcomings arising from the necessity to be both general yet target specific scenarios. Why in *Case A* should not the developer be entitled to more than six small lots in lieu of the larger ones forgone and would buyers accept the smaller lots? In *Case C*, depending on the length of the gravel road and the number of lots on which rights are extinguished, the road may eventually require upgrading anyway to service those that do not sell rights and develop their lots.

It is not practical in this project to refine these examples further nor is this necessary. Their intent is to illustrate the scope transferring development rights might have in tackling some of the planning issues raised. The precise nature of their use is also dependent on the level at which a TDR scheme is introduced, regionally or locally and this is discussed next.

LEVELS OF IMPLEMENTATION ▼

◆ *Regional Implementation*

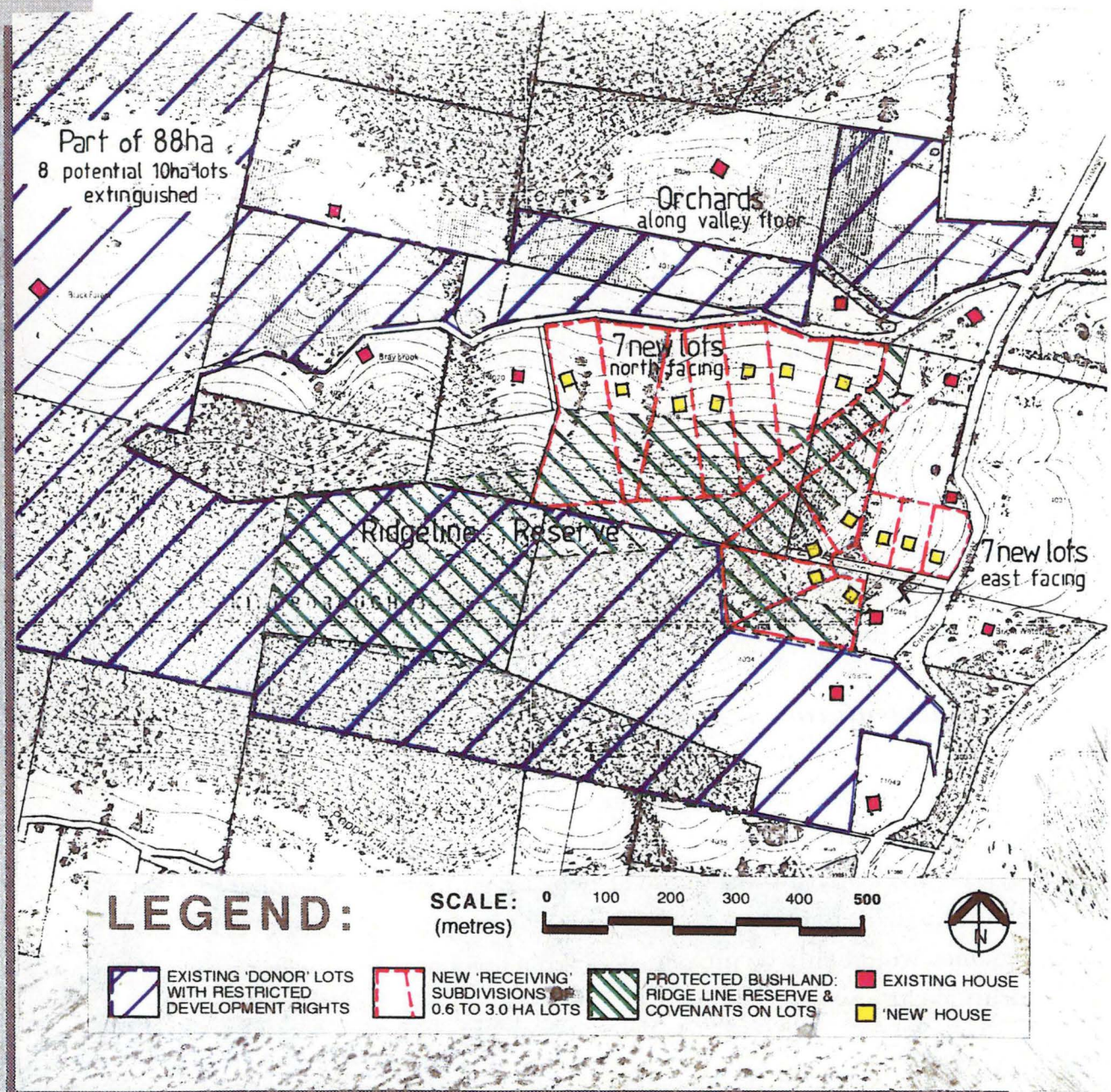
If introduced on a regional basis, a scheme would have to apply to all of Hobart's urban fringe councils. This includes Kingborough, Brighton, Clarence, Glenorchy, Huon and Sorell. Donor and receiver zones could be then selected at a large scale and best value. At this scale, districts as large as that covered by the study area may be deemed as donor or receiver areas. Disadvantages of such a regional approach include the difficulty of obtaining agreement between all local government bodies and the long time frame required for developing coordinated State policy. It may also result in some areas, (sending zones) being underdeveloped at the expense of over development of the receiving zones.

Given these constraints, the best outcome that can realistically be pursued is for the State government to provide the framework and legislative documentation. This would more easily enable individual local authorities to enact their own schemes. If initial success is met by early exponents, other more cautious councils may well follow in a 'snowball' effect.

◆ *Implementation at District Level*

Notwithstanding State legislation, a TDR scheme could still play some role in the management of land fragmentation at the local district level. With the historic difficulties of achieving regional planning in Tasmania, it must be considered quite likely that TDR schemes would only be introduced at this level and only in certain locations at any one time.

This may involve the development of a local area management plan covering an area around a single rural town. Through community consultation and professional input, the assets and 'at risk' elements of a district can be codified and sending and receiving areas designated. Future development would proceed on the basis of the agreed management plan. The use of transferable rights in



such a situation would be beneficial in achieving agreement from landowners to a plan that would otherwise disadvantage them individually.

A suggestion of how this might apply to an area along Whittons Road, west of Perch Bay in the study area is made at [6.07]. This road has not been developed with housing to the extent of similar east west roads that intersect with the Channel Highway closer to Hobart. However, if the population continues to increase in the region, undeveloped 'spare' lots along this access route will face development pressure. This 'spare' capacity includes:

- | | | |
|--|-------|---|
| • An 88ha property capable under present zonings to be subdivided into eight 10ha lots (each with house):- | DCUs; | 8 |
| • Four paddock/orchard lots of between 2.4 and 6.2 ha with no dwellings on, but entitled under the Scheme to build (subdivision prior to 1988). | | 4 |
| • Two tree covered 'bushland' lots of 10 and 25 ha, along the ridge line and facing south but entitled to be built upon or be cleared for agriculture. | | 3 |
| • One 18ha lot, (part of a 28 ha farm) that is over 50% bush covered. | | 1 |
| • At least a further four lots further up Whittons Road (not shown on diagram) that are entitled to a dwellings and/or capable of subdivision. | | 6 |

This results in at least an extra 22 additional dwellings that can be built along Whittons road. In the proposal, these are converted into 22 *Development Credit Units* capable of transfer to adjacent new subdivisions. The features of these new subdivisions are:

- Fourteen new lots in two subdivisions.
- A range of lot sizes from 3.0 ha to 0.6 ha.
- Seven north facing lots (1.0 to 3.0 ha) accessed off Whittons Road, any upgrading of which can be kept to a short length.
- The higher bush covered sections of the larger of these lots are protected from clearance (covenants) and not approved for building siting (building envelopes).
- Seven smaller lots (0.5 to 1.2 ha) facing predominately east, accessed off a short (180m) new section of roadway and also with covenants to protect bush on the hill face.
- A ridge line reserve leading up to a tree covered knoll, purchased by council and or open space contributions.

RANGE OF 'COMMODITIES' THAT CAN BE TRADED IN A TRANSFERABLE RIGHTS SCHEME

- *The right to build a dwelling on the land.*
 - *The ability to use the land for particular industry or agricultural uses.*
 - *Agreement to amalgamate adjacent lots into one title*
 - *Waiver of the right to conduct some types of farm production.*
 - *Agreement to 'down-zone' land*
-

The key outcomes of such a scheme are seen to be:

- The concentration of new housing close to the existing highway (and services) and on east and north facing slopes.
- The protection of bushland on the ridges, south facing slopes and hill tops.
- The retention for agricultural purposes of one 88ha property and four small paddock/orchard lots.

In formulating such a proposal, a number of assumptions have been made about the existing land use, present owners' intentions and possible housing demand. Clearly, these can change tomorrow, (the 88ha farm might be subdivided), negating all or some part of the scheme. The proposal is however a useful illustration of what outcomes may be achieved from the transfer of development rights.

4. POLICY AND LEGAL CHANGES ▼

Based on the approach developed in the Mt Lofty Ranges scheme, the following steps are suggested as being necessary for the implementation of a transferable rights scheme in Tasmania. These steps require both legislative and policy changes.

1. Legislation and/or planning scheme amendment to allow for the issuing of titles on which planning restrictions have been placed. These would typically be restrictions to prohibit building or prohibit land clearance but could include other 'commodities' as listed at [6.08].
2. Identification in planning documents of those areas that are to be allowed to sell rights and the restrictions that are to be put in place upon sale.
3. Identification in planning documents of those areas that are to be allowed to benefit from the purchase of rights and the extent of that benefit.

For individuals utilising the scheme the following steps would need to be taken:

1. An application made to the Lands Titles Office for either;
 - a) the amalgamation of titles or
 - b) the placing of restrictions on the title
2. The Land Titles Office issues new or amended certificates of title and records in a register details regarding the nature of the title changes and the number of transferable rights allocated by the local planning authority as a result of that alteration and now available for transfer.
3. The Land Titles Office issues a certificate confirming the land owner as bearer of the appropriate number of transferable '*dwelling credit units*' capable of sale and transfer on the free market.
4. The purchaser of these rights, also being the owner of eligible land, surrenders the certificates at the time of development approval to obtain an increased development entitlement equal to the *dwelling credit units* purchased.

The success of a scheme may be enhanced if the planning amendment allowing the transfer of development potential is concurrent with an immediate 'down zoning' of the sending area. Land owners are then allowed a specified period, say 15 or 25 years, to exercise the transfer or simply forfeit the right. This provides an incentive to participate.

Further refinement can be achieved by 'releasing' sending zones in ten year stages, outward from the highest quality zone. This avoids the premature sale of rights on land of only marginal value and allows for some modification of the market. As donors become scarce and prices rise, new sending zones are released, reducing the cost of purchasing rights. Such an approach is no different to normal management of future urban land releases with which the development industry is familiar.

▼ RECOMMENDATIONS

To achieve the widest and best result, TDRs are best introduced as a State policy and enacted at a regional level (such as the greater Hobart area). The planning mechanisms required to enable TDR schemes can be achieved utilising existing planning and property law (ie covenants). However, to achieve the best outcomes, changes at a State level are preferable. Their effectiveness is also dependent on the availability of a number of other planning tools being available within planning schemes. This includes in particular - clustering, flexible lot sizing and performance guidelines.

The role of the State is seen as particularly important to reduce the 'risk' for small rural Councils without the resources to develop unique policies. It is therefore recommended that:

- State policy be developed that guides local government in the implementation and administration of transferable development rights.
- Appropriate amendments be made to land title provisions to ensure that once rights are sold, the donor land assumes a reduced development status.
- That State rural policy also outline the implementation and administration of adjunctive planning tools such as clustered subdivision, flexible lot sizing and performance criteria.

Failing a regional commitment to a TDR scheme, application can be by individual Councils at a local scale or on a single 'negotiated transfer' basis. With or without State support, local governments need to attend to rural planning conflicts by utilising the best available tools.

For a district such as the Channel region, the Council can amend its planning approach to include the use of development credits. These cannot be effective though without companion strategies. It is therefore recommended that to achieve the best result from the

PROTECTED ASSETS

- ◆ *PRODUCTIVE FARMLAND FROM RESIDENTIAL DEVELOPMENT*
- ◆ *NATIVE BUSHLAND ON THE RIDGES, HILLS AND SKYLINES*
- ◆ *PUBLIC ACCESS TO COASTAL AND SKYLINE RESERVES*
- ◆ *KEY ELEMENTS OF THE MODIFIED RURAL LANDSCAPE (hedges, 'patchwork' fields, rural outbuildings and farmhouses)*

RECEIVING AREAS

- ◆ *SMALL LOTS IN VILLAGE ZONES*
- ◆ *0.4 to 5.0ha RURAL RESIDENTIAL LOTS ON SELECTED SITES:*
 - ❖ *BELOW RIDGES AND HILL TOPS ON*
 - ❖ *NORTH & EAST FACING SLOPES*
 - ❖ *EXCLUDED FROM HIGHEST GRADE SOILS*

6.09

Identifying the assets to be 'saved' and the areas to receive new development is a crucial step

DESIGN GUIDELINES FOR RURAL RESIDENTIAL DEVELOPMENT SHOULD INCLUDE:

- ◆ *Nature of roads and services to be provided, typically;*
 - *gravel roads, no suburban 'kerb and gutter'*
 - *sewerage handled on site*
 - *limited reticulation of water to defined areas only*
 - *other services at owners cost*
- ◆ *Guidelines on lot sizes and patterns to;*
 - *promote variety in sizes*
 - *recognise natural topography, particularly solar access and slope*
 - *minimise visual intrusion of built elements, ie exclude hill tops and ridges*
- ◆ *Building envelopes to;*
 - *protect skylines and ridges*
 - *enhance privacy and minimise overlooking*
 - *minimise visual intrusion of built elements*
 - *limit extent of land clearance*

6.10

Some simple design guidelines on residential development may achieve significant results

use of transferable rights in the Channel region the following be adopted as strategic planning goals:

- ◆ Identification of the assets and values of the area that should be protected by a reduction in development potential.
- ◆ Identification by Council of areas deemed suitable for rural living, or at least, those to be excluded from such development.

This process needs to include community inputs, but should broadly result in the identification of assets and areas listed at [6.09].

Once community and Council agreement has been reached on the broad scope of applying transferable rights, commitment by Council needs to be given to the following:

- ◆ A reduction of the current town boundaries (*Village zone*) be made to exclude productive farmland adjacent to the existing built areas that is currently subdivided or available for subdivision but not yet developed.
- ◆ To offset this reduction, promote the development of the 'compact' village' and to act as a receiving zone for development credits, the current minimum *Village* lot size be reduced to 300m² and a *Village Fringe* zone be introduced on land appropriate for 1,000m² to 2,500m² lots.
- ◆ Existing lots larger than 4 ha to be rezoned *Farmland* or *Bushland* and their development potential restricted.
- ◆ To also act as receiving zones, sufficient provision in the planning scheme to be made of 0.4 to 4 ha rural residential subdivision in desired locations to cater for a reasonable level of demand.

To ensure that areas where development is increased retain appropriate rural character, the following parallel planning provisions are recommended:

- ◆ The introduction of subdivision guidelines for flexible lot sizes to avoid the subdivision of land into 'even' homogeneous sizes.
- ◆ The introduction of design guidelines for rural residential subdivision.

Such guidelines should include, amongst the range of options listed at [6.10], the setting of building envelopes, appearance criteria and the nature of services and infrastructure to be provided on rural lots.

▼ CONCLUSIONS

It is crucial for planners to realise that for any planning amendment and in particular in any rezoning, there are winners and losers. It is often because of this that there is little political will to down zone or to restrict development even though this would be the best planning outcome. It is easier to increase development potential, to have all winners and no losers. But the loser in the long term is usually the environment and subsequently the public at large.

Under the new Tasmanian Planning Acts (1993), which do not allow for Interim Orders, zoning changes are likely to increasingly occur in periodic 'lumps' when schemes are revised. They will also be subject to more stringent examination regarding the sustainable nature of the proposed changes. Public input regarding matters of conservation, environmental amenity and visual impacts will require planning authorities to develop better guidelines and present more information regarding each proposed amendment. For conservative councils or those with few resources or those lacking political will, the result of this may well be a failure to adequately provide for future development demands other than via the existing 'backlog' of undeveloped sites. This eventually must result in a rise of land prices in areas of expansion.

As schemes are eventually rewritten and new areas rezoned for subdivision, a glut of potentially subdividable land will become available. This will create a short term oversupply and the price of this land will hence be low. Gradually, as the supply is taken up again, and with no new rezoning allowed under interim orders, the value of remaining undeveloped land will increase. Unless councils are diligent and review schemes regularly at about five year intervals, the end result will be periods of acute land shortage and corresponding high prices followed by gluts of 'cheap' land.

Therefore, it is not reasonable for planners to suppose that if they do not intervene, all will be well. Their very action of non

intervention will surely result in an uneven and possibly inequitable market.

Pacione (1990:p103) comments that the "transfer of land from rural to urban uses in the course of development is an integral part of the capitalist accumulation process." The UK planning system has been created, he observes, "to effect an equitable balance between private profit and public gain". The same ethic for planning process is applicable in Australia when considering the extent to which planning outcomes should modify market forces.

It is not up to planners to intervene in the market place just because there has been an oversupply of a commodity. Their role in modifying market forces is primarily to ensure fairness and protection of the public good, usually when there has been an under-supply of something that it would be in the public interest to provide, such as green space or welfare services. Intervention to restrict rural residential lots solely because there is an oversupply is surely only to benefit those land owners who have already obtained development approval and will in time reap the benefits of the restricted supply. If the intervention is on grounds of sustainability, each new application must be judged on its merits and past approvals be rescinded on the same basis.

There appears to be a continuing demand for rural residential living. Any failure by the planning profession to recognise and cater for this demand is not only a failure of the profession to serve the public, who are its primary clients, but is also likely to result in the failure of local government to regulate this type of development in a fair and environmentally appropriate manner.

There is a desire from both 'city folk' and farmers to preserve the viability of farm operations in rural/urban fringe areas. This common aim is fuelled by two completely disparate goals. In the first instance, those in urban areas place a value on the scenic qualities of a rural landscape and on the recreational opportunities offered. Farmers obviously value their farm income which they see

as threatened by encroaching suburbia, recreational pursuits and the conservation lobby.

Again, good planning offers some chance for the goals of both parties being, at least in part, satisfied. A failure to address the problem, or more importantly, legislation promoted solely in the interests of primary production, will not necessarily result in outcomes satisfactory to any party. The desire for better land management and conservation of resources (including those of purely environmental value) is unlikely to abate. Any member of the farming sector who believes it can be 'business as usual' will inevitably find they are not in tune with society's emerging aspiration for a 'cleaner and greener' environment.

A range of alternative planning approaches is emerging that do not rely on land use zoning alone. Many of these approaches, including clustered development, performance guidelines and flexible lot sizes have applications in rural planning. A transferable rights scheme however is one of the few planning tools that offers some possibility of reversing past planning decisions.

Transferable Development Rights offers planners a tool to compensate land owners disadvantaged by planning amendments without recourse to expenditure of public money. It in effect taxes those who benefit and at the time they make use of the benefit. In this manner, it is a fair system of redistributing 'wins and losses' in the planning process. *Transferable Development Rights* may also be a selling point for introducing alternative planning reforms that may otherwise be politically unattractive.

The use of *Transferable Development Rights* in rural planning could achieve wide ranging reforms directed at more sustainable patterns of land use. Whilst it is likely that they will alter the pattern of land division only slowly, something like fifty years to see any real effect, unless some attempt is made the alternative is a gradual loss of rural amenity.

PART 7: • REFERENCES

• SELECTED BIBLIOGRAPHY

• APPENDICIES

- TABLE 1: Selected ABS Census Data
- TABLE 2: Selected Property Valuations
- TABLE 3: 'Grouped' Lots
- TABLE 4: Lot Areas Referenced by
UPI Nø and Map Ref

◆ REFERENCES:

- Austin & Cocks; eds (1978)
Land Use on the South Coast of NSW,
CSIRO, Australia.
- Australian Bureau of Statistics (1993)
Census 1991: Urban Centres and Localities: Tasmania,
ABS, Commonwealth of Australia.
- Australian Bureau of Statistics (1995)
1991 Census of Population And Housing: Time Series Community Profile,
ABS, Commonwealth of Australia.
- Australian Bureau of Statistics (1995)
Tasmania at a Glance,
ABS, Commonwealth of Australia
- Barrese, J.T. (1983)
Efficiency & Equity Considerations in the Operation of Transfer of Development Rights Plans,
Land Economics, Vol 59, Nø. 2, May 1983, pp235-241.
- Bennett, R. (1991)
The Need for Urban Bushland: Conservation Planning,
Australian Parks & Recreation, Winter 1991, pp35-38.
- Bindon, J. (1992)
Transferable Development Rights,
Australian Planner, September 1992, pp136-141.
- Bryant, C; Russwurm, L; & McLellan, A. (1982)
The City's Countryside,
Longman, London UK.
- Cloke, Paul (1979)
Key Settlements in Rural Areas,
Methuen, London, UK.
- Cloke, Paul & Park, Chris (1985)
Rural Resource Management,
Croom Helm, London, UK.
- Cloke, Paul, editor (1989)
Rural Land-Use Planning in Developed Nations,
Unwin Hyman, London, UK.
- Copeland, S. (1988)
The Role of the Planner in Rural Britian,
The Planner/TCPSS Proceedings, Feb 1988, pp 73-77.
- Cosier, P. A. Fitzpatrick & Harris (1990)
Catchment Yield Analysis; An aid to rural residential subdivision design,
Australian Planner, Vol 28 Nø 4; pp30-36
- Costonis, J. (1974)
Space Adrift, Landmark Preservation and the Market Place,
University of Illinois Press, Chicago USA.
- Craythorn, S. (1994)
Rural Consolidation,
Australian Planner, Vol 31 Nø. 4, pp 212-215
- Daniels, T. (1989)
Planning in Rural America,
in Cloke, P. (ed) (1989).

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

- Dept. of Environment and Planning S A. (1992)
Mount Lofty Ranges Management Plan - Consultation Draft,
Dept. of Environment & Planning, South Australia.
- Doyle & Tranter (1978)
In Search of Vision; Rural land-use problems and policies,
Built Environment vol 4 1978, p289.
- Evans, E. (1993)
Transferable Title Rights,
Australian Planner, Vol 31, Nø 1, March 1993, pp29-32.
- Farmland Preservation Society (1995)
TDR initiatives difficult for NJ townships,
Farmland Preservation Report, April 95; pp 6-7, Bowers Publishing, Maryland, USA.
- Hamnett, S. (1987)
The City of Adelaide Plan 1986-1991: A Review,
Urban Policy and Research, Vol 5, Nø 2, pp 61-72.
- Houston, Peter (1990)
Special Feature. Rural Planning,
Australian Planner, Vol 28 Nø 4; pp 5-36.
- Hugo G. J. & Smailes, P. J. (1992)
Population Dynamics in Rural South Australia,
Journal of Rural Studies, Vol 8 Nø1; pp29-51.
- Jacobs, H.M. (1989)
Debates in rural Land Planning Policy: a Twentieth Century History from New York State,
Journal of Rural Studies, UK, Vol 5 Nø 2 pp 137-148.
- Jacobs, M. (1995)
Sustainability and Community,
Australian Planner, Vol 32 Nø2; pp 109-115.
- Jones, E., Jones, P., Horsfall, W. & O'Dwyer, P. (1992)
A Strategy for Rural Living,
Australian Planner, Vol 30 Nø 1, pp 41-44.
- Kendig, L. & Perkel, B. (1988)
Performance Zoning for sensitive land in Queen Anne's County, Maryland,
Urban Land, USA, Vol 47 Nø 8, pp17-22.
- Kingborough Council, (1988)
Kingborough Planning Scheme 1988,
Kingborough Municipal Council, Tasmania.
- Lees, J. W. (1987)
Country Towns - The Fabric of Rural Society,
The Valuer, Jan 1987, Vol 29 Nø 5; pp 353-357.
- Levin, Rose et al (1974)
New Approaches to Land-Use Policies,
Lexington Books, Lexington USA.
- Macquarie Atlas, (1984)
Macquarie Illustrated World Atlas,
Macquarie Library, Sydney NSW.
- McDonald, G. T. (1989b)
Rural Land Use Planning Desisions by Bargaining,
Journal of Rural Studies, Vol 5, Nø 4, pp325-335.
- McDonald, G.T. (1989a)
Rural Land-Use Planning in Australia,
in Cloke P. (ed) (1989).

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

- Minister for Environment & Planning (1994)
Mount Lofty Ranges Comprehensive Nø 2 Supplementry Development Plan,
Dept of Environment & Planning, Adelaide S.A.
- Nelson, A.C. (1990)
The Analytic Basis for an Effective Prime Farmland Preservation Scheme in the USA,
Journal of Rural Studies, UK, Vol 6 Nø 3 pp 337-346.
- Pacione, M. (1990)
Private Profit & Public Interest in the Residential Development Process,
Journal of Rural Studies, Vol 6, Nø 1 pp 103-115.
- Paterson, I.G.; Kirkham & Gilmore (1978)
The Changing Rural Environment, A Study of Rural Retreats, New Lifestyles and Land Use in Southern Tasmania,
Centre for Environmental Studies, University of Tasmania.
- Petersen, S., Weller, N & Houghton, D. (1994)
Rural Residential Developments,
Australian Planner, Vol 31 Nø 3, pp165-169.
- Poole, S.E. (1984)
TDRs in Practice. The New Jersey Pinelands,
Urban Land, December 1984, Vol 31, Nø 12; pp34-35.
- Pullen, J.M. (1977)
Greenspace and the City,
Aust institute of Urban Studies, Canberra ACT.
- Rosenman, H. (1992)
Two Voyages to the South Seas,
Melbourne University Press, Melb, VIC.
- Schmid, Allan (1968)
Converting Land from Rural to Urban Uses,
The John Hopkins Press, Baltimore, USA.
- Sexton, R. N. (1980)
Review of Non-Urban Planning Policies,
Dept of Urban and Regional Affairs, South Australia.
- Stokes, S.N. et al (1989)
Saving America's Countryside; A guide to rural conservation,
John Hopkins University Press, Baltimore, USA.
- Tasmanian Farmers & Graziers Association (1991)
A.T.F.G.A. Discussion Paper on Development in the Rural-Urban Fringe,
Rural-Urban Fringe Seminar, 1st Nov 1991, Tasmania.
- Urquhart, J. (1991)
Rural Landscape Management,
MTP Professional Project, University of Tasmania.
- Wellings, Smith & Byrnes (1985)
Development of a Model for Estimating the Demand of Land for Rural Residential,
Dept of Environment & Planning, NSW.
- Wildman, P; Moore; Baker & Wadley (1990)
Push from the Bush: Revitalisation strategies for smaller rural towns,
Urban Policy and Research, Vol 8 Nø 2; pp51-59.
- Woodward & Neilson (1981)
Land Evaluation Manual (?)
Dept of Environment & Planning, NSW.
-

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

♦ SELECTED BIBLIOGRAPHY:

Additional texts relating to transferable rights and farmland preservation

- * Barlowe, R. (1986)
Land Resource Economics, the economics of real estate,
Prentice Hall, New Jersey, USA.
- * Cooper, M. (1990)
The Mount Lofty Ranges Review; Trails & Tribulations in the Rural Fringe,
Australian Planner, Vol 28 Nø 4, pp14-20.
- * Daines, D. (1992)
Transferable Development Rights,
Australian Planner, December 1992, pp 178-179
- * Daniels, T. (1990)
Policies to Preserve Prime Farmland in the USA: a Comment,
Journal of Rural Studies, UK, Vol 6 Nø 3 pp 331-336.
- * Daniels, T.L.; Keller, J.W. & Lapping, M.B (1995)
The Small Town Planning Handbook,
American Planning Association, Chicago, USA
- * Foyel, J. (1992)
Planning in the Rural-Urban Fringe,
Australian Planner, Vol 30 # 1, pp45-50.
- * Hart, John (1991)
Farming on the Edge; Saving family farms in Marin County, California,
University of California Press, USA
- * Kwong, J.A. (1987)
Farmland Preservation,
Urban Land, January87, Vol 46 Nø 1; pp 20-23.
- * Lassar, T. & Porter, D. (1990)
Urban Rural Boundaries; the limits of limits,
Urban Land, USA, Vol 49 Nø 12, pp32-35.
- * Lehman, Tim; (1995)
Public Values, Private Lands; Farmland preservation policy 1935 - 1985,
University of North Carolina Press, USA.
- * Nelson, A.C. (1990)
Economic Critique of US Prime Farmland Preservation Policies,
Journal of Rural Studies, UK, Vol 6 Nø 2 pp 119-142
- * Paterson, J.G. (1990)
A Right to Farm, A Right to Live?
Australian Planner, Vol 28 Nø 4; pp8-13.
- * Pfeffer, M. & Lapping, M. (1994)
Farmland Preservation, Development Rights & the Theory of the Growth Machine: the View of Planners,
Journal of Rural Studies, UK, Vol 10 Nø 3; pp 233-248.
- * Raymond, G.M. (1981)
Structuring the Implementation of Transferable Development Rights,
Urban Land, July-August 1981, Vol 40 Nø 8; pp19-25
- * Thorpe, E. (1988)
New Forms for Old Farms,
Australian Planner, Vol 26 Nø 2; pp20-23

PART 7: APPENDIX

TABLE 1: ABS CENSUS DATA (1993)

Population & Occupied Dwellings in Localities of 50+

	Year	Occupied Dwellings	Un-Occupied	Year	Male	Female	Total	Ave/House
Margate	1954	136		1954	294	254	548	4.03
Margate	1961	188	9	1961	396	346	742	3.95
Margate	1966			1966			-	-
Margate	1971	100	5	1971	187	166	353	3.53
Margate	1976	119	5	1976	206	186	392	3.29
Margate	1981	151	3	1981	242	234	476	3.15
Margate	1986	181	3	1986	285	272	557	3.08
Margate	1991	248	17	1991	373	370	743	3.00
Snug	1954	173		1954	350	322	672	3.88
Snug	1961	195	14	1961	358	344	702	3.60
Snug	1966	174		1966	350	322	527	3.03
Snug	1971	152	6	1971	279	251	530	3.49
Snug	1976	189	13	1976	345	323	668	3.53
Snug	1981	213	15	1981	352	332	684	3.21
Snug	1986	240	16	1986	360	354	714	2.97
Snug	1991	254	18	1991	388	279	667	2.63
Kettering	1954	85		1954	215	160	375	4.41
Kettering	1961	93	0	1961	194	193	387	4.16
Kettering	1966			1966			-	-
Kettering	1971	71	5	1971	118	114	232	3.27
Kettering	1976	88	6	1976	148	137	285	3.24
Kettering	1981	88	13	1981	136	152	288	3.27
Kettering	1986	100	10	1986	155	163	318	3.18
Kettering	1991	110	11	1991	154	141	295	2.68
Birchs Bay	1971						183	
Birchs Bay	1976						152	
Birchs Bay	1981						342	
Birchs Bay	1986						437	
Birchs Bay	1991	200	20				579	
Woodbridge	1954	98		1954	195	185	380	3.88
Woodbridge	1961	108	0	1961	213	198	411	3.81
Woodbridge	1966			1966			-	-
Woodbridge	1971	85	8	1971	186	141	327	3.85
Woodbridge	1976	89	13	1976	174	126	300	3.37
Woodbridge	1981	78	6	1981	147	112	259	3.32
Woodbridge	1986	85	3	1986	130	130	260	3.06
Woodbridge	1991	93	3	1991	130	123	253	2.72
Gordon	1954	53		1954	117	100	217	4.09
Gordon	1961	48	10	1961	110	91	201	4.19
Gordon	1966			1966			-	-
Gordon	1971	53	-	1971	117	100	217	4.09
Gordon/Middleton	1971			1971			292	
Gordon/Middleton	1976	-		1976	-	-	320	-
Gordon/Middleton	1981	-	-	1981	-	-	363	-
Gordon/Middleton	1986	-	-	1986	-	-	416	-
Gordon/Middleton	1991	162	25	1991	-	-	466	2.88
TOTALS	Year	Occupied Dwellings	Un-Occupied	Year	Male	Female	Total	Ave/House
Study Area	1991	403	34	1991	-	-	1127	2.80
All Data	1991	1067	94	1991	-	-	3003	2.81
	Year	Occupied Dwellings	Un-Occupied	Total Population	Ave/House		Year	Total Population
Selected Totals *	1954	492	0	1975	4.01	Totals #	1954	
Selected Totals *	1961	584	23	2242	3.84	Totals #	1961	
Selected Totals *	1971	408	24	1442	3.53	Totals #	1971	1034
Selected Totals *	1976	485	37	1645	3.39	Totals #	1976	1057
Selected Totals *	1981	530	37	1707	3.22	Totals #	1981	1252
Selected Totals *	1986	606	32	1849	3.05	Totals #	1986	1431
Selected Totals *	1991	705	49	1958	2.78	Totals #	1991	1593

* Includes Margate, Snug, Kettering and Woodbridge.

Channel Region - Kettering, Birchs Bay, Woodbridge & Gordon/Middleton

PART 7: APPENDIX

**TABLE 2: 23 SELECTED PROPERTIES
1992 GOVERNMENT VALUATIONS**

UPI No	AREA hectares	OWNER	SITE VALUE	IMPROVED VALUE	\$ per Ha (land value only)	Planning Scheme Use Zone
4062	285.000	Rae	\$385,000	\$540,000	\$1,351	Rural A
4068	58.300	Regan	\$85,000	\$155,000	\$1,458	Rural C
11438	127.000	Duggan	\$200,000	\$300,000	\$1,575	Rural C
4081	38.891	Tonta	\$80,000	\$200,000	\$2,057	Rural C
11481	25.750	Knox-Little	\$60,000	\$140,000	\$2,330	Rural A
3962	27.170	Rada	\$90,000		\$3,312	Rural A
4101	10.090	Mansfield	\$45,000	\$80,000	\$4,460	Rural A
4039	10.930	Graham-Evans	\$55,000	\$115,000	\$5,032	Rural A
10918	31.030	Moon	\$160,000	\$210,000	\$5,156	Rural A
11395	3.289	Scatchard	\$20,000	\$20,000	\$6,081	Rural A
3946	21.382	Ims	\$140,000	\$270,000	\$6,548	Rural Res B
10976	6.161	Mason	\$70,000	\$200,000	\$11,362	Village
11461	5.494	Turner	\$75,000	\$175,000	\$13,651	Village
11393	2.100	Richards	\$29,000	\$30,000	\$13,810	Rural A
3927.1	1.001	Cole	\$28,000	\$135,000	\$27,972	Rural Res B
10975.2	1.020	Cripps	\$30,000		\$29,412	Rural Res B
10975.1	0.841	Cripps	\$30,000		\$35,693	Village
11465.3	0.492	Benns	\$25,000	\$87,000	\$50,813	Village
11464.3	0.390	Ball	\$21,000	\$41,000	\$53,846	Village
11464.1	0.364	Allison	\$20,000		\$54,945	Village
11454	0.481	Schooling	\$32,000	\$155,000	\$66,528	Village
11473	0.405	Charles	\$35,000	\$84,000	\$86,484	Village
11470	0.095	Hosking	\$15,000		\$158,228	Village

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 3:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR LOTS GROUPED IN COMMON OWNERSHIP***

UPI No	Area	Part of:	Owner	Map Ref	UPI No	Area	Part of:	Owner	Map Ref
10888	0.040 ha -	0 11 ha; total	K.L. Sutherland	5502	11455	0 242 ha -	0 41 ha; total	H J Reynard	3505
10889	0 072 ha -	0 11 ha; total	K L Sutherland	5503					
10947	0.063 ha -	0 14 ha; total	R Barwick	5505	7785	0 391 ha -	0 47 ha; total	L S Hughes	3107
10948	0 070 ha -	0 14 ha; total	R Barwick	5505	7786	0 080 ha -	0 47 ha; total	L.S Hughes	3107
7765	0 077 ha -	0.15 ha; total	J. R Gumley	3108	11453	0 240 ha -	0 48 ha; total	S M Schooling	3505
7764	0 070 ha -	0 15 ha; total	J.R.Gumley	3108	11454	0 241 ha -	0.48 ha; total	S.M.Schooling	3505
11471	0 078 ha -	0 16 ha; total	C A Oates	3508	11414	0 270 ha -	0.54 ha; total	P.W ANewman	3504
11472	0 078 ha -	0 16 ha; total	C A Oates	3508	11415	0 270 ha -	0 54 ha; total	P W ANewman	3504
7716	0 081 ha -	0 16 ha; total	E.H.Lukehurst	3102	11417	0 072 ha -	0 55 ha; total	V B Price	3504
7717	0 081 ha -	0 16 ha; total	E H Lukehurst	3102	11416	0 472 ha -	0.55 ha; total	V.B.Price	3504
7745	0 070 ha -	0.19 ha; total	J W.Smith	3507	11013	0 200 ha -	0 61 ha; total	F S Clark	5505
11468	0 118 ha -	0 19 ha; total	J W Smith	3507	11014	0 407 ha -	0 61 ha; total	F S Clark	5506
7761	0 106 ha -	0.21 ha; total	R C.Smith	3507	7756	0 097 ha -	0 61 ha; total	M.L Hughes	3108
11469	0.106 ha -	0 21 ha; total	R C Smith	3507	7757	0.100 ha -	0.61 ha; total	M.L.Hughes	3107
					7762	0 104 ha -	0 61 ha; total	M L Hughes	3508
					7758	0 108 ha -	0.61 ha; total	M.L Hughes	3107
11475	0 074 ha -	0.21 ha; total	C.R A. Turnbull	3508	7750	0.201 ha -	0.61 ha; total	M.L.Hughes	3107
11476	0.140 ha -	0.21 ha; total	C.R A. Turnbull	3508					
10981	0.070 ha -	0.22 ha; total	J.W Given	5509	7724	0 190 ha -	0 86 ha; total	G.A.Fife	3103
10982	0.070 ha -	0 22 ha; total	J.W.Given	5509	7725	0.666 ha -	0 86 ha; total	G.A.Fife	3103
10983	0.079 ha -	0.22 ha; total	J.W.Given	5509					
10894	0.110 ha -	0.23 ha; total	D.J. Hayers	5502	10959	0 190 ha -	0.88 ha; total	R.R.Mason	5505
10893	0.117 ha -	0.23 ha; total	D J. Hayers	5502	10954	0.112 ha -	0.88 ha; total	W.B.Mason	5504
					10958	0.179 ha -	0.88 ha; total	W.B.Mason	5505
					10955	0.400 ha -	0 88 ha; total	W.B.Mason	5505
7733	0 053 ha -	0 24 ha; total	T.J. Rushton	3103	10939	0 046 ha -	0.92 ha; total	Emu Ground P/L	5504
7734	0 185 ha -	0.24 ha; total	T J. Rushton	3103	10940.	0 870 ha -	0.92 ha; total	Emu Ground P/L	5504
7722	0 077 ha -	0 24 ha; total	I Willing	3103	1147 1	0 400 ha -	0 99 ha; total	M G Innes	3108
7721	0 081 ha -	0 24 ha; total	I Willing	3103	1147 4	0 592 ha -	0 99 ha; total	M G Innes	3108
7720	0 081 ha -	0 24 ha; total	I Willing	3103					
10988	0 229 ha -	0 25 ha; total	V C Careless	5508	7730	0 473 ha -	1 09 ha; total	J B Sediuka	3103
10989	0.020 ha -	0 25 ha; total	L L Careless	5509	7729	0 617 ha -	1 09 ha; total	J B Sediuka	3103
10896	0.117 ha -	0 26 ha; total	G.A. Whayman	5502	11439	0 181 ha -	1 18 ha; total	G F.Sward	3503
10897	0.140 ha -	0.26 ha; total	G.A. Whayman	5502	1123	1.000 ha -	1.18 ha; total	G.F Sward	3503
10892	0.122 ha -	0.26 ha; total	J H. Fielding	5502	10904	0 250 ha -	1.51 ha; total	E.F. Burtcher	5503
10891	0.143 ha -	0 26 ha; total	J.H. Fielding	5501	10933	1.260 ha -	1.51 ha; total	E.F Burtcher	5503
7753	0.130 ha -	0.27 ha; total	B.F Swards	3108	11062	0 202 ha -	1.62 ha; total	R J.Mennitz	4509
7754	0.135 ha -	0.27 ha; total	B F.Swards	3108	11060	1.413 ha -	1.62 ha; total	R.J.Mennitz	4509
10951	0 070 ha -	0 28 ha; total	J.R Pindell	5505	7788	0 204 ha -	2 37 ha; total	P L Hamilton	3107
10952	0 070 ha -	0 28 ha; total	J R Pindell	5505	7782	1 288 ha -	2 37 ha; total	P L Hamilton	3108
10950	0 074 ha -	0 28 ha; total	J R Pindell	5505	7784	0 880 ha -	2 37 ha; total	P L Hamilton	3107
10949	0 100 ha -	0 28 ha; total	J R Pindell	5505					
11451	0.129 ha -	0 38 ha; total	D A Sward	3504	1149 2	1 142 ha -	2 87 ha; total	D E Skillington	3107
11452	0.247 ha -	0.38 ha; total	D.A Sward	3505	1149.1	1 723 ha -	2.87 ha; total	D.E.Skillington	3107
11456	0.170 ha -	0 41 ha; total	H J Reynard	3505	7718	0.081 ha -	3.30 ha; total	J.E.Pindsel	3103
					1122	3 220 ha -	3.30 ha; total	J.E.Pindsel	3502

NOTE: First two numbers of the Map Reference No refer to the 1 5000 TasMap orthophoto numbers; ie: Cygnet 35. The second two numbers refer the the latitudinal grid, numbered 01 to 10, starting on 01 at the top (north).

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 3:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR LOTS GROUPED IN COMMON OWNERSHIP***

UPI No	Area	Part of:	Owner	Map Ref	UPI No	Area	Part of:	Owner	Map Ref
7740	0.600 ha -	3 33 ha; total	P A McCartney	3103	10986	1 330 ha -	9 59 ha, total	R D Haley	5508
1142	2.734 ha -	3 33 ha; total	P.A McCartney	3103	10979	2 527 ha -	9 59 ha; total	R D Haley	5509
11467	0 180 ha -	3.45 ha; total	Kamtone P/L	3507	10985	5 728 ha -	9 59 ha; total	R D Haley	5508
7743	3 268 ha -	3 45 ha; total	Kamtone P/L	3506	11383	1 500 ha -	10 85 ha, total	P A Graham	3504
10938	1.744 ha -	3 80 ha; total	A E Edwards	5504	3971	9 350 ha -	10 85 ha; total	P A Graham	3505
10935	1.744 ha -	3.80 ha; total	A E Edwards	5504	3942	1.957 ha -	10 98 ha; total	R K. Crowden	3504
10905	2 067 ha -	3.80 ha, total	A E Edwards	5503	3943	9 021 ha -	10.98 ha; total	R.K Crowden	3504
10835	2.000 ha -	4 03 ha; total	A. E. McKenzie&Sum	5509	4047	11.000 ha -	13.04 ha; total	K. M. Drake	4509
10834	2 030 ha -	4.03 ha; total	A E McKenzie&Sum	5510	4048	2.040 ha -	13.04 ha; total	K.M. Drake	4510
10911	0 810 ha -	4 16 ha; total	C Q Clark	5504	10842	10 657 ha -	13 13 ha; total	H Brown	5507
10913	3.350 ha -	4 16 ha; total	C.Q. Clark	5504	10841	2 471 ha -	13.13 ha; total	M. H. Brown	5508
10874	2 038 ha -	4.94 ha; total	W A.L. Wagg	4510	10912	3.100 ha -	13.33 ha; total	G J. Edwards	5503
10875	2 904 ha -	4 94 ha; total	W.A.L. Wagg	4510	10878	3.217 ha -	13.33 ha; total	G.J. Edwards	5502
11517	0.150 ha -	5.49 ha; total	F Turner	3506	11023	4.447 ha -	13.33 ha; total	P.L. Edwards	5503
11460	1 150 ha -	5 49 ha; total	F Turner	3506	4041	7.100 ha -	14 51 ha; total	G.C Rae	4509
11462	2.100 ha -	5.49 ha; total	F.Turner	3506	4040	7 400 ha -	14.51 ha; total	G C. Rae	4509
11461	2 100 ha -	5 49 ha; total	F. Turner	3506	3973	6.600 ha -	15 58 ha; total	S V. Andrews	3504
7799	0 690 ha -	5 89 ha; total	Deed Pastoral	3108	3972	9 000 ha -	15 58 ha; total	S V Andrews	3504
7801	1 440 ha -	5 89 ha; total	Deed Pastoral	3107	10870	4 400 ha -	16 19 ha, total	M J Gordon	5502
7798	1.550 ha -	5 89 ha; total	Deed Pastoral	3107	10868	5 700 ha -	16 19 ha; total	M J Gordon	5503
1148	2.226 ha -	5 89 ha, total	Deed Pastoral	3108	10869	6 000 ha -	16 19 ha; total	M J Gordon	5502
11018	0.809 ha -	6.34 ha; total	R.N. McCloy	5510	4027	2.100 ha -	16.67 ha; total	R J Button & K.T	4504
2229	5 536 ha -	6 34 ha; total	R N. McCloy	5510	4028	13.500 ha -	16 67 ha; total	R J Button & K T	4504
11422	1.500 ha -	6.47 ha; total	D. Greenwood	3503	11406	0.214 ha -	21.38 ha; total	B.E. Ims	3503
11423	2.600 ha -	6.47 ha; total	D Greenwood	3503	3947	1.800 ha -	21.38 ha; total	R.J. Ims	3503
3927 2	1.062 ha -	6 50 ha; total	Rowbill P/L	3502	3944	1 920 ha -	21.38 ha; total	R J. Ims	3503
3955.3	1.366 ha -	6.50 ha; total	Rowbill P/L	3503	3945	7.780 ha -	21.38 ha; total	R.J. Ims	3504
3926	1 567 ha -	6 50 ha; total	Rowbill P/L	3503	3946	7 980 ha -	21.38 ha; total	R J Ims	3504
11527	2 500 ha -	6 50 ha; total	Rowbill P/L	3503	11412	1 150 ha -	27.17 ha; total	A V Rada	3504
10886	2.400 ha -	6.79 ha; total	C H. Hocking	5501	3960	4.800 ha -	27.17 ha; total	A V. Rada	3507
4044	4 390 ha -	6.79 ha; total	C.H Hocking	4510	3962	8.200 ha -	27.17 ha; total	A V. Rada	3506
11388	3.161 ha -	6.93 ha; total	D. Theinert	3508	3961	14.300 ha -	27.17 ha; total	A.V. Rada	3507
11390	3.773 ha -	6.93 ha; total	D Theinert	3509	11051	0.250 ha -	28.43 ha; total	E. W. Peterson	4507
10877	2 093 ha -	7.89 ha; total	C J. Anderson	4510	11052	1.600 ha -	28 43 ha; total	E. W. Peterson	4508
10881	1.569 ha -	7.89 ha; total	G.G. Anderson	5501	4037	2.024 ha -	28 43 ha; total	E. W. Peterson	4507
10882	4.222 ha -	7.89 ha; total	G.G. Anderson	4510	4035	3 150 ha -	28 43 ha; total	E W Peterson	4507
11231	0 370 ha -	8 77 ha; total	D.R Sherburd	3501	4036	3.600 ha -	28.43 ha; total	E. W. Peterson	4507
7712	8 405 ha -	8 77 ha; total	D.R Sherburd	3501	4034	18 055 ha -	28 43 ha; total	E W Peterson	4506
3939	1 250 ha -	9 31 ha; total	H J Woolley	3502	3977	13 690 ha -	28 59 ha, total	J E Burgess	3502
3940	1 808 ha -	9 31 ha; total	H J Woolley	3503	3976	15 000 ha -	28 59 ha; total	J E Burgess	3502
3938	1 850 ha -	9 31 ha; total	H J Woolley	3502	10921	0.010 ha -	31 03 ha; total	G R Moon	5506
3937	4 400 ha -	9 31 ha; total	H J Woolley	3502	10919	0 030 ha -	31 03 ha; total	G R Moon	5506
					10920	0.035 ha -	31.03 ha, total	G.R. Moon	5506

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TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 3:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR LOTS GROUPED IN COMMON OWNERSHIP***

UPI No	Area	Part of:	Owner	Map Ref	UPI No	Area	Part of:	Owner	Map Ref
10884	0 150 ha -	31.03 ha; total	G R Moon	5502	4088	9.400 ha -	66 20 ha, total	I Mucha	5509
10925	2.000 ha -	31 03 ha; total	G R Moon	5505					
10927	2 050 ha -	31 03 ha; total	G.R Moon	5504	4014	1 800 ha -	98.97 ha, total	Grombridge & Martins	3510
10887	3 250 ha -	31 03 ha; total	G R Moon	5502	4020	2 000 ha -	98 97 ha; total	Grombridge & Martins	4502
10917	3 300 ha -	31 03 ha; total	G R Moon	5506	4024	2 400 ha -	98 97 ha; total	Grombridge & Martins	4503
10916	3 800 ha -	31 03 ha; total	G R Moon	5505	4019	4 250 ha -	98 97 ha, total	Grombridge & Martins	4503
10883	3.900 ha -	31.03 ha; total	G.R Moon	5502	4023	6 200 ha -	98 97 ha, total	Grombridge & Martins	4503
10924	4.460 ha -	31.03 ha; total	G R Moon	5506	4015	7 500 ha -	98.97 ha; total	Grombridge & Martins	3510
10918	7 700 ha -	31 03 ha; total	G.R Moon	5505	4021	8.000 ha -	98 97 ha, total	Grombridge & Martins	4501
					4022	9 020 ha -	98 97 ha; total	Grombridge & Martins	4502
10851	6 400 ha -	38 89 ha; total	G G Tonta	5505	4013	9 200 ha -	98 97 ha; total	Grombridge & Martins	3510
4084	9.500 ha -	38.89 ha, total	G G Tonta	5506	4016	12 200 ha -	98 97 ha, total	Grombridge & Martins	3510
4082	9 800 ha -	38 89 ha; total	G G Tonta	5505	1155	14 000 ha -	98 97 ha; total	Grombridge & Martins	3510
4081	21.900 ha -	38 89 ha; total	G G Tonta	5504	4017	5 770 ha -	98.97 ha; total	Grombridge & Martins	4502
					4018	9.900 ha -	98 97 ha; total	Grombridge & Martins	4502
10971	1.000 ha -	44.50 ha; total	J Cripps	5507					
10970	1 500 ha -	44 50 ha; total	J Cripps	5507	4002	18 000 ha -	127 00 ha, total	D G Duggan	3508
10840	1 540 ha -	44 50 ha; total	J Cripps	5507	11482	27 000 ha -	127 00 ha; total	D G Duggan	3507
10968	1 600 ha -	44 50 ha; total	J Cripps	5506	11438	82.000 ha -	127.00 ha, total	D G. Duggan	3509
4103	3 580 ha -	44 50 ha; total	J Cripps	5509					
10837	8 950 ha -	44 50 ha; total	J Cripps	5508	3844	16 400 ha -	135.00 ha; total	Farm B	3502
2232	9.884 ha -	44.50 ha; total	J Cripps	5510	3847	19 500 ha -	135 00 ha; total	Farm B	3501
4102	5 373 ha -	44 50 ha, total	M M Cripps	5509	3846	48 500 ha -	135 00 ha; total	Farm B	3504
2231	11.400 ha -	44 50 ha; total	R J B Cripps	5510	3845	50 400 ha -	135.00 ha; total	Farm B	3501
4070	8.300 ha -	58.30 ha; total	J. Regan	5503	11025	0.200 ha -	285.00 ha; total	V.W. Rae	4508
4073	10.500 ha -	58.30 ha; total	J. Regan	5503	11068	1 000 ha -	285.00 ha; total	V W. Rae	4506
					11024	1.100 ha -	285.00 ha; total	V.W. Rae	4509
11480	0.486 ha -	59.69 ha; total	L L King	3502	11070	1 100 ha -	285.00 ha; total	V.W. Rae	4507
11531	0.130 ha -	59.69 ha; total	M.R. King	3504	4059	4.400 ha -	285.00 ha; total	V.W. Rae	4508
11478	0.132 ha -	59 69 ha; total	M.R King	3504	4060	4 600 ha -	285.00 ha; total	V.W. Rae	4508
3931.2	1.000 ha -	59.69 ha; total	M.R King	3502	4058	5.000 ha -	285 00 ha; total	V.W. Rae	4508
3931 3	1.000 ha -	59.69 ha; total	M R King	3502	4053 1	6.200 ha -	285 00 ha, total	V W. Rae	4508
3931.4	1.250 ha -	59.69 ha; total	M R. King	3502	4054	8.100 ha -	285.00 ha; total	V.W. Rae	4507
3933	1.700 ha -	59.69 ha; total	M R King	3502	4055	9 600 ha -	285.00 ha; total	V W. Rae	4506
3993	1 700 ha -	59.69 ha; total	M R King	3503	4061	12 150 ha -	285 00 ha; total	V W. Rae	4509
3935	6.000 ha -	59 69 ha; total	M.R King	3505	4065	26.000 ha -	285.00 ha; total	V.W. Rae	4509
3931	6 500 ha -	59 69 ha, total	M.R King	3503	4062	115 000 ha -	285 00 ha; total	V W. Rae	4506
3932	8.800 ha -	59.69 ha; total	M.R. King	3503	4057	4 900 ha -	285.00 ha; total	V.W. Rae	4508
3934	8.850 ha -	59.69 ha; total	M.R. King	3506	4056	6 100 ha -	285.00 ha; total	V.W. Rae	4508
3936	10.100 ha -	59.69 ha; total	M.R King	3505					
3941	12 040 ha -	59.69 ha; total	M.R King	3506					
11097	0 650 ha -	60.45 ha; total	M C Muir	5506					
11021	1 500 ha -	60 45 ha; total	M C Muir	5503					
10847	2 600 ha -	60 45 ha; total	M C Muir	5508					
11020	4.040 ha -	60 45 ha, total	M C Muir	5504					
10915	4.120 ha -	60.45 ha; total	M C Muir	5504					
10845	5.000 ha -	60.45 ha; total	M.C Muir	5507					
10852	6 900 ha -	60 45 ha, total	M C Muir	5506					
10853	10.080 ha -	60.45 ha; total	M.C. Muir	5504					
4069	10 400 ha -	60 45 ha; total	M C Muir	4510					
10858	12.600 ha -	60.45 ha; total	M.C. Muir	5502					
2225	7 500 ha -	66 20 ha; total	I Mucha	5510					

AREA TOTAL: 1190.26**TOTAL ENTRIES: 252****NOTE:** First two numbers of the Map Reference No refer to the 1:5000 TasMap orthophoto

numbers; ie: Cygnet 35. The second two numbers refer the the latitudinal grid, numbered

01 to 10, starting on 01 at the top (north).

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE***

UPI No	Area	Map Ref	Owner	UPI No	Area	Map Ref	Owner
11038	0.007 ha	4502		10923	0.097 ha	5506	M J Moon
10921	0.010 ha	5506	G R Moon	7756	0.097 ha	3108	M L Hughes
10989	0.020 ha	5509	L L. Careless	10901	0.099 ha	5503	C.E. Miller
10919	0.030 ha	5506	G.R. Moon	7757	0.100 ha	3107	M.L. Hughes
10920	0.035 ha	5506	G.R. Moon	10873	0.100 ha	5502	Road Reserve
10888	0.040 ha	5502	K.L. Sutherland	10949	0.100 ha	5505	J R Pindell
10939	0.046 ha	5504	Emu Ground P/L	10936	0.101 ha	5504	H.E Wilks
7733	0.053 ha	3103	T J Rushton	11043	0.101 ha	4505	T F Riddell
11095 2	0.053 ha	5505	G E Moon	10929	0.101 ha	5505	M.C Gordon
11446	0.055 ha	3504	Telecom	10937	0.101 ha	5504	Police Department
10960	0.058 ha	5505	B Gallagher	10942	0.101 ha	5504	G E Fuller
7790	0.060 ha	3107	M. A Firth	10944	0.101 ha	5504	Kingborough Council
10947	0.063 ha	5505	R Barwick	10962	0.101 ha	5505	Church of England
11001	0.064 ha	5506	Kingborough Council	10995.2	0.101 ha	5508	Uniting Church
11002	0.064 ha	5506	Kingborough Council	11017	0.101 ha	5506	Catholic Church
11003	0.064 ha	5506	Kingborough Council	10906	0.102 ha	5503	M J. Gordon
11004	0.064 ha	5506	Kingborough Council	10907	0.102 ha	5503	M.J. Gordon
11005	0.064 ha	5506	Kingborough Council	10908	0.102 ha	5503	M J Gordon
11006	0.064 ha	5506	Kingborough Council	10909	0.102 ha	5503	R A Gordon
11007	0.064 ha	5506	Kingborough Council	10941	0.104 ha	5504	R.M. Dillon
11008	0.064 ha	5506	Kingborough Council	7762	0.104 ha	3508	M L Hughes
11009	0.064 ha	5506	Kingborough Council	7761	0.106 ha	3507	R C Smith
11010	0.064 ha	5506	Kingborough Council	11469	0.106 ha	3507	R.C. Smith.
11011	0.064 ha	5506	Kingborough Council	11516	0.107 ha	3504	R A J. Beherans
11012	0.064 ha	5505	Kingborough Council	7758	0.108 ha	3107	M.L. Hughes
10995 1	0.066 ha	5508	Crown Land	10894	0.110 ha	5502	D J Hayers
7763	0.069 ha	3108		10954	0.112 ha	5504	W B Mason
7745	0.070 ha	3507	J W Smith	7749	0.112 ha	3107	P R Swards
7764	0.070 ha	3108	J.R. Gumley	7787	0.112 ha	3107	S A Goodwin
10948	0.070 ha	5505	R. Barwick	10893	0.117 ha	5502	D.J. Hayers
10951	0.070 ha	5505	J R Pindell	10896	0.117 ha	5502	G.A. Whayman
10952	0.070 ha	5505	J R Pindell	11468	0.118 ha	3507	J.W Smith
10981	0.070 ha	5509	J W. Given	7747	0.118 ha	3107	G T Martin
10982	0.070 ha	5509	J.W Given	7746	0.119 ha	3107	D M. Moore
11098	0.070 ha	5504	Manne Study Centre	7794	0.120 ha	3107	J. H. Whayman
10889	0.072 ha	5503	K L. Sutherland	10999	0.120 ha	5507	Education Dept
11474	0.072 ha	3508		11444	0.120 ha	3504	
11417	0.072 ha	3504	V B Price	11450	0.120 ha	3504	L B Grace
7797	0.073 ha	3107	P. K Hay	7715	0.121 ha	3102	S F Landberg
10950	0.074 ha	5505	J.R. Pindell	7748	0.122 ha	3107	H P. & P.J. Price & Lade
11475	0.074 ha	3508	C R A Turnbull	11057	0.122 ha	4508	N Bourke
7722	0.077 ha	3103	I Willing	10892	0.122 ha	5502	J.H. Fielding
7765	0.077 ha	3108	J. R. Gumley	10895	0.122 ha	5502	B.T. Bobjohns
11471	0.078 ha	3508	C.A. Oates	10953	0.124 ha	5505	G.H. Mason
11472	0.078 ha	3508	C.A. Oates	11451	0.129 ha	3504	D.A. Sward
10983	0.079 ha	5509	J.W. Given	7753	0.130 ha	3108	B F. Swards
7786	0.080 ha	3107	L.S. Hughes	11531	0.130 ha	3504	M R. King
7714	0.081 ha	3102		11478	0.132 ha	3504	M.R. King
7716	0.081 ha	3102	E H. Lukehurst	7760	0.134 ha	3107	M J. Martin
7717	0.081 ha	3102	E.H. Lukehurst	7754	0.135 ha	3108	B.F. Swards
7718	0.081 ha	3103	J.E. Pindsel	7755	0.135 ha	3108	R L Heddle
7719	0.081 ha	3103	A. Newman	10897	0.140 ha	5502	G.A. Whayman
7720	0.081 ha	3103	I. Willing	11476	0.140 ha	3508	C.R A Turnbull
7721	0.081 ha	3103	I Willing	10891	0.143 ha	5501	J H Fielding
10900	0.081 ha	5502	C.W. Stafford	10884	0.150 ha	5502	G.R Moon
10946	0.082 ha	5505	A.E. Edwards	11043	0.150 ha	4503	
10930	0.093 ha	5505	J D. Hopkinson	11440	0.150 ha	3502	Road Reserve
11470	0.095 ha	3508	J.S. Hosking	11517	0.150 ha	3506	F. Turner
7759	0.095 ha	3107	M.F. Coleman	7802	0.153 ha	3107	H.P. & P.J. Price & Lade
7803	0.095 ha	3107	A. C. Goodfellow	10903	0.154 ha	5503	R.T. Kemp

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TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:

KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA

LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE

UPI Nø	Area	Map Ref	Owner	UPI Nø	Area	Map Ref	Owner
7751	0.155 ha	3107	G A Gowland	11415	0.270 ha	3504	P.W.A. Newman
10932	0.157 ha	5504	P J Bourke	7728	0.276 ha	3102	
10984	0.158 ha	5509	T.A. Stapleton	1150.2	0.277 ha	3107	E C. Baldwin
10966	0.159 ha	5505	G L. Mason	10881.2	0.279 ha	5501	G. Clomp
10838	0.160 ha	5508	P. H Cairns	1150.1	0.279 ha	3107	P.A Brooks
3918 2	0.160 ha	3508	.	11061	0.282 ha	4509	R D Hughes
10957	0.161 ha	5505	R D Bones	7805 1	0.296 ha	3108	S. B. Oldmeadow
7713	0.162 ha	3102		11096	0.300 ha	5505	Road Reserve
7723	0.166 ha	3103		11377	0.300 ha	3501	Recreation Reserve
11456	0.170 ha	3505	H.J. Reynard	7731	0.312 ha	3103	G.C. O'Farrell
7726	0.170 ha	3103	P A O'Brien	7727	0.330 ha	3103	
11028	0.177 ha	4508	R J Jenkins	11044	0.330 ha	4504	Crown Land
10958	0.179 ha	5505	W B. Mason	7805.3	0.331 ha	3108	J. D. Lockhart
3918.3	0.180 ha	3508		10997	0.342 ha	5507	D J Lovell
11058	0.180 ha	4508	E.W. Peterson	11448	0.345 ha	3504	
11459	0.180 ha	3506	Rada or Turner	7736	0.350 ha	3102	
11467	0.180 ha	3507	Kamtone P/L	10898	0.351 ha	5502	A.L. Rex
11439	0.181 ha	3503	G.F. Sward	7805 4	0.352 ha	3108	B I. McKay
10956	0.181 ha	5504	M.T. Baker	11436	0.360 ha	3503	United Church
10899	0.182 ha	5502	N.G. Lucas	10964	0.360 ha	5505	Kingborough Council
10961.1	0.183 ha	5505	S J Darko	11464 1	0.364 ha	3507	P J Allison
7734	0.185 ha	3103	T J. Rushton	11426	0.367 ha	3501	J E Minehan
7789	0.186 ha	3107	M. Sward	11465.2	0.369 ha	3507	A. D. Owen
10980	0.187 ha	5509	K W Denniss	11231	0.370 ha	3501	D.R. Sherburd
11449	0.187 ha	3504	G.F. Docking	11434	0.372 ha	3503	Kingborough Council
11431	0.190 ha	3502	M.D. Burrows	11465 1	0.377 ha	3507	Syntec Economics P/L
7724	0.190 ha	3103	G A Fife	11466	0.380 ha	3507	
10959	0.190 ha	5505	R R Mason	7791	0.383 ha	3107	C C Oates
10839	0.194 ha	5507	A A Williscroft	7805.2	0.389 ha	3108	G. E Twine
7807	0.200 ha	3106	Kingborough Council	11063	0.390 ha	4505	Recreation Reserve
11013	0.200 ha	5505	F.S. Clark	11464.3	0.390 ha	3507	R V. Ball
11025	0.200 ha	4508	V.W. Rae	7785	0.391 ha	3107	L S Hughes
7750	0.201 ha	3107	M.L. Hughes	11059	0.393 ha	4508	M J. Smith
7792	0.202 ha	3107	A H. Parsey	7732	0.393 ha	3103	D.R. Graham
10902	0.202 ha	5503	S.J. Parking	1147.2	0.400 ha	3108	M.S. Brown
10943	0.202 ha	5504	G.E. Fuller	10955	0.400 ha	5505	W.B. Mason
11016	0.202 ha	5506	Kingborough Council	1147.1	0.400 ha	3108	M.G. Innes
11062	0.202 ha	4509	R.J. Mennitz	7741	0.403 ha	3101	K C. Newham
7793	0.202 ha	3107	M. F. Nolan	7800	0.405 ha	3108	Road Reserve
7788	0.204 ha	3107	P. L. Hamilton	7804	0.405 ha	3107	G. Taylor
11463	0.205 ha	3506	R M C Jackson	10922	0.405 ha	5506	B T Jarvis
10940 2	0.205 ha	5504	M R Grant	10990	0.405 ha	5508	A E Brown
7752	0.209 ha	3107	A H. Powell	11385	0.405 ha	3503	P.S. Wright
10879	0.210 ha	5502	Road Reserve	11437	0.405 ha	3503	Recreation Reserve
11406	0.214 ha	3503	B.E. Ims	11473	0.405 ha	3508	P.D. Charles
10988	0.229 ha	5508	V.C. Careless	7781	0.405 ha	3504	Recreation Reserve
7739	0.235 ha	3102	G Turner	11014	0.407 ha	5506	F S Clark
10972	0.240 ha	5507	Crown Land	11420	0.420 ha	3504	
10992	0.240 ha	5509	Road Reserve	11464 4	0.420 ha	3507	
11453	0.240 ha	3505	S.M. Schooling	11405	0.421 ha	3508	Kamtone P/L
11454	0.241 ha	3505	S.M. Schooling	7767.4	0.423 ha	3508	R. Vogel
11455	0.242 ha	3505	H.J. Reynard	11435	0.440 ha	3503	Recreation Reserve
11452	0.247 ha	3505	D.A	4053.2	0.450 ha	4508	C.N Rae
10904	0.250 ha	5503	E F Burtcher	7767.3	0.454 ha	3508	F. W. Lutjens
11051	0.250 ha	4507	E W. Peterson	11464.5	0.460 ha	3507	
7771	0.262 ha	3108	M. L. Swards	11464.6	0.470 ha	3507	
11056	0.265 ha	4508	G.J. Edwards	10854	0.472 ha	5505	Crown Land
7795	0.269 ha	3107	B. A Wisby	11416	0.472 ha	3504	V B. Price
11413	0.269 ha	3504	A.L. Brown	7730	0.473 ha	3103	J.B Sediuka
11414	0.270 ha	3504	P.W.A. Newman	7973	0.480 ha	3510	

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE***

UPI No	Area	Map Ref	Owner	UPI No	Area	Map Ref	Owner
11480	0.486 ha	3502	L L King	7784	0.880 ha	3107	P L Hamilton
11465 3	0.492 ha	3507	J Benns	7783	0.886 ha	3108	C L Lincoln
10865	0.496 ha	4510	T.M. Blazely	7806	0.900 ha	3103	Recreation Reserve
7738	0.500 ha	3102		10836	0.959 ha	5508	S J Coad
11429	0.500 ha	3502	H.L. Thompson	1123	1.000 ha	3503	G.F. Sward
10973 7	0.512 ha	5507	S.G. Beauchamp	1127 2	1.000 ha	3102	
10973 1	0.520 ha	5507	R. J. Jenkins	3931.2	1.000 ha	3502	M.R. King
10855	0.530 ha	5504	Quarry Reserve	3931 3	1.000 ha	3502	M R King
11518	0.534 ha	3502	R.L. Hooper	7972	1.000 ha	3110	Coastal Reserve
11465.5	0.540 ha	3507		10868.2	1.000 ha	3303	J A Clark
10876 2	0.550 ha	4510	P.D. Russel	10971	1.000 ha	5507	J. Cripps
10871	0.556 ha	5501	B.A. Shearer	11068	1.000 ha	4506	V.W. Rae
10969	0.577 ha	5506	K.H. Speir	3927.1	1.001 ha	3502	T.R. Cole
10961 2	0.579 ha	5505	R.A. Granquist	7776	1.009 ha	3108	C.C. Swards
10905.2	0.580 ha	5503		11419.1	1.010 ha	3505	I.S. Lee
1147.4	0.592 ha	3108	M.G. Innes	11419.3	1.015 ha	3505	B. Procter
1147.3	0.600 ha	3108	G.R. Fordham	10975.2	1.020 ha	5509	L.M. Cripps
7740	0.600 ha	3103	P.A. McCartney	11419 2	1.021 ha	3505	L. Antil
10973 5	0.600 ha	5507	G.A. McLagan	11048	1.052 ha	4505	P.A. Naylor
7777	0.610 ha	3108	Quarry Reserve	11418	1.054 ha	3505	G.L. Turner
10973 6	0.615 ha	5507	R.L. Rainsbury	3927 2	1.062 ha	3502	Rowbill P/L
7729	0.617 ha	3103	J.B. Sediuka	11024	1.100 ha	4509	V.W. Rae
10914	0.621 ha	5504	C. Cseko	11070	1.100 ha	4507	V.W. Rae
10973.4	0.627 ha	5507	P.A. Black	11464 2	1.100 ha	3507	A.V. Rada
11045	0.636 ha	4503	H. Lutfjens	11039	1.115 ha	4503	Brophy, Pahlke & Orr
11097	0.650 ha	5506	M.C. Muir	10975 3	1.123 ha	5509	N. Botti
11263	0.650 ha	3501	Recreation Reserve	11022	1.124 ha	5503	H.S. Martin
11464 7	0.650 ha	3507		11019	1.137 ha	4510	N.J. Wheatley
7767.1	0.651 ha	3508	R.T. Moran	11419 5	1.138 ha	3505	A.J. & A. Clark & Laughton
7725	0.666 ha	3103	G.A. Fife	1149.2	1.142 ha	3107	D.E. Skillington
10973.2	0.669 ha	5507	G. Ward	11412	1.150 ha	3504	A.V. Rada
11095.1	0.680 ha	5505	Education Dept	11460	1.150 ha	3506	F. Turner
11443	0.681 ha	3504	L.J. Belt	4105	1.160 ha	5510	Crown Land
7799	0.690 ha	3108	Deed Pastoral P/L	11046	1.164 ha	4503	G.J. Chadwick
10890	0.737 ha	4510	A.M. Le Bis	11054	1.200 ha	4508	
7779	0.744 ha	3107	K.J. Smith	3931.4	1.250 ha	3502	M.R. King
10978	0.760 ha	5510	Crown Land	3939	1.250 ha	3502	H.J. Woolley
10945	0.766 ha	5505	A.E. Sackett	10857	1.253 ha	5503	B.H. Smith
10973 3	0.767 ha	5507	P.A. Wilson	7737	1.256 ha	3103	G. Pickard
7778	0.769 ha	3107	D.F.M. Rosenkranz	10933	1.260 ha	5503	E.F. Burtcher
10934	0.773 ha	5504	W.E.A. Carver	11380	1.262 ha	3507	P.A. Jackson
7742	0.782 ha	3106	Kettering Investments	7744	1.283 ha	3504	M.S. Hawker
11411	0.783 ha	3504	J.A. Hutton	7782	1.288 ha	3108	P.L. Hamilton
11050	0.784 ha	4507	A.M. Welling	11465.4	1.300 ha	3507	
11047	0.787 ha	4504	K.O. Scott	7808	1.307 ha	3504	K.J. Goodsell
7767.2	0.788 ha	3508	B.L. Hoyle	10974	1.316 ha	5508	H. Franks
7780	0.794 ha	3107	T. Dodd	10986	1.330 ha	5508	R.D. Haley
3955.1	0.805 ha	3503	M. Bowerman	10996	1.348 ha	5508	M.J. Turner
3955.2	0.807 ha	3503	S.L. Thompson	11532	1.360 ha	3504	Tramway Reserve
11018	0.809 ha	5510	R.N. McCloy	3955.3	1.366 ha	3503	Rowbill P/L
11055	0.809 ha	4509	J.G. Bryant	11049	1.385 ha	4507	B.J. Hughes
10911	0.810 ha	5504	C.Q. Clark	10844	1.412 ha	5508	J.C. Worley
11458	0.818 ha	3505	Recreation Reserve	11060	1.413 ha	4509	R.J. Mennitz
11000	0.831 ha	5507	Kingborough Council	11384	1.421 ha	3504	C.R. Goodwin
10975.1	0.840 ha	5509	R.J.B. Cripps	7801	1.440 ha	3107	Deed Pastoral P/L
7735	0.850 ha	3102	Recreation Reserve	10970	1.500 ha	5507	J. Cripps
11031	0.867 ha	4503	B.R. Dixey	11021	1.500 ha	5503	M.C. Muir
10940.1	0.870 ha	5504	Emu Ground P/L	11383	1.500 ha	3504	P.A. Graham
11407	0.870 ha	3504	J.E. Wright	11422	1.500 ha	3503	D. Greenwood
11457	0.871 ha	3505	R.L. Groombridge	7774	1.525 ha	3109	M.R. Coleman

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TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:

KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA

LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE

UPI Nø	Area	Map Ref	Owner	UPI Nø	Area	Map Ref	Owner
10840	1.540 ha	5507	J Cripps	4048	2.040 ha	4510	K.M. Drake
11419 4	1.547 ha	3505	C A Thompson	1107	2.043 ha	3101	G Clark
7798	1.550 ha	3107	Deed Pastoral P/L	1141.1	2.043 ha	3103	B. W. Bounce
3926	1.567 ha	3503	Rowbill P/L	10927	2.050 ha	5504	G.R. Moon
10881.3	1.569 ha	5501	G.G. Anderson	10872	2.052 ha	5501	D.F. Redmond
10968	1.600 ha	5506	J Cripps	10859	2.056 ha	5501	H Bjaaland
11052	1.600 ha	4508	E W Peterson	11392	2.060 ha	3508	M O. Rogers
10963	1.640 ha	5505	Kingborough Council	10841 2	2.065 ha	5508	D J Duggan
3933	1.700 ha	3502	M R King	10905 1	2.067 ha	5503	A E Edwards
3993	1.700 ha	3503	M.R. King	1159	2.090 ha	4503	M.P. Westbury
1149 1	1.723 ha	3107	D E Skillington	11402	2.090 ha	3509	B A Dell
10935	1.744 ha	5504	A E Edwards	10877	2.093 ha	4510	C J Anderson
10938	1.744 ha	5504	A.E. Edwards	4027	2.100 ha	4504	R.J. Button & K.T. Cairns
11420 2	1.750 ha	3504		11389	2.100 ha	3508	D.R. Tolomeo
4033	1.793 ha	4507	G. F. Docking	11393	2.100 ha	3508	R.L. Richards
3947	1.800 ha	3503	R.J. Ims	11461	2.100 ha	3506	F Turner
4014	1.800 ha	3510	Grombridge & Martins	11462	2.100 ha	3506	F. Turner
3882	1.804 ha	3501	T J. Christie	10860	2.110 ha	5502	G T Gimblett
3940	1.808 ha	3503	H J Woolley	1124	2.123 ha	3101	G G Short
4042	1.826 ha	4509	L. A. Fisher	11399	2.126 ha	3509	J.A. O'Brien
10880	1.840 ha	5502	FC Muskett	1139	2.148 ha	3102	J.T Webb
3938	1.850 ha	3502	H J Woolley	1140	2.148 ha	3102	A J & E D E Elliston
4049	1.853 ha	4510	J. R. Halliday	11400	2.156 ha	3509	G K. Sharples
7796	1.859 ha	3107	O. S. Chalmers	11386	2.160 ha	3507	Tovelet P/L
10931	1.878 ha	5504	M.M. Cripps	11398	2.166 ha	3509	V.M. Coombe
1103	1.889 ha	3101	P C. Fowler	3925	2.167 ha	3501	S. J. Jeffery & Port
1105	1.903 ha	3101	J. Greenwood	11421	2.175 ha	3503	Recreation Reserve
1104	1.906 ha	3101	P J Hughes	1151	2.212 ha	3108	G A Cooper
1137	1.912 ha	3103	R Brown	11401	2.218 ha	3509	G D Jarvis
10967	1.915 ha	5506	S. Stringer	1148	2.226 ha	3108	Deed Pastoral P/L
11425	1.916 ha	3501	P Kline	11445	2.250 ha	3504	R B Flafemore
3944	1.920 ha	3503	R J Ims	1126	2.255 ha	3102	G E Millington
1152	1.921 ha	3108	D.S.M. Hunn	1108	2.259 ha	3101	W. A. Robinson
1132	1.941 ha	3103	J T. Hamilton	7772	2.270 ha	3509	I.R. Heard
3942	1.957 ha	3504	R K Crowden	10848	2.281 ha	5508	J B. Latham
3881	1.960 ha	3501	S. W. Colles	1111 2	2.300 ha	3101	P A Williams
11409	1.960 ha	3504	A.E. McKenzie	1111 5	2.300 ha	3101	P. N. Magill
11432	1.984 ha	3502	R J Lovell	1111 7	2.300 ha	3101	A Climie
1111 4	2.000 ha	3101	M D. Burrows	1131	2.322 ha	3101	H.O. Simpson
1121	2.000 ha	3102	M.D. Pettit	3883	2.363 ha	3501	P. W. Blake
1128.1	2.000 ha	3102	K M Mahoney	11410	2.368 ha	3504	M P Otto
4020	2.000 ha	4502	Grombridge & Martins	1162	2.388 ha	3102	J B Pyrke
10835	2.000 ha	5509	A E & P.M. McKenzie&Sumner	1127.1	2.389 ha	3102	C.H. Kelland
10925	2.000 ha	5505	G.R. Moon	1111.1	2.400 ha	3101	J. J. Correy
11027	2.000 ha	4510	D.W. Coad	1111.3	2.400 ha	3101	C. H. Fitzgerald
11391	2.000 ha	3508	V K Rada	1111 6	2.400 ha	3101	R. Penschow
11396	2.000 ha	3509		4024	2.400 ha	4503	Grombridge & Martins
11433	2.000 ha	3503	M.R. Ellison	10886	2.400 ha	5501	C.H. Hocking
10849	2.003 ha	5508	R M Le Blanc-Smith	10991	2.400 ha	5509	Crown Land
10862.1	2.006 ha	4509	G.E. Patson	4043.1	2.413 ha	4509	A. G. Jacob
1160	2.009 ha	4503	R A. Cross	11442	2.416 ha	3503	J.W T. Adkins
10862 2	2.010 ha	4509	V. G. Charlton	11442	2.416 ha	3503	J Adkins
11427	2.023 ha	3502	Education Department	1135	2.428 ha	3103	R J. Imms
4037	2.024 ha	4507	E. W. Peterson	10998	2.428 ha	5507	H. Temmhof
10866	2.028 ha	4510	L. Van Zino	1158	2.451 ha	4503	L.E. Trenham
10834	2.030 ha	5510	A E & P.M. McKenzie&Sumner	10841.1	2.471 ha	5508	M H Brown
4051	2.031 ha	4509	D.A. Wikeley	3917	2.480 ha	3508	
10867	2.033 ha	5501	R. Williams	4032	2.480 ha	4506	D. M. J. Bates
1106	2.034 ha	3101	J .A Dwyer	1130	2.484 ha	3101	Z.J. Vesely
10874	2.038 ha	4510	W.A.L Wagg	1143	2.489 ha	3103	J.H Haynes

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:***KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA
LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE***

UPI No	Area	Map Ref	Owner	UPI No	Area	Map Ref	Owner
10926	2.493 ha	5505	S A R. Jarvis	4036	3.600 ha	4507	E W Peterson
4046	2.500 ha	4509	P W Groombridge	11397	3.600 ha	3509	Recreation Reserve
11527	2.500 ha	3503	Rowbill P/L	3874	3.738 ha	3501	M Brandenburg
11026	2.521 ha	4510	C.M. Spratt	11390	3.773 ha	3509	D. Theinert
10979	2.527 ha	5509	R.D. Haley	3970	3.780 ha	3505	B J Gale
4050	2.529 ha	4510	W.W. Lee	10916	3.800 ha	5505	G R. Moon
10910	2.529 ha	5503	A E. Sackett	4030	3.841 ha	4503	M. R. Kemp
1129	2.546 ha	3101		4025	3.844 ha	4504	C.M. Charles
10847	2.600 ha	5508	M C. Muir	11037	3.850 ha	3510	P D Martin
11035	2.600 ha	3510	R.A. Polya	10883	3.900 ha	5502	G.R. Moon
11423	2.600 ha	3503	D. Greenwood	3969	3.913 ha	3505	A L Hickey
1128 3	2.620 ha	3102	H Meyer	1141.2	3.918 ha	3103	D E Hutchinson Estate
10862.3	2.620 ha	4509	S.A. Ryan	10993	4.000 ha	5508	Crown Land
10846	2.632 ha	5507	D.M. Fife	10928	4.008 ha	5504	A J Flockhart
1120	2.663 ha	3101	P.B. Foster	11020	4.040 ha	5504	M.C. Muir
1134	2.684 ha	3102	V.J. Brown	10915	4.120 ha	5504	M.C. Muir
11041	2.700 ha	5505	Coastal Reserve	3975	4.201 ha	3503	C. Zito
11428	2.716 ha	3502	L D Sward	10882	4.222 ha	4510	G G Anderson
1142	2.734 ha	3103	P.A. McCartney	4019	4.250 ha	4503	Grombridge & Martins
3967	2.755 ha	4503	R.M.A. Fischer	4044	4.390 ha	4510	C.H. Hocking
4043 2	2.760 ha	4509	I. R Dillon	3937	4.400 ha	3502	H J. Woolley
11053	2.768 ha	4508	R.W. Lusk	4012	4.400 ha	3509	
10850	2.773 ha	5508	D.J. Kirkwood	4059	4.400 ha	4508	V.W. Rae
11378	2.800 ha	3506		10870	4.400 ha	5502	M.J. Gordon
1138	2.816 ha	3103	A.E. Love	10965	4.446 ha	5506	Rankin Estate
1144	2.891 ha	3102	J W Marr	11023	4.447 ha	5503	P.L. Edwards
4011	2.900 ha	3508		10924	4.460 ha	5506	G R Moon
10875	2.904 ha	4510	W.A L Wagg	4060	4.600 ha	4508	V W Rae
11036	2.983 ha	3510	S G Clark	1146	4.671 ha	3108	Equity Holdings P/L
11015	3.035 ha	5506	L. Pretty	1133	4.696 ha	3103	P.V. Wood
1154	3.039 ha	3110	Groombridge & Martin	10994	4.757 ha	5507	Education Department
1128 2	3.100 ha	3102		3960	4.800 ha	3507	A.V. Rada
10912	3.100 ha	5503	G J. Edwards	4038.1	4.800 ha	4505	Farm A
4035	3.150 ha	4507	E. W. Peterson	10977	4.850 ha	5509	Crown Land
11388	3.161 ha	3508	D. Theinert	3948	4.864 ha	3502	G.S. White
10878	3.217 ha	5502	G J Edwards	4057	4.900 ha	4508	V.W. Rae
1122	3.220 ha	3502	J.E. Pindsel	1153	4.928 ha	3509	D.C. Millhouse
7773	3.244 ha	3509	A MacKenzie	4010.1	4.967 ha	3509	G.A & M.C. Praturion & Paley
10887	3.250 ha	5502	G R Moon	1167	5.000 ha	5507	Coastal Reserve
7743	3.268 ha	3506	Kamtone P/L	4058	5.000 ha	4508	V.W. Rae
4052	3.276 ha	4509	B. W. Charko	10845	5.000 ha	5507	M C Muir
11032	3.281 ha	4502	K P Denwer	10856	5.000 ha	5504	R.M. Dillon
11395	3.289 ha	3509	A B Scatchard	1110	5.140 ha	3102	D.C. Abercromby
10917	3.300 ha	5506	G.R. Moon	4102	5.373 ha	5509	M. M. Cripps
10987	3.330 ha	5508	Education Department	1156	5.500 ha	4502	
10913	3.350 ha	5504	C.Q. Clark	2229	5.536 ha	5510	R N McCloy
10864	3.374 ha	5501	P.J. Creet	1145	5.555 ha	3505	Recreation Reserve
11379	3.400 ha	3506		3924	5.567 ha	3501	G. J. Calvert
11034	3.415 ha	3510	C.R. Clifford	10868.1	5.700 ha	5503	M J. Gordon
3930.2	3.425 ha	3501	K. G. Fidler	10985	5.728 ha	5508	R.D. Haley
3918.1	3.428 ha	3509	S.M. Schooling	4017	5.770 ha	4502	Grombridge & Martins
11394	3.481 ha	3509	D.R. Chaplin	3873	5.793 ha	3501	G. J. Lush & Wright
11381	3.500 ha	3506		1166	6.000 ha	3107	Coastal Reserve
11382	3.500 ha	3508		3935	6.000 ha	3505	M.R. King
11387	3.500 ha	3508		10869	6.000 ha	5502	M.J. Gordon
1136	3.507 ha	3103	B.T. Downes	4056	6.100 ha	4508	V W. Rae
11403	3.552 ha	3510	J F Wilson	10863	6.100 ha	5502	W Keating
3875	3.577 ha	3501	M. Schneider	10976	6.161 ha	5509	G L. Mason
4103	3.580 ha	5509	J. Cripps	4023	6.200 ha	4503	Grombridge & Martins
11404	3.586 ha	3510	P A Boscott	4053.1	6.200 ha	4508	V W Rae

NOTE: First two numbers of the Map Reference No refer to the 1:5000 TasMap orthophoto numbers; ie: Cygnet35. The second two numbers refer the the latitudinal gnd, numbered 01 to 10, starting on 01 at the top (north).

TRANSFERABLE DEVELOPMENT RIGHTS IN RURAL PLANNING

PART 7: APPENDIX - TABLE 4:

KINGBOROUGH MUNICIPALITY - CHANNEL REGION STUDY AREA

LOT AREAS FOR 705 LOTS ARRANGED IN ASCENDING SIZE

UPI Nø	Area	Map Ref	Owner	UPI Nø	Area	Map Ref	Owner
3930 1	6.260 ha	3501	D N O'Donnell	4039	10.930 ha	4507	A F Graham-Evans
10851	6.400 ha	5505	G G Tonta	6179	10.980 ha	5510	D G Debnam
3959	6.469 ha	3505	K P Corby	4047	11.000 ha	4509	K M. Drake
3931	6.500 ha	3503	M R King	3964	11.360 ha	3508	R A. Rada
4029	6.500 ha	4505	L J. Cairns	2231	11.400 ha	5510	R J.B. Cripps
11430	6.500 ha	3505	Tramway Reserve	11430	12.000 ha	3506	Tramway Reserve
4010 2	6.555 ha	3509	J M Weeding	3941	12.040 ha	3506	M R King
3973	6.600 ha	3504	S V Andrews	4061	12.150 ha	4509	V W Rae
11029	6.619 ha	4504	K.L. Walker	4016	12.200 ha	3510	Grombridge & Martins
10852	6.900 ha	5506	M.C. Muir	4100	12.200 ha	5509	C S. Appleby
3871	7.050 ha	3501	Recreation Reserve	10858	12.600 ha	5502	M C Murr
4041	7.100 ha	4509	G C Rae	4028	13.500 ha	4504	R J Button & K T Cairns
3923	7.166 ha	3501	R E Lewis	11040	13.500 ha	4503	Coastal Reserve
3872	7.189 ha	3501	M Wallhead	3977	13.690 ha	3502	J E Burgess
4040	7.400 ha	4509	G C. Rae	1155	14.000 ha	3510	Grombridge & Martins
2225	7.500 ha	5510	I Mucha	3961	14.300 ha	3507	A.V Rada
4015	7.500 ha	3510	Grombridge & Martins	2227	14.690 ha	5510	R A Montgomery
3974	7.600 ha	3504		3976	15.000 ha	3502	J E. Burgess
10918	7.700 ha	5505	G R Moon	3844	16.400 ha	3502	Farm B
3945	7.780 ha	3504	R.J Ims	2234	16.675 ha	5510	R.S. Kile
1125	7.831 ha	3101	B J Maris	11533	17.000 ha	3505	Tramway Reserve
3963	7.833 ha	3508	C M Jennings	1157	17.100 ha	4502	R C Friend
3946	7.980 ha	3504	R J. Ims	3978	18.000 ha	3501	P. J. Nicholls
2233	8.000 ha	5510	Crown Land	4002	18.000 ha	3508	D G. Duggan
4021	8.000 ha	4501	Grombridge & Martins	4034	18.055 ha	4506	E. W Peterson
4054	8.100 ha	4507	V.W. Rae	3847	19.500 ha	3501	Farm B
3962	8.200 ha	3506	A V. Rada	3965	19.830 ha	3508	R.A Christian
4070	8.300 ha	5503	J Regan	3968	20.180 ha	3507	T B Lienhard
7712	8.405 ha	3501	D R Sherburd	10876 1	20.458 ha	4510	M.J Flakemore
3932	8.800 ha	3503	M.R King	11064	21.000 ha	4503	
3934	8.850 ha	3506	M R King	3980	21.040 ha	3507	W M Underwood Estate
10837	8.950 ha	5508	J Cripps	4004	21.640 ha	3510	J M Riley
1101	9.000 ha	3104	Coastal Reserve	4081	21.900 ha	5504	G.G. Tonta
3972	9.000 ha	3504	S.V. Andrews	11030	21.910 ha	4504	C E Stuki
4022	9.020 ha	4502	Grombridge & Martins	4038.2	25.700 ha	4505	Farm A
3943	9.021 ha	3504	R K Crowden	11481	25.750 ha	3506	M. Knox-Little
4083	9.100 ha	5506	G.G. Tonta?	4008	26.000 ha	4505	M J. Fischer
4013	9.200 ha	3510	Grombridge & Martins	4065	26.000 ha	4509	V W Rae
2226	9.320 ha	5510	I.R Graham	11482	27.000 ha	3507	D G Duggan
3971	9.350 ha	3505	P.A Graham	3846	48.500 ha	3504	Farm B
4088	9.400 ha	5509	I Mucha	3845	50.400 ha	3501	Farm B
4084	9.500 ha	5506	G G Tonta	11438	82.000 ha	3509	D G Duggan
4055	9.600 ha	4506	V W. Rae	11033	88.500 ha	3510	G E Rada
2228	9.730 ha	5510	D.L. Clifford	3870	115.000 ha	2505	
4082	9.800 ha	5505	G G. Tonta	4062	115.000 ha	4506	V.W Rae
3929	9.829 ha	3501	B W. Shoobridge				
2232	9.884 ha	5510	J. Cripps				
4018	9.900 ha	4502	Grombridge & Martins				
4038.3	10.060 ha	4505	Farm A				
10861	10.060 ha	4510	S E. Moss				
10853	10.080 ha	5504	M C. Muir				
4101	10.090 ha	5509	P N Mansfield				
3936	10.100 ha	3505	M.R King				
4099	10.200 ha	5509	A M. Magnus				
10843	10.235 ha	5507	H L Hoskinson				
4069	10.400 ha	4510	M C. Muir				
4073	10.500 ha	5503	J Regan				
10842	10.657 ha	5507	H Brown				
4031	10.690 ha	4505	Heseltine Family Trust				
3979	10.800 ha	3502					

AREA TOTAL: 2552.32

TOTAL ENTRIES: 705

NOTE : First two numbers of the Map Reference Nø refer to the 1:5000 TasMap orthophoto numbers; ie Cygnet 35 The second two numbers refer the the latitudinal grid, numbered 01 to 10, starting on 01 at the top (north).