What are the drivers of rural land fragmentation in the Tasman District and what have been the planning responses?

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Abstract

Rural land use in the Tasman District of New Zealand is characterised by fragmentation of farming land, driven by a mix of historical land use patterns, global influences, and political decision-making. Colonial farmers developed subsistence farming on small allotments of mixed productivity. Pockets of highly fertile land supported the development of small-scale horticultural industries and the region's good climate and high amenity value have made it a desirable destination for urban-employed migrants seeking lifestyle opportunities.

The fragmentation of rural land occurs via subdivision, a process that is administered by the local district council, regulated by a district plan framework and land-use consent mechanisms. Analysis of Tasman District plans and policy, case law, and subdivision data, reveals a regulatory process that is failing to limit ongoing land fragmentation with increasing numbers of subdivision applications and new allotments and dwellings developed on the most productive land.

Key Words: planning, rural land fragmentation, rural subdivision, rural land use, Tasman District

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The Massey University Research Ethics Office has approved this study as a Low Risk Notification (attached as Appendix 1).

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Introduction

Demand for smaller rural holdings in New Zealand has increased significantly since the 1980's and the drivers of this demand are complex and evolving. Demand has been met through the fragmentation of rural land, via a process of subdivision, and the subsequent development and marketing of fragmented land for rural lifestyle purposes. The context for this demand is both global and local and the causes and ramifications affect rural land-use, rural communities, and the nature of farming in New Zealand. The implications for local government are significant as planners attempt to strike a balance between private and public rights, and environmental and economic interests.

The purpose of this thesis is to better understand the drivers of rural land fragmentation in the Tasman District and to look at planning responses to that fragmentation. A mixed methods approach is used to draw together a variety of data sources to answer the research question. The study looks at the history of land use in the Tasman District that has resulted in extensive rural land fragmentation as, from the 1870s, farmers developed subsistence farming on small allotments of mixed productivity. The region's good climate and high amenity value have made it a desirable destination for those seeking lifestyle opportunities and demand for rural smallholdings in Tasman has continued over time. Economic pressures on Tasman's rural industries impel farmers to sell off land for higher-valued residential development. Urban-employed migrants seeking rural living opportunities close to urban centres fuel this process.

The fragmentation of rural land in Tasman District continues to shape strategic objectives, planning methods, policy initiatives, and political decision-making around rural land use. The Tasman Regional Policy Statement argues there is poor understanding of historic and future trends in rural land fragmentation, and that cumulative effects on the productive land resource are poorly understood (Tasman District Council, 2001). This thesis aims to improve understanding of rural land fragmentation trends. The New Zealand literature identifies two key problems that are linked to the process of fragmentation, and these will be addressed

throughout the thesis: the first being poor management of peri-urban land use; the second, the development of rural residential living on productive land.

In order to answer the research question, this study adopts the following structure: Chapter 1 presents a literature review on the subject of land fragmentation, followed by definition of Tasman District in Chapter 2, with the methodology described in Chapter 3. Chapters 4 to 6 provide contextual and historic analysis moving from a broader look at national land use trends, through legislative implications, to analysis of local history and land use, as they impact on fragmentation. Chapters 7 and 8 analyse historic schemes and current planning documentation, and planning policy and case law, respectively. Chapter 9 analyses quantitative data and Chapter 10 contains the discussion component of the thesis.

Chapter 1: Fragmentation – A Review of the Literature

The primary objective of this study is to address the following question: what are the drivers of rural land fragmentation in the Tasman District and what have been the planning responses? This chapter reviews the literature on rural land fragmentation, in particular looking at global influences on rural land use and how these cause fragmentation. The focus here is to frame the research problem and provide context within which to consider local issues later in the study. The chapter commences with a definition of the topic and some clarification around terminology used. It then describes shifts in land use away from more traditional productive industries to diverse commodified rural aesthetic experiences. The chapter includes a description of Arcadian ideals as they influence rural land use in New Zealand and concludes with a description of the New Zealand literature on smallholdings.

Defining the Topic

Rural land fragmentation is an international phenomenon and the literature and terminology used on the subject is wide-ranging. In their Australian research on rural landscape change Gill, Klepeis & Chisholm (2010) state rural land fragmentation is characterised by "increasingly diverse land ownership … [and] … an increase in the sub-division of farms for residential or hobby farm development" (Gill, Klepeis, & Chisholm, 2010, p. 319). Subdivision is defined as the division of an allotment to create new parcels of land for which separate certificate of title can be obtained and freely sold. In a more local context, the Tasman Resource Management Plan defines rural land fragmentation as "the progressive breaking up of land parcels through subdivision in association with subsequent land use activities such as buildings, other structures and roads" (Tasman District Council, 1996, p. 7/1).

The international literature devotes considerable discussion to 'amenity migration', which has some bearing on this study. A recent volume of GeoJournal is devoted to "Amenity migration, exurbia, and emerging rural landscapes" (Cadieux & Hurley, 2011). In that journal, amenity migration is defined as "a

function of the interplay between macro-scale forces associated with global trade liberalisation and the actions of individual human agents in search of idyllic rural spaces within which to live and recreate" (Gosnell & Abrams, 2011, p. 314 citing Lowe et al., 1993 and Halfacree, 2006). Recent Australian research links fragmentation with more diverse and competing types of rural land-use (Gill et al., 2010; Holmes, 2006, 2008). The literature on amenity migration and rural diversification articulates a number of facets of rural land fragmentation that are relevant to this study. The first is a literal one; fragmentation means increasing numbers of smaller parcels of land, as existing lots are progressively subdivided. The second facet sees fragmentation as a proxy for, or product of, a complex set of political and economic processes acting on rural land and resulting in changes in rural land use, and new ways of thinking about rural land. In a New Zealand context, localities like Tasman District are characterised by the erosion of traditional farms through subdivision, more diverse ownership, and a variety of often competing, disparate uses of rural land.

There is a separate body of literature devoted to another type of land fragmentation, where "a number of spatially separate plots of land are farmed as single units" (Tan, Heerink, & Qu, 2004, p. 272). This type of land fragmentation is not the focus of this study. Peart (2004) links rural land fragmentation with adverse effects on landscape and rural amenity, particularly in coastal environments. While these are important issues, landscape, rural amenity and coastal effects are outside the scope of this study.

Terminology Used

Throughout the literature there are a number of terms used to describe the spatial location of rural land fragmentation. The terms 'peri-urban fringe', 'rural-urban fringe", and 'exurban' are commonly used (Bunker & Houston, 2003; Houston, 2005; Lambert, 2011; Memon, 2003). Houston (2005) clarifies these terms are used interchangeably and are:

> Superficially rural districts within the sphere of influence of adjacent urban centres… [and] … generally understood to comprise the zone of transition

> between the edge of the newest suburbs and the outer limits of the commuter belt (Houston, 2005, pp. 209, citing McKenzie, 1996.).

In a New Zealand context, the Parliamentary Commissioner for the Environment (PCE) defines peri-urban areas as environments that aren't fully urban or rural but are "lived-in", and may become fully urban over time. They may also be "clusters of rural residential development within rural landscapes" (PCE 2001, p. v).

Statistics New Zealand (Statistics NZ) differentiates categories of rural living on the basis of a "comparison of a person's usual residence address with their workplace address" (Statistics New Zealand, 2004, p. 5). 'Rural areas with high urban influence' are located outside the urban limits of New Zealand's sixteen main urban areas, so by definition Tasman District is excluded despite displaying a number of highly relevant characteristics. Tasman's closest city is Nelson City with a population of about 45,000, too small to be included in the top sixteen urban areas. Statistics NZ explain that these areas have traditionally included "market gardens and dairy farms that serviced urban centres, … areas of reserve and unproductive land … [and more recently] … lifestyle blocks" that are grazed or planted out in more diverse crops (Statistics New Zealand, 2004, pp. 81-82).

Much of Tasman District is classified as 'Rural areas with moderate urban influence' that:

> Tend to cluster close to urban areas and have a significant proportion of the population that works in an urban area. They are the in-between category, neither highly rural nor highly urban, and tend to have both urban and rural characteristics (Statistics New Zealand, 2004, p. 99).

There are a number of terms used to describe units of fragmented land. These include 'rural residential', 'lifestyle block', 'hobby farm', 'smallholding', and 'rural amenity block'. For the purpose of this study, the term 'smallholding' is used to maintain consistency with other New Zealand literature. The term 'lifestyle property' is also relevant, despite its genesis and ongoing use as a real estate marketing term (Paterson, 2005). A lifestyle property is a rural lot that is primarily residential, larger than an "ordinary residential allotment", not primarily

used for farming and valued more highly than "comparable farmland" (Land Information New Zealand, 2008, p. 60). The term 'rural residential' is used as a specific land-use category in the Tasman Resource Managament Plan.

Land Fragmentation

Globalisation

This study looks at the fragmentation of rural land in Tasman District based on increasingly diversified and commodified rural land use that can in part be attributed to effects of globalisation. There is a large volume of literature on the effects of the global economy on agriculture and on rural land use change. Much of the debate uses Castells' concepts of 'space of flows' and 'space of places' (Castells, 2000; Castells in LeGates & Stout, 2003). The 'space of flows' sees distant and disconnected places or economies connected through the global network, via transnational corporations, and information transmitted through electronic networks and streamlined transportation corridors. Individual enterprises are linked with international markets in a way that breaks down traditional geographical boundaries and bonds forged within local landscapes or communities. The result is that the "structural domination" of the space of flows "alters the meaning and dynamic of places" (Castells, 2000, p. 458). The 'space of places' focuses on locality and localness – particular ecosystems, towns, communities, organisations, culture: concrete places - and is bound up with local history and identity, social cohesiveness and cooperation, and continuity of community (Primdahl & Swaffield, 2010; Swaffield & Primdahl, 2006).

Primdahl and Swaffield (2010) claim it is the interaction of the space of flows and space of places in the context of globalisation that determines the extent of landscape change. More open economies exposed to the global economy and ruled by a space of flows undergo more rapid landscape change. Rural landscapes become more differentiated into either productive land, intensively farmed under a "mono-functional" agricultural model (Primdahl & Swaffield, 2010, p. 246). Or, marginal land is abandoned and fragmented, converted to non-agricultural consumption activities such as rural residential subdivision and lifestyle development, tourism activities and land conservation. In the context of New

Zealand land use, the intensification and diversification effects of globalisation are "uneven and multistranded" processes, depending upon the quality of the land and the proximity to urban areas and desirable landscapes (McCarthy, 2008, p. 135; Primdahl & Swaffield, 2010, p. 119). There is evidence of the unevenness of these processes in rural Tasman, with land differentiated into intensive dairying and forestry, a large conservation estate, and diversification and fragmentation of rural land holdings into rural residential and lifestyle farms, depending upon location relative to the coast and urban centres.

Productivism and Post-Productivism

Linked to globalisation, the post-productivist debate focuses on the transformation of rural landscapes away from their productive roots. Post-productivism is characterised by diversification of land use, dispersal of land amongst a greater number of farmers, and reduced levels of agricultural production (Argent, 2002 citing Ilbery and Bowler, 1998). Rural land is increasingly fragmented as its traditional farming function is dismantled and smaller individual allotments are re-packaged around a pseudo-rural experience. The post-productivist rural landscape is described as a commodity available for consumption by middle and upper class elites (Holmes, 2006; McCarthy, 2008). Post-productivist landscapes are fuelled by urban to rural migration based on a choice of location and lifestyle preferences into areas of high amenity that tend to be coastal or peri-urban (Argent, 2002; Stockdale, 2010). The value of post-productive rural landscapes is tied to the land's symbolic, rather than productive value (Argent, 2002; Darling, 2005). Rurality becomes bound up in its capacity to cater for what has been termed "elective belonging" (Savage et al, 2005 in Stockdale, 2010, p. 32).

Productivism, by contrast is what ostensibly came before post-productivism. Productivism is described as intensive, expansionist agriculture, focussed on efficiently maximising outputs, requiring substantial use of fossil fuels and mechanisation, and based on significant levels of capital investment and often state support (Argent, 2002; Paterson, 2005). Productivism, as Paterson puts it, assumes that "land that can be farmed should be farmed – if it is not, then it is being 'wasted'" (Paterson, 2005, p. 15). Argent (2002) states that since the 1980s

environmental and other lobby groups have increasingly questioned the environmental and economic sustainability of the productivist mode of agricultural production.

Primdahl and Swaffield (2010) argue that both the productivist and post-productivist paradigms are operating in many places, simultaneously, as a function of globalisation. Some authors argue this simultaneity is more common in Antipodean settings (Argent, 2002; Chalmers, Joseph, & Smithers, 2009). New Zealand's current intensification of dairying is a prime example of the productivist mode and is occurring concurrently with increased numbers of small farms of very mixed productivity. Primdahl and Swaffield see multiple imperatives operating in the rural context that result in a "policy contest" and most often a policy vacuum (Primdahl & Swaffield, 2010, p. 258).

Holmes (2006) sees the post-productivist debate as explaining significant aspects of post-war changes to agriculture but advances the theory into what he calls 'multifunctionality'. Holmes explains multifunctionality as rural land-use and occupancy that is given over to the goals of "production (agricultural overcapacity), consumption (the emergence of market-driven amenity uses) and protection (societal values concerned with sustainability and preservation goals)" (Holmes, 2006, p. 143). The tension between these three goals frames the discussion in this study around the fragmentation of rural land. Tasman District Council's focus on rural land fragmentation is based on maintaining the potential for agricultural production and preservation of a soil and landscape resource. In practice, Tasman planners managing demand for fragmented rural properties have struggled to balance legislated responsibilities, broader economic effects on land use, and the expectations of communities, in an absence of central government guidance on the priorities for rural land use.

Rural Gentrification

The change in settlement patterns as urbanites relocate into rural areas is reflected in rural gentrification research on the "new middle-class recolonisation of rural locations" and the "production of space for – and consumption of space by – a more affluent and very different incoming population" (Slater, Curran, & Lees,

2004, pp. 1143, 1145) Ghose (2004) studied rural gentrification in Missoula, Montana, focussing on the movement into rural communities of more affluent urbanites. Ghose described new build residential construction utilising fragmented marginal farmland to cater for the influx of new residents. Low-density subdivision regulations allowed the development of expensive houses on rural residential lots ranging in size from 0.8 to 12 hectares in size. The purchasing power of in-migrants drove a wholesale increase in the price of real estate and Ghose highlighted the role of real estate developers and marketers in driving this trend. Ghose also documented the effect of increased real estate prices had on driving low-wage locals out of the real-estate market (Ghose, 2004, p. 529).

There is very little rural gentrification research in New Zealand, the exception being Freeman and Cheyne's (2008) research on gentrification in coastal townships that looked at the "investment gap between low current investment values and higher possible future values" (Freeman & Cheyne, 2008, p. 36). Freeman and Cheyne's research looks specifically at coastal environments, which are not considered in this study, however their research has some relevance here in that similar patterns of expanded amenity and housing development, and consequent increases in property prices, are occurring in places of high rural amenity like Tasman.

Their research has additional relevance in that they make a link between gentrification and the planning process, describing the "public sector … as the silent partner in the development process" (Freeman & Cheyne, 2008, p. 51). They also highlight a lack of strategic vision for growth management, questioning the capacity of the district plan to deal with the extent and pace of change. This study picks up on this point in terms of the capacity of the Tasman Resource Management Plan to respond to rural change arising through in-migration of urbanites and post-productivist changes in rural land use.

The Rural Myth

Rural fragmentation and the growth of smallholdings in New Zealand has been linked to the enduring nature of the rural myth (Swaffield & Fairweather, 1998). The lure of semi-productive small farms or amenity-focused rural lots is based on

an Arcadian ideal and an embossed rural colonial myth, embedded in the contemporary reality of globalised agricultural economics and commodified rural land-use (Bell, 1997; McCarthy, 2008).

Fairburn (1975) analyses the genesis and evolution of the New Zealand rural myth on the basis of three prevailing "arcadian visions" (Fairburn, 1975, p. 6). The first is based on the migration to suburban paradise fueled by ideals of escape from the oppressive city and encouraged by opportunities such as increased prosperity, improved transport, and cheaper land at the city fringe. The second Arcadian vision is anchored in the archetype of "sturdy yeomanry" and represents the opportunity for an individual to hold and cultivate a small piece of land: the work entailed confers certain rights under the legitimacy of freehold estate (Fairburn, 1975, p. 6). The third vision involves land-holding ideals arising in the minds of British migrants. The amalgamation of these three visions is predicated on abandonment of the city, and the embracement of the wholesomeness of the "soil-based family" (Fairburn, 1975, p. 8).

The Arcadian ideal celebrates a sort of pastoral habitus, it arises out of a nostalgic view of "the country as symbol of past golden age" and manifests as a milk and honey vision of New Zealand, where hard work on freehold land leads to health, wellbeing and prosperity (Fairburn, 2008; Swaffield & Fairweather, 1998, p. 113). Swaffield and Fairweather (1998) surveyed contemporary urban fringe smallholders in the Canterbury region who commonly saw the countryside as "offering the sorts of values that have underpinned the Arcadian convention: wealth and security, beauty, peace and quiet" (Swaffield & Fairweather, 1998, p. 121). The authors argue "there is overwhelming evidence of the continuing attraction of Arcadian values, and their relative stability over time and space" (Swaffield & Fairweather, 1998, p. 124).

The irony of this rural idyll is that it only succeeds in relation to the city. Arcadia is not an independent rural state: it depends upon external income, and is part of a broader economic framework traditionally dominated by agricultural production but more recently dominated by the recycling of rural land for consumption purposes (Swaffield & Fairweather, 1998). Bell (1997) describes this as "fictions

about the 'great way of life' in the country", that the "powerful pervasiveness" of the rural myth is the "central strand of legends and mythology of pakeha New Zealand" and demonstrates "the fundamental principle of capitalism that anything can be commodified" (Bell, 1997, pp. 145, 148). The fragmentation of rural land based on demand for and marketing of lifestyle land in New Zealand, builds on the enduring quality of the rural myth.

Rural Smallholdings

New Zealand research into rural land fragmentation focuses on the characteristics and numbers of rural smallholdings and smallholders. Much of this research has been undertaken at the Agribusiness and Economics Research Unit at Lincoln University and researchers there have standardised the use of the term 'smallholding' to include non-productive rural residential lots through to full-time productive holdings.

Smallholder Characteristics

The national survey of smallholders by Ministry of Agriculture and Forestry (MAF) in 2003 identified smallholder characteristics in order to understand growth in smallholding. The study wanted to better quantify types and extent of agricultural production and involved a survey of 947 smallholders across sixteen regions in New Zealand (Cook & Fairweather, 2005, p. 4). The main findings are outlined in Table 1.

Levels of off-farm employment and income in the national study replicate earlier New Zealand research that showed many smallholders are sustained by urban and/or full-time employment (Fairweather, 1993, pp. 6, 14; Talbot, 1996 cited in Fairweather & Robertson, 2000, p. 8) and that many smallholders do not receive any income from their smallholding land (Fairweather & Robertson, 2000). Table 1 shows two thirds of smallholders are using their land productively, although this does not necessarily translate into income earned from the land.

Table 1: Characteristics of New Zealand smallholders

CHARACTERISTIC	RESULT
Range of property size	0.4 – 30ha
Average property size	8.5ha
Main activity (livestock)	Grazing
Main activity (plant)	Fruit / vineyards
Engaging in productive land use	66%
Off-farm employment	66%
Some off-farm income	87%
Off-farm income over $40,000	43%

(Cook & Fairweather, 2005; Sanson, Cook, & Fairweather, 2004)

Smallholders surveyed in the national study self-identified into five categories: lifestyler, hobby farmer, horticulturalist, small farmer and farmer. The results showed lifestylers and hobby farmers had smaller properties. All categories valued lifestyle over production or valued both equally. Lifestylers with less farm experience were also less interested in agricultural production (Sanson et al., 2004, pp. 21, 39). Smallholders generally chose to live on a smallholding because they most enjoyed quiet and tranquility, privacy and open space, and clean air. Earlier research showed similar results (Cadieux, 2008; Fairweather, 1993; Moran et al, 1980 in Fairweather & Robertson, 2000, p. 5).

Paterson's (2005) continuum (see Figure 1 below) differentiates smallholders according to property size, farming activity, extent of income from the land and links to surrounding urban areas. Paterson notes that smallholders may be any of these types at different stages based on changing landowner priorities.

Figure 1: Types of New Zealand smallholders

RURAL RESIDENTS →	LIFESTYLERS →	SMALL FARMERS →	FULLTIME FARMERS
Smaller	**Property Size**		Larger
Less	**Farming Activity**		More
None	**Income from Land**		Significant
Significant	**Links to Urban**		Less significant

(Paterson, 2005, p. 10)

Smallholder numbers

The best national estimates of numbers of numbers of smallholdings come from the 2003 MAF research that looked at AgriBase data, a national spatial farm database collated by the AsureQuality Crown Research Institute, and the rural subset of the Valuation Roll, a national database of rateable properties held by Quotable Value. The results are outlined in Table 2.

Table 2: National numbers of smallholdings

DATASET	NO. PROPERTIES	LAND AREA (HA)	MEAN SIZE (HA)	MEDIAN SIZE (HA)	RANGE (HA) (EXCL OUTLIERS)
Agribase	60,213 (properties < 36ha)	540,000	4.97	3.8	0.44 – 19
Valuation	140,000	Not stated	5.53	2.7	0.3 – 25.6

(Sanson et al., 2004, p. 5).

The Valuation results were broken down into region with detail shown in Table 3.

Table 3: Numbers of lifestyle farms – top ten districts in 2004[1]

DISTRICT	NO. LIFESTYLE FARMS	TOTAL LAND IN LIFESTYLE FARMS (HA)	MEAN SIZE OF LIFESTYLE FARMS (HA)
Rodney	10,071	52,216	5.18
Far North	7,562	54,487	7.21
Franklin	7,231	29,176	4.03
Whangarei	7,001	25,519	3.65
Waikato	6,394	24,311	3.80
Western Bay of Plenty	5,960	22,361	3.75
Selwyn	5,327	34,143	6.41
Waimakariri	4,255	24,158	5.68
Tasman	4,164	40,984	9.84
Waipa	3,152	7,739	2.46

(Sanson et al., 2004, pp. 6-7)

The datasets contained large outliers, for example blocks of land hundreds of hectares in size, but more accurate median figures were not included in the research. Overall, there is a wide range in the mean size of farms and the authors

[1] The Valuation Roll figures use the term lifestyle block.

acknowledge outlier error within the figures. Of the 75 territorial local authorities considered, districts with the highest mean size (>7ha) were spread evenly across the North and South Islands. However, the smaller-sized districts (<4ha) were almost all located in the North Island. Tasman District sits in the top ten districts in terms of number of lifestyle farms and is third highest in New Zealand in terms of total land in use as lifestyle farms (Cook & Fairweather, 2005; Sanson et al., 2004).

The number of smallholdings has undoubtedly grown since this research was undertaken however there has been no subsequent national research collating numbers of smallholdings. Sanson et al (2004) conclude that "currently no single database would suffice as a complete frame of smallholders" and that while the bones of an adequate system are in place, improvements require additional resourcing (Sanson et al., 2004, p. 37). The poor quality of smallholding data limits trend analysis of numbers of smallholdings, in turn limiting assessment of trends in national land fragmentation.

Conclusion

The literature shows that the effects of globalisation on rural land use are a significant international phenomenon with agricultural land tending towards differentiation into productivist and post-productivist modes depending upon exposure to global influences. More open economies experience more pressure on rural land, evident in the break up of more marginal farming land into commodified rural aesthetic living experiences on fragmented rural allotments. Competing production, consumption and protection goals affecting rural land manifest in different ways depending upon the nature of the land, proximity to urban areas and the amenity of the land in question. The influx of urban migrants seeking this rural lifestyle is a key driver of fragmented allotments and this influx is fueled by the pursuit of the Arcadian myth, which, in New Zealand remains a powerful aspiration. The growth in the number of smallholdings verifies this trend. While the data on numbers of smallholdings has mixed reliability, there is a significant volume of land in smallholdings and the numbers show a wide range of types of smallholders with varying lot sizes, land uses and degrees of productivity.

Chapter 2: Tasman District Defined

The area governed by Tasman District Council (TDC) is a relatively recent geographical configuration. The region was previously known as Nelson Province and covered a larger geographical area. In 1876 provinces were abolished with Nelson Province divided into Nelson City and a number of other counties and boroughs including, of relevance to this study, Richmond and Motueka Boroughs, and Waimea, Golden Bay and Murchison Counties. From 1965 Waimea County included Murchison County and covered more than 700,000 hectares. Richmond and Motueka were smaller boroughs incorporating the two main urban settlements outside of Nelson, and both were surrounded by approximately one thousand hectares of generally very fertile land. Golden Bay covered about 260,000 hectares. The maps in Appendix 2 outline current ward boundaries but give an indication of the relative sizes of the 1960s boroughs and counties.

Local government reforms in 1989 amalgamated existing councils and regional Boards. "Local agitation against regionalism" resulted in Tasman, Nelson and Marlborough Councils becoming unitary authorities in 1992, taking on joint regional council (responsible for land, water, discharges etc) and a district/city council (responsible for regulation of land-use, subdivision, noise control etc) roles under the Resource Management Act 1991 (Ericksen, Berke, Crawford, & Dixon, 2003, p. 258). These changes are shown in Table 4 below. Nelson City remains under separate administration and is not included in this study however some aspects of this study refer to the wider Nelson Tasman Region. Amalgamation of Nelson City Council and TDC is the subject of a referendum scheduled for April 2012.

A map of Tasman District is shown in Figure 2 below. The district covers 966,500 hectares of land, most of which is hilly or mountainous, more than sixty percent is in the conservation estate, including three national parks (Tasman District Council, 2001, p. 40). The District contains two towns over 5000 people (Richmond and Motueka) and more than thirty small settlements, most of which are coastal (Tasman District Council, 2001, p. 27).

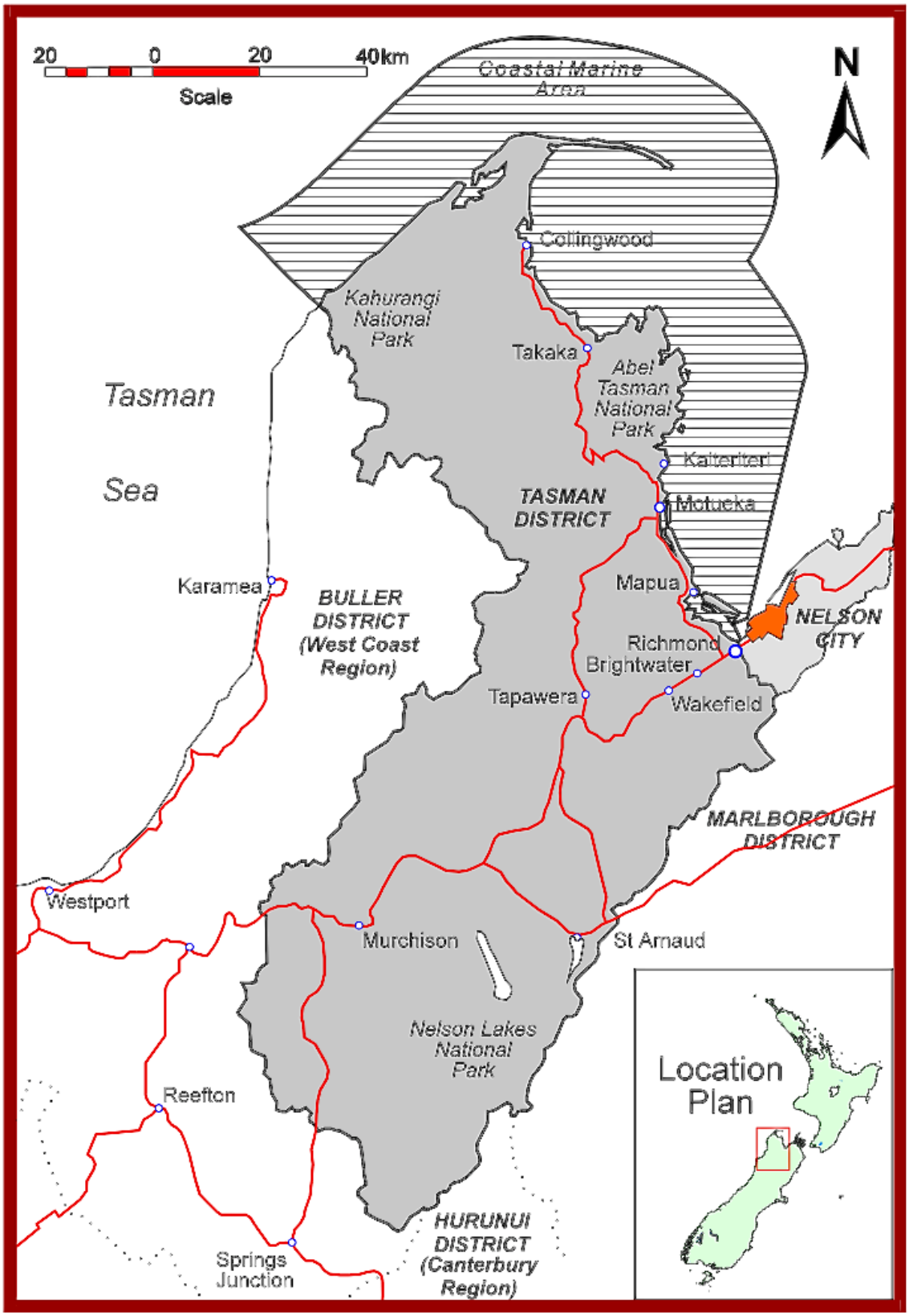
Table 4: Local Government Reforms – Top of the South

	PRE- 1989 REFORMS	POST-1989 REFORMS	POST-1992 AMALGAMATION
DISTRICT	• Waimea County • Golden Bay County • Motueka Borough • Richmond Borough • Nelson City • Other Marlborough Counties and Boroughs	• Nelson City • Tasman District • Marlborough District	**Unitary Authorities** • Nelson City • Marlborough District • Tasman District **Tasman District Wards** • Moutere/Waimea • Richmond • Motueka • Golden Bay • Murchison
REGION	• Nelson Marlborough Catchment Board • Regional Water Board	• Nelson-Marlborough Regional Council	

TDC is in the process of mapping the soil of the region's valleys and plains to improve on previous Land Use Class (LUC) soil mapping to better contribute to plan development and environmental monitoring. For example, updated soil mapping in Golden Bay indicates lower levels of class A land than previously thought (Burton, 2010, p. 10). In general, Tasman and West Coast Districts have the highest percentages of the least fertile soils, relative to other regions in New Zealand (Rutledge et al., 2010, p. 242). Classification of productive land in the District shows 5.4 percent of soils are versatile or very versatile, and are "contained within current floodplains or low terraces adjacent to the Waimea, Moutere, Motueka, Riwaka, Takaka and Aorere rivers" (Tasman District Council, 2001, p. 42).

Further analysis of the demography and economy of Tasman District is contained in Chapter 6. The following chapter describes the methodology used in this study.

Figure 2: Tasman District showing main settlements and state highways



(Tasman District Council, 2001, p. 1/5)

Chapter 3: Methodology

This chapter outlines the mixed methods approach used in this study. It explains the rationale used to select the methodology and a range of qualitative and quantitative approaches undertaken to answer the research question. The latter part of the chapter outlines the data sources used, and the analysis undertaken in each case.

Context for Methodology

The methodology selected in this study is driven by a number of factors including the nature of the research question, existing research on the subject, available information, and the philosophical worldview of the author, all of which are explored further below.

Research Question

The research question at the centre of this study looks at both the drivers of rural land fragmentation in Tasman District and the planning responses to that fragmentation. At a deeper level the research question requires clarification of the following points:

- What is the change process involved in fragmentation?
- Are the causes geographic, historic, economic, social, or political?
- Are the causes specific to Tasman or do they arise nationally, or globally?
- What is the relevant planning and regulatory framework?
- How has that framework responded?
- Why has it responded in the way it has?

As such, the question has both breadth and depth. It requires analysis of current and historical causative processes alongside policy and political responses tied to a particular location. It requires consideration of both local detail and practice and general trends. It requires both inductive (inferring generality from particular instances) and deductive (inferring particular instances from generality) analysis.

Existing Research

New Zealand's research on rural land fragmentation is largely limited to smallholding research, as outlined in Chapter 1, which focuses on the characteristics and motivations of smallholders, based on questionnaires administered to smallholders around New Zealand. Apart from an emphasis on the rural myth, the smallholding research does not have a detailed focus on drivers of fragmentation, or on planning responses to fragmentation. Productivity of smallholdings in specific New Zealand contexts is also explored in the literature (see Chapter 4) but this looks at the effects of fragmentation rather than causes. International research on the other hand, has a very strong emphasis on the drivers of fragmentation, but less of an emphasis on planning responses, and little of this has been applied in the New Zealand context. In terms of Tasman District, the only research on fragmentation is work undertaken by TDC as part of ongoing planning practice. Thus, there are isolated pockets of research, but no comprehensive frame of fragmentation research in New Zealand on which to approach the Tasman District.

Cresswell (2009) states that the nature of the research problem determines the specific approach chosen to address the research problem. He adds: "If a concept or phenomenon needs to be understood because little research has been done in it, then it merits a qualitative approach" (Cresswell, 2009, p. 18). Qualitative research is defined as "a situated activity … [made up of] …interpretive material practices … [involving] … the studied use and collection of a variety of empirical materials" such as case study, interview, personal experience, or a variety of texts (Denzin & Lincoln, 2005, p. 3). Quantitative research, by contrast, is defined as "a means for testing objective theories by examining the relationship among variables … [that] … can be measured" generating analysable numbered data (Cresswell, 2009, p. 4).

Information Available

At the commencement of this research a number of methodological possibilities were discussed about how best to answer the research question. This included consideration of what existing information on fragmentation is available or obtainable. The information sources considered were a mix of quantitative and

qualitative sources and included TDC subdivision data, individual subdivision consent applications, Environment Court appeals of subdivision consent applications, historic and current district plans, interviews with smallholders, and interviews with planning staff. Some of these sources were eliminated at an early stage; for example, interviews with smallholders were discounted because it was assumed interviews would contribute little new knowledge. Analysis of individual subdivision consent applications was also discounted because of the complexity of information and the time involved in making sense of applications. The remaining approaches were considered viable sources of information for this study.

Philosophical Worldview

As a researcher, the philosophical assumptions underpinning this study come from a pragmatic worldview, both in its everyday sense of acting practically, but also in the context of Flyvbjerg's phronetic pragmatism that builds on Aristotle's knowledge of "particular circumstances" and Foucault's continual "reference to a concrete example" (Flyvbjerg, 2001, pp. 118, 135). Phronetic research is "decentered in its approach, taking its point of departure in local micropractices, searching for the Great within the Small and vice versa" – the phronetic researcher undertakes work that "is at the same time as detailed and as general as possible" (Flyvbjerg, 2001, pp. 133-134). Flyvbjerg emphasizes the use of case studies and exemplars – "practical rationality" – but emphasizes that practice has always been "contingent on context-dependent judgement" (Flyvbjerg, 2001, pp. 135-136).

In terms of research methodology, pragmatism prefers multiple approaches to understand the problem, and tends to favour mixed methods research (Cresswell, 2009, p. 10; Onwuegbuzie, Johnson, & Collins, 2009). Pragmatist researchers can use a range of analyses, both qualitative and quantitative in order to triangulate findings to generate convergence, illustrate, clarify or unearth contradictions in findings obtained through a range of methods, or expand the breadth of a study through use of multiple findings (Onwuegbuzie et al., 2009).

Selection of Methodology

The above factors led to a decision to undertake mixed methods research, which is defined by Cresswell (2009) as:

> Inquiry that combines or associates both qualitative and quantitative forms … so that the overall strength of a study is greater than either qualitative or quantitative research (Cresswell & Plano Clark, 2007 in Cresswell, 2009, p. 4).

The advantage of this methodology is that it allows the amalgamation of multiple sources of data to provide the breadth and reach to answer both parts of the research question. The specific approach is to combine a primarily qualitative case study using multiple sources, with additional data, to triangulate, clarify and unearth findings (both between quantitative and qualitative data, but also between different qualitative sources) and broaden the reach of the study. A case study is defined here as "an in-depth study of a bounded system or a case" (D. Miller & Salkind, 2002, p. 147).

The qualitative methods selected include contextual analysis of national and regional trends in rural land use, historical analysis of Tasman's land use, a desktop study of planning documentation, and analysis of relevant case law and planning policy. The quantitative analysis reviewed subdivision and new dwellings data. All these approaches are outlined further below. Both qualitative and quantitative data were sourced concurrently, although the raw quantitative data was supplied by TDC and had been collected since 1996.

Changes to methodology

Ethics approval was obtained from the Massey University Research Ethics Office (attached as Appendix 1) to interview council employees however this approach was not pursued, for two reasons. It became apparent over the course of the research that problems associated with fragmentation of rural land had been repeatedly identified by TDC planners but that the political nature of Council decision-making had undermined planning processes. To add to this, throughout

the latter part of 2011, TDC planners sought (and received) Council Committee sign-off of a major policy review concerned with the ongoing management of rural land fragmentation. As a researcher I became increasingly reluctant to interview planners about a subject that had had tenuous political support in the past, and where I perceived there was a risk of jeopardising their present work priorities.

It became apparent from mid 2011 that TDC were not able to provide data on pre- and post-subdivision lot sizes as part of subdivision consents data. This diminished the value of the quantitative analysis, as lot size is a crucial determinant of ongoing fragmentation. Other data sources (review of historic schemes and case law) were relied upon to build up a picture of fragmentation and planning responses.

Data Sources

Contextual and Historic Analysis

Cresswell (2009) clarifies that use of literature in a mixed methods setting depends upon which type of analysis is chosen (in this case, concurrent) and the relative weight of qualitative or quantitative approaches selected (greater emphasis on qualitative). As such, the literature review appears at the beginning of the study. However, the breakdown of the research question at the start of this chapter indicates that a broader contextualisation of fragmentation is required than is provided in the literature review, which aims to frame the problem, not explain the problem. In addition, the desktop analysis of district plans, planning policy and case law, and the quantitative analysis of subdivision and new dwellings data (in Chapters 7-9 respectively) need to be positioned in a New Zealand and Tasman specific context. The sub-questions listed earlier identified that the drivers of fragmentation are potentially geographic, historic, economic, social, or political, and sit within a place continuum of local – national – global. Contextual analysis in this methodology acts as a map within which to site local, place-based planning responses to fragmentation.

Three frames were selected for this contextual analysis: 1) changes in agricultural land use in New Zealand and the causes and effects of those changes; 2) the

legislative environment within which land use is managed; and 3) a portrait of the Tasman District, including land use history and current demographics and economic development. A broad range of sources were accessed including demographic and land use statistical data, reference texts, research literature, District Council publications, real estate figures, legislation, oral texts, government reports, encyclopedias, photographs and maps, industry reports, and local histories. Sources were used strategically to generate a narrative description connecting events and processes and histories into a cohesive, contextual explanation of fragmentation in Tasman District. These three frames are reflected in Chapters 4 to 6 respectively.

Review of Historic Schemes and RMA Planning Documents

A desktop study of available and relevant historic schemes, the current Tasman Resource Management Plan, and the Tasman Regional Policy Statement, was undertaken to identify the issue of rural land fragmentation and to document Councils' planning responses to fragmentation. The results of the desktop analysis are described in Chapter 7. All available schemes and plans were read, then a key word search using 'fragmentation' was undertaken to identify relevant sections for further review. Information was organised into categories including: policy objectives, issues identified, definitions, mechanisms used, key dates and developments, with this process undertaken for each scheme and plan in each county, borough or district. Timelines were developed to document changes over time and to allow comparison between schemes and locations.

Historic schemes reviewed were from Richmond and Motueka Boroughs, and Waimea and Golden Bay Counties. Early Nelson City plans were not considered because of the complexity of early boundary changes for that city[2] and much of the rural land to the south of Nelson City was over the time period of this study zoned for urban development and is therefore not relevant to this study. Early plans from Murchison County were also not considered, Murchison had been subsumed into Waimea County in 1965 and TDC holds little pre-1965 documentation. Copies of

[2] Much of then rural Nelson (Wakapuaka and Stoke) was originally part of Waimea County.

historic plans were obtained from TDC however not all plans were available for review. TDC is undertaking an audit of its historic plans and a number are missing. Table 5 below shows the available plans reviewed for this study, plan authors, dates of notification and operative dates, where known. The original schemes were generally unavailable, as were early reviews. The Tasman Regional Management Plan and Regional Policy Strategy were obtained from the TDC website.

Table 5: Historic plans reviewed

REGION	SCHEME NAME	RELEVANT DATES	AUTHOR
GOLDEN BAY COUNTY	District Scheme Review No. 1	Notified – 1979 Operative – 1982	Unsure
	District Scheme Review No. 2	Notified – 1989 Operative – 1993	Davie Lovell-Smith & Partners Ltd, Christchurch
WAIMEA COUNTY	District Planning Scheme No. 3	Notification unsure Operative – 1970	In-house
	District Planning Review No. 4 Statement of Objectives and Policies	Notified – 1980	In-house
	District Planning Scheme No. 4	Notified – 1984 Operative – 1989	In-house
MOTUEKA BOROUGH	District Scheme Review No. 2	Notified – unsure Operative – 1982	Gabites Porter & Partners Wellington
	District Scheme Proposed Review No. 3	Notified – 1988 Never operative?	Beca Carter Hollings & Ferner Ltd Wellington
RICHMOND BOROUGH	District Scheme Review No. 1	Notified – unsure Operative – 1975	Porter & Martin Wellington
	District Scheme Review No. 2	Notified – 1982 Operative – 1984 Incorporated into Waimea Plan – 1989	Porter & Martin Wellington

Planning Policy and Case Law

Analysis of TDC policy responses to the issue of fragmentation, and of relevant case law, was a way of verifying the success or otherwise of the objectives, policies and rules used by Councils to manage fragmentation. TDC has undertaken several policy reviews in relation to rural land use and review documentation was either sourced from the TDC website or was provided by TDC planning policy staff.

Analysis of these documents provides information on TDC staff recommendations on policy or rule changes to respond to the issue of fragmentation. This analysis also provided political context to decisions made by Council that have significantly affected land fragmentation in the district.

Case law relating to subdivision of rural land in Tasman was analysed in terms of Environment Court decisions on subdivision appeals in Tasman District. Eleven cases were identified in a Brookers search ranging from 1995 to 2006, with far fewer cases going to appeal since that time as a result of Environment Court emphasis on mediated outcomes. The case law enables assessment of the sorts of cases that were going to appeal, what the outcomes were in relation to the original Council decision, and the broader context for subdivision applications in the region. The cases reviewed also provided significant levels of subtext around the political nature of Council decision-making through evidence given by Council planners.

Quantitative Data

Subdivision Data

TDC provided a dataset of all subdivision applications from 1996 (when the TRMP was notified) to May 2011, in an Excel spreadsheet. The dataset had been filtered by TDC to remove erroneous records and subdivision applications that related to boundary adjustments, leaving applications related to rural fragmentation. The data included all subdivision applications submitted in that time, including applications that were declined, applications that have yet to be implemented, for example those that have been notified but not yet decided, applications that are subject to approval of a survey plan by TDC under s223, or applications that had been approved but had since lapsed under s125 of the RMA.

The dataset included information for each subdivision application on location, development proposal information, consent type, the relevant zone, decision status, date of application, date of decision, and decision details. A crucial piece of information missing from the dataset was pre- and post-subdivision allotment size, which prevented any analysis of fragmentation relative to minimum lot size.

Analysis of the data involved basic counts of consent type, zones, decision type, and year of application. The data included location of the affected property so it was possible to sort the data into wards. Analysis involved determining whether there were land fragmentation trends between or within wards and over time and to link trends to external factors influencing rural land fragmentation. The TRMP was notified in late May 1996. Due to the incompleteness of 1996 and 2011 data, analysis of annual trends considers full-year data from 1997 to 2010 only.

Some records contained gaps in information such as empty fields for a particular record so some subtotals differ from overall totals. Sixteen records contained a zone description of "Rural 1 & Rural 2" where the land to be subdivided contained two zones. These records were included in the Rural 1 category for analysis purposes.

The dataset contained information on the detail of the application so most records included a description of the number of allotments to be realised post-subdivision. Of the 920 records, 45 were unclear about the number of additional allotments and were left out of the analysis. Declined applications were also not used in this part of the analysis (although declined applications were analysed for other trends). The remainder was subject to manual counting to estimate numbers of additional post-subdivision lots. The results are indicative only because of the potential for error from manual counting.

TDC Maps and New Dwellings Data

In preparation for their own work on rural subdivision and land use, TDC have prepared maps illustrating and quantifying subdivision consents issued and new dwellings, and this information was provided over three time periods: 1996 to 2003; 2004 to 2007; and 2008 to June 2011. In this format the subdivision information is broken down into zone and ward only and the aggregation of data into blocks of years limits analysis of annual trends. The maps give a visual overview of distribution of subdivision and new dwellings according to geographical location and rural zones. The maps from 2004 to 2007 are included in Appendix 2 to provide detail on ward boundaries. It is important to note that

this is a different data set to the subdivision data and therefore comparisons cannot be made between the two.

The new dwellings data is useful in terms of looking at rates of new dwelling development within and between rural and urban settings. This involved amalgamating all dwellings in the four rural zones (Rural 1, 2, and 3, and Rural Residential) to compare with all new dwellings in the residential zone. Dwellings in other zones for example, commercial, were excluded from the analysis. Annual rates of new dwelling development were calculated based on the average annual number between 1996 and 2011 but results are slightly skewed because the 2011 data does not include a full year.

Conclusion

The data sources described here are wide-ranging and the consequent amalgamation of disparate results into a cohesive whole is a challenge characteristic of a mixed methods approach. The time taken to collect data in this study has been extensive, as have the requirements to analyse a number of separate streams of information. Yet the opportunity presented by this approach is to generate a comprehensive and detailed study that generates discussion and judgments grounded in Tasman's specific history and linked to broader contextual processes.

Chapter 4: The New Zealand Context

Agricultural land use in New Zealand has undergone significant transformation since the 1970's, enhanced by political and economic upheaval in the 1980's, and evident in the intensified and diversified farming practices of the last two decades. These changes have contributed to increasing land fragmentation across New Zealand and in increase in the number of small and very large farms. This chapter discusses these trends alongside a review of the research on productivity of rural smallholdings.

Economic Restructuring

The 1980's in New Zealand saw a massive deregulation of the New Zealand economy under the Fourth Labour government and later, under the fourth National government (Belich, 2001; King, 2003). This process had a significant effect on the rural economy because of the extent of government support to the agricultural sector (Gouin, 2006).

In the 1970s, New Zealand's terms of trade had deteriorated due to a drop in key export prices, as a result New Zealand diversified into a wider range of primary exports and more value-added manufacturing and tourism (Easton, 1994). This was evident in the Tasman District where, from the mid 1970s the horticultural mix diversified, pastoral land was increasingly converted to forestry, and the fishing industry boomed (McAloon, 1997). Increased fuel costs and decreased farm prices resulted in a worsening balance of payments and the government intervened in the economy to an unprecedented extent, through financial support to farmers, tariffs on imports, and currency regulation (Belich, 2001; Easton, 1994; Gouin, 2006).

Easton (1994) described New Zealand's political economy from 1975 to 1984 as "unsustainable" and the outcome was a major political shift following a snap election in 1984 (Easton, 1994 para 9). The incoming Labour government reduced import controls and removed agricultural subsidies. The New Zealand dollar was devalued, then floated, and the rural sector in general was exposed to the full

effects of the market (Gouin, 2006; MacLeod & Moller, 2006). The value of agricultural output dropped to 1960's levels while farm production levels remained the same (Gouin, 2006, p. 73).

Johnsen's (2004) research summarises the literature on farmers' responses with different farming sectors more or less able to withstand deregulation (see Table 6). Johnsen found that the opportunity to change farm practice varied, depending upon location or the capacity to tap into regional or local niche markets, or "willingness to modify farm operation" (Johnsen, 2004, p. 429).

Table 6: "Summary of responses made by farm families after 1984"

RESPONSE	DESCRIPTION
Withdrawal	Sale of farm and new career
Scale	Alteration of farm size
Type	Diversification into new commodities
Expenditure	Reduction in farm and personal spend
Practice	Low input practices Increased economic awareness
Farm labour organisation	Decreased use of paid labour Increased use of unpaid labour
Pluriactivity	Off-farm employment Alternative non-farm entrepreneurial activities

(Johnsen, 2004, p. 421)

Since deregulation, one and half million hectares of land has been taken out of production, undergoing afforestation, reversion to scrub, transfer to conservation, and subdivision into smallholdings (1996 MAF figures cited in Primdahl & Swaffield, 2010, p. 101). Sheep and beef farming was more affected by the reforms and released more marginal land into other uses (MacLeod & Moller, 2006; Primdahl & Swaffield, 2010). Since the 1990s pastoral land has increased in value due to the expansion of forestry and dairy farming, the effects of overseas purchase of land, and on-farm development (Nixon, 2008, pp. 1-2). In general the value of rural land has increased markedly relative to farm profits with unprofitable pastoral land much more likely to be fragmented as farmers look to realise capital through land sales (Nixon, 2008).

Agricultural practice has altered considerably following the reforms although some authors indicate key structural trends were in play prior to the 1980s

(Gouin, 2006; MacLeod & Moller, 2006). There has been a shift away from "family-farm pastoral agriculture" to diversification and intensification of rural enterprises (Argent, 2002; Paterson, 2005, p. 6). The national livestock mix has changed, with a drop in the number of sheep and lambs and increased numbers of dairy cattle and deer as farmers diversify and intensify more profitable operations (Statistics New Zealand, 2007). Post-reform agriculture is based on exports "increasingly part of integrated supply chains providing value-added products, in contrast to the former commodity-based system aimed at low-cost, high volume production" (Swaffield in Primdahl & Swaffield, 2010, p. 99).

National Land Use Changes

Land with the potential for agricultural production makes up 67.5 percent of New Zealand's land area and conservation land 31 percent. The remainder is made up of rural residential land (0.5%) and residential/commercial/industrial (1%) (Ministry for the Environment, 2010, p. 3; Rutledge, 2008, pp. 5, 8). Recent land use changes have resulted in a net shift of land out of the productive estate into other categories. Statistics NZ show an average decrease in farming land of 155,600 ha per year between 2004 and 2009, although Statistics NZ don't have data on what the productive land use changed to (Statistics New Zealand, 2011). Ministry for the Environment (MFE) data shows that between 1990 and 2008 land-use changes included a decrease in pastoral- and scrubland, increased plantation forestry and native forest, and smaller increases in urban and horticultural land, the latter primarily due to increased grape planting (Ministry for the Environment, 2007; 2010, p. 3). Statistics NZ have identified across the board gaps in land use information including "how much productive land is being lost to residential lifestyle blocks or retired to the conservation estate" (Statistics New Zealand, 2009, p. 10).

Early New Zealand research on the total area of smallholdings in New Zealand showed 27,000 rural holdings between one and ten hectares totaling approximately 100,000 hectares of smallholdings across New Zealand (Jowett, 1976 cited in Fairweather, 1993, p. 3). In 2003 MAF research showed approximately 6800 lifestyle blocks were registered per annum, equivalent to

37,600 hectares of productive land converted to lifestyle blocks each year (Cook & Fairweather, 2005; Sanson et al., 2004, p. 1).

The overall picture shows that the volume of productive / farm land is decreasing over time, due to the squeeze at one end by the conservation estate and growth in urban and rural-residential land at the other, but gaps in information prevent reliable quantification of these changes.

Changes in Farm Size

Changes in land use need to be considered along side changes to farm size in New Zealand. Moran (1997) collated a number of previous studies to look at average farm size. Between 1976 and 1990, 90% of all NZ counties experienced a decrease in average farm size with the largest decreases in areas adjacent to urban centres, where horticulture had expanded, and in coastal and resort locations. Moran says "demand for rural lots by urban dwellers and subdivision of pastoral farms for horticulture are the main forces behind the decreased average farm size of the 1970s and 1980s in NZ" (Moran, 1997, p. 9).

Mulet-Marquis and Fairweather's (2008) research took account of more recent changes in farm size. They showed that between 1987 to 1999, all types of farms over ten hectares in size decreased in number, with a corresponding increase in farms less than ten hectares in size (Mulet-Marquis & Fairweather, 2008, p. 6).[3] Mulet-Marquis and Fairweather describe two trends contributing to decreases in farm size. The first trend concerns changes in farm type with key developments including: 1) the concentration of dairy farming in a smaller number of larger farms; 2) a decrease in the number of large sheep and beef farms, but an increase in the number of very large sheep and beef farms (over 800 hectares in size); and 3) an increase in the total number of horticulture blocks and intensified horticultural production. The second trend is driven by an increase in what they describe as "those seeking rural lifestyle" (Mulet-Marquis & Fairweather, 2008, p.

[3] Mulet-Marquis and Fairweather used Statistics NZ data for their farm size research. The authors claim this data is unreliable beyond 1999 (p. 3).

14). Overall this has resulted in a concentration of farms at the smaller and larger end of the farm size spectrum.

A further feature in the structural change to farming in New Zealand concerns the age of farmers (Fairweather & Mulet-Marquis, 2009). Fairweather & Mulet-Marquis's research shows that since 1981 there has been a steady increase in the age of farmers (Fairweather & Mulet-Marquis, 2009, p. 123). This is also the case in the Nelson-Tasman region (John Cook and Associates, 2010). The status of farming is not as high as it once was and in Tasman, fewer farmers are passing their farm on to the next generation and more farmers are selling on the open market on retirement (John Cook and Associates, 2010). This results in greater potential for farm diversification, changes to land use, and land fragmentation (Fairweather & Mulet-Marquis, 2009; Johnsen, 2004).

Land Productivity

The issue of ongoing productivity of fragmented land is a key consideration in this study. Using Holmes (2006) multifunctional framework, concern about this loss tends to be based on either production or protection goals. For example, in 2005 the then Chief Executive of AgResearch, Dr Andrew West, described lifestyle blocks as an "epidemic" and "a waste of Waikato's prime farmland" (West, in The Waikato Times, 2005 n.p.). In 2008, Kapiti Coast planner, Dr Gael Ferguson, stated:

> Often limited economic value is placed on farmland's productive role. It is traded off against the present value of future urban development; whether it's more economic to convert it into urban uses. …The key issue is not what production might take place … but whether it can over time. It is building in resilience both for the urban and the rural communities (The Dominion Post, 2008 n.p.).

Statistics NZ figures confirm that since the late 1970s the most versatile soils[4] have decreased by 2.3 percent (Statistics New Zealand, 2008, p. n.p.) Rutledge et al

[4] Land Use Capability (LUC) Class 1.

(2010) are alarmed by the potential for New Zealand's most versatile soils to be "lost to agricultural production over the next 50-100 years" affecting export and domestic production capacity and compromising New Zealand's future capacity for sustainable food production (Rutledge et al., 2010, p. 245). Rutledge et al also emphasise a lack of good quality information about land use and land-use change at a national, regional and local level. The MFE acknowledge there is no national policy on retention of versatile soils other than in relevant sections of the RMA (Ministry for the Environment, 2010, p. 3).

Productivity of Smallholdings

Changes to rural productivity due to increased fragmentation have been the subject of New Zealand-specific research. Scarrow et al (1996) researched the productivity of subdivided Western Bay of Plenty farmland and found the total number of properties not producing anything rose from two to ten percent. However, 52 percent of the surveyed land was producing the same or more than what it had been prior to subdivision (Scarrow et al, 1996, cited in Fairweather & Robertson, 2000, p. 8).

The Western Bay of Plenty research was repeated in 2005. Scarrow and Underwood (2005) looked at subdivided titles up to twenty hectares in size and found that after subdivision the area of land used for primary production reduced by about thirty percent with most non-productive land used for residential purposes only (Scarrow & Underwood, 2005, p. 3 Extended Summary). Scarrow and Underwood also assessed post-subdivision economic productivity. Overall, the highest gross margins were found on subdivided land between three and eight hectares in size. The authors concluded that subdivision "may assist land development into more intensive land uses, through providing capital from the sale of subdivided land or by making smaller properties available where the development is more affordable because of the smaller size" (Scarrow & Underwood, 2005, pp. 5-6 Extended Summary). The smaller the property the more likely there was a post-subdivision decline in primary productivity, with properties over two hectares much more likely to be productive. They also found

that subdivided titles don't generally aggregate back into larger blocks (Scarrow & Underwood, 2005, p. 7 in Extended Summary).

Research by the Kapiti Coast District Council in 2009 showed that 80.5 percent of rural residential properties in the Kapiti Coast District were two hectares or less in size and that only 8.4 percent of respondents used their land for commercial production. Larger properties were more likely to use land productively (Kapiti Coast District Council, 2009, pp. 24, 37, 41).

Recent research commissioned by Rodney District Council into the impact of lifestyle development on rural productivity found that between 2002 and 2008 the number of agricultural properties reduced by an average of one hundred properties (1,700 hectares) per year, half of which were larger sized dairy factory and fattening farms, and ten percent grazing land. The number of lifestyle blocks increased during the same period by 330 properties per year however some properties had a "dual agricultural/residential use" not defined or quantified by the authors (Property Economics Ltd, 2009, p. 13).

In contrast, results in Cook and Fairweather's (2005) analysis of the 2003 MAF national data, found that any assumption that lifestylers are less productive than other smallholders is incorrect. Their research showed that gross on-farm income cannot be determined by land use choices, size of smallholding or their connection with urban centers (Cook & Fairweather, 2005, p. 33).

On balance, the research on productivity shows that fragmentation of farmland results in more land being unproductive but it also results in some land being used more productively, especially where land-use changes from pastoral farming to more intensive horticultural cropping. The results from the Western Bay of Plenty and Kapiti Coast regions show that smaller sized lots (generally under two hectares) are less likely to be used productively than larger sized lots, although this result was not apparent in the national survey.

The Western Bay of Plenty study made the point that the productive capacity and purpose to which land is put, prior to fragmentation, affects land-use choices and productivity post- fragmentation (Scarrow & Underwood, 2005). So as an example,

a shift from pastoral use to mixed lifestyle and horticulture in Western Bay of Plenty has a different productive outcome to the fragmentation of orchard land currently occurring in the Tasman District. Western Bay of Plenty has been able to develop small lots into viable horticultural units. Apple growing in Tasman has ceased to be economically viable for many orchardists on small lots of lower-quality soils and at this point in time there are relatively few horticultural alternatives for this land. This point was noted earlier in relation to globalisation, that the effects of fragmentation very much depend upon the quality of the land, the economics of existing agricultural practice, and the proximity to urban areas and desirable landscapes (Primdahl & Swaffield, 2010).

Real Estate Figures

Lifestyle property sales volumes and prices provide information about ongoing demand for fragmented rural land. Throughout the 2000s the real estate market in New Zealand showed small steady increases in prices paid for properties but from mid 2003 prices paid rose significantly, peaking in April 2008. REINZ figures show national sales volumes for lifestyle properties tripled between June 2004 and June 2005. Lifestyle block sale prices similarly increased from 2002, peaking in 2007 (REINZ, 2011b). The New Zealand economy entered recession in early 2008 due to drought over the 2007/08 summer and the global financial crisis later in 2008 (The Treasury, 2010). In 2008 there was a drop in real estate sales volume due to economic downturn, slower immigration, a listings shortage, and less lifestyle property development (Bayleys Research, 2010).

However in the decade since 2002 most regions have experienced more than two hundred percent growth in the median sale price for lifestyle properties (REINZ, 2011b). REINZ figures in 2001 showed the average per hectare value of lifestyle properties across New Zealand was three times as high as the value for grazing land (The Evening Post, 2001). The Rodney District research cited above showed lifestyle blocks sold for an average of $100,000 per hectare compared with “large land intensive farms” selling for $10,000 to $30,000 per hectare (Property Economics Ltd, 2009, p. 3).

Conclusion

In a deregulated environment, New Zealand agricultural practice has shifted into more productivist mono-agricultural activity, such as intensive forestry or dairy production, or diversified farm activity. Since the 1980s there has been a net shift of land out of farming into other activities. A concurrent development has been growth in the number of smallholdings – diversified small farms of mixed productivity with a strong focus for residents on rural quality of life. These smallholdings represent the tangible result of the fragmentation of rural land and the economic upheaval of the 1980s certainly contributed to this fragmentation process. However, national figures on changes to rural land use and the number of smallholdings are inadequate in terms of accurately assessing these trends.

On balance it seems the more land is fragmented, the more productivity drops, particularly below a lot-size threshold of about two hectares, but in some instances land becomes more productive post fragmentation. This statement needs further study, as existing research results are conflicting. In addition, smallholder productivity seems very much dependent upon local primary industry trends, proximity to nearby urban centres, local real estate trends, and the nature of the land itself: how versatile is the soil, what is the existing land-use, how desirable is the landscape? A question remains though, around how much of the direction and pace of rural fragmentation arises through these broader economic and global trends versus local land-use patterns and land-use policies and mechanisms. Chapters 5 and 6 will explore this further.

Chapter 5: The Legislative Context

This chapter reviews the Town and Country Planning Acts 1953 and 1977 and the Resource Management Act 1991 (RMA), as these influence rural land use and the practice of subdivision of rural land. The chapter also considers links between the RMA framework and national policies on agricultural development and human settlement.

Pre-RMA Planning

Memon (1991) argues post-war planning revealed the dominant growth ethic of New Zealand's colonial past and a tendency to exploit the natural environment. This included limiting the extent to which public rights could impinge on private rights, supported by the mechanisms of land-use zoning. Land owners had a fairly open hand in doing what they wanted on their own land, and "non-urban uses, particularly agriculture and forestry, to a large extent, were excluded from planning control" (Memon, 1991, p. 25).

The Town and Country Planning Act 1953 (TCPA53) made it compulsory for all local authorities to develop a district scheme to manage land use through zoning and a consent hierarchy that included predominant and conditional uses, as well as specified departures, and this control covered both urban and rural areas. The latter two consents were required to be publicly notified and could be objected to by affected parties (C. L. Miller, 2011a).

The shift in the 1970s towards a more environmental consciousness was reflected in a 1973 amendment to the TCPA53 introducing 'matters of national importance' to be considered in all district schemes. The Town and Country Planning Act (1977) (TCPA77) replaced the 1953 Act and the matters of national importance were carried over into the new legislation. Under the TCPA77 the district scheme was the "dominant land use planning document" using zoning to limit adverse effects from incompatible land uses and the existing three-tiered consent categories (C. L. Miller, 2011a, p. 12). The matters of national importance in section 3(1) of the 1977 Act included:

(c) the preservation of the natural character of the coastal environment and the margins of lakes and rivers and the protection of them form unnecessary subdivision and development:
(d) the avoidance of encroachment of urban development on, and the protection of, land having a high or potential value for the production of food:
(e) the prevention of sporadic subdivision and urban development in rural areas.

Moran (1997) says that up until the 1960s there was little control over rural subdivision, fragmentation of rural land was well established and widespread by the 1970s, and the TCPA77 lagged behind what was already happening to pastoral farms in the urban periphery. Under the Counties Act (1956) "landowners could subdivide to four hectares … as of right unless some over-riding statement existed in an Operative District Planning Scheme", which few counties had (Moran, 1997, p. 10). This resulted in fairly liberal opportunities for the subdivision of rural land with concerns being raised in the late 1960s and 1970s about loss of valuable soils to smallholding development, but Moran states:

> Attempts to have the minimum subdivision limit raised were thwarted by the ambivalence of Federated Farmers … their members deplored the loss of pastoral farming land but many did not want to forgo the opportunity of subdivision and the untaxed capital gains that it brought (Moran, 1997, p. 10).

The Counties Amendment Act (1974) bought full control of subdivision under local council control. Within the district scheme, Moran argues the planning mechanisms most often used to fulfill clauses (d) and (e) in section 3(1) were "limitations on subdivision, the requirement to demonstrate that a holding would be an economic unit, and restrictions on the construction of rural dwellings" (Moran, 1997, p. 10).

The proposal document for a New Zealand Conservation Strategy in 1981 noted that one of the main threats to soil systems was non-agricultural development of highly productive soils. It cited problems with protection of valuable soils in the Bay of Plenty, around New Plymouth, Napier, Nelson, Invercargill and on the Taieri

Plains and argued the cause was "a lack of recognition of the problem by local authorities and land developers" (Nature Conservation Council Technical Sub-Committee, 1981, p. 13).

The New Zealand Conservation Strategy document represents a groundswell of environmental consciousness that arose in New Zealand throughout the 1970s and 1980s leading to increased expectations around integrated management of land use and the environment. Frustrations with the TCPA system, which was seen as impeding "economic efficiency, investment, and growth" (Bührs & Bartlett, 1993, p. 116) and the growth of New Right thinking that had a comprehensive and transformative effect on all government structure and practice from 1984, were coupled with this environmental consciousness to form an unusual alliance in the shape of the Resource Management Act (Bührs & Bartlett, 1993). Intent around the RMA reform process included a desire for reduced regulation and greater market-based resource allocation, devolved and transparent decision-making, a more pro-development approach, and a focus on effects of activities rather than the activities themselves (Bührs & Bartlett, 1993; Ericksen et al., 2003; C. L. Miller, 2011a).

The Resource Management Act 1991

The introduction of the Resource Management Act (RMA) superseded the TCPA77 along with many other related statutes (Ericksen et al., 2003; Grundy, 1997). The RMA represented an attempt to:

> Provide a vertically and horizontally integrated policy-making, planning and decision-making structure … incorporating … sustainability as the central and overarching purpose of the legislation (Grinlinton, 2002, p. 25).

Grinlinton describes the purpose of the Act as necessitating a balance between the "management function" – use and development of natural and physical resources to provide for social and economic needs etc; and the "ecology function" – the protection of natural and physical resources to meet the needs of future generations (Grinlinton, 2002, pp. 26-27). The RMA differs from previous legislation in that matters of national importance relating to protection of productive land were not included. In addition, section 3(1)(c) from the TCPA77

relating to coastal landscapes, was bought forward into section 6(a) in the RMA however 'unnecessary subdivision and development' was replaced with 'inappropriate subdivision, use and development'.[5]

Section 5(2)(c) of the RMA includes the requirement to avoid, remedy or mitigate "any adverse effects of activities on the environment". The emphasis on effects-based planning is critical in terms of land fragmentation. Ericksen et al (2003) clarify that the RMA's emphasis differed from previous legislation in its control of "adverse environmental effects" rather than "controlling the resource use activities themselves" (Ericksen et al., 2003, p. 12). The intent of this approach was to allow "maximum environmental benefit with minimum environmental regulation of the market" (Ericksen et al., 2003, p. 12).

Simon Upton was the Minister for the Environment responsible for implementation of the RMA[6]. At the 1995 New Zealand Planning Institute Conference Simon Upton gave a speech that specifically addressed the issue of rural subdivision. The speech, and the broader debate that followed, gives an indication of the departure the RMA represented from previous planning legislation, although it is important to note that Council practice, and also in fact decisions by the Environment Court, did not necessarily concur with the Minister's position. The Minister stated that environmental controls should relate to the effects of resource use, not some "fondly held prejudices about what should happen in the country" (Upton, 1995, p. 5). He then listed several "questionable" concerns in relation to the subdivision of rural land, including the need to protect productive land and high quality soils, as well as the importance of maintaining the potential to which land may be put in future (Upton, 1995, p. 4).

The Minister's concerns were based around a number of factors. First, that traditional subdivision controls made choices about how people could use their land and that this was not the mandate of planners. Second, he considered

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[5] The High Court in *NZ Rail Limited v Marlborough District Council* [1994] NZRMA 70 concluded that 'inappropriate' has a broader meaning and that all the matters of national importance have to be taken into account when meeting the overall objective of sustainable management.

[6] Sir Geoffrey Palmer was the original architect of the legislation.

minimum lot sizes and economic units "inflexible" tools that "led to perverse and unintended outcomes" such as: 1) failure to deal with cumulative effects like discharges to ground water or effects on rural amenity; and, 2) distortions such as the development of pretend economic units in order to obtain building consent (Upton, 1995, p. 6).

The Minister clarified that unlike the 1977 Act, subdivision under the RMA is controlled in order to achieve sustainable management, with an emphasis on "the versatility of soils to retain choice for future generations" (Upton, 1995, p. 9). He argued further, that "retaining access to local food supplies is not something that is or should be planned for", that the market could be relied upon to determine what purpose productive soils should be put to, and that councils or the [then] Planning Tribunal do not have a role in determining efficiency of land use (Upton, 1995, p. 9).

Miller (2011b) clarifies that under the RMA, no one type of land use is privileged over another, instead the market is relied on to determine land use and the RMA focuses on the effects of that land use. Bührs and Bartlett (1993) argue that an effects-based focus forces a reactive planning approach because "activities can be controlled only with respect to adverse or detrimental effects" (Bührs & Bartlett, 1993, p. 130). This makes it harder to anticipate and respond to the most environmentally significant effects – "threshold and cumulative effects" (Bührs & Bartlett, 1993, p. 130 footnote text). And further, that the emphasis on effects takes attention away from the sources of those effects (Bührs & Bartlett, 1993, p. 149). The PCE agrees with the reactive nature of the RMA's effects-based focus and adds, in relation to peri-urban areas: "the key feature of the environmental planning and management of peri-urban areas seems to be conflict and tension. There is very little consensus about the future outcome for these areas" (Parliamentary Commissioner for the Environment, 2001, p. 60). This tension arises in three main ways: 1) lack of agreement over the values of peri-urban areas; 2) "different sets of beliefs about property rights" in relation to land-use; and 3) lack of agreement about "the outcomes of the planning process, in particular the protection versus development debate" (Parliamentary Commissioner for the Environment, 2001, p. 60). Swaffield (2006) confirms that the liberalised planning regime under the RMA

"allowed expansion at the urban edge" particularly through "extensive rural subdivision" (Swaffield & Primdahl, 2006). The case law relating to rural subdivision in Tasman District and outlined in Chapter 8 highlights these tensions and illustrates problems of cumulative effects of rural fragmentation.

Buhrs & Bartlett see a "policy vacuum" where there is a reliance on market-based and devolved decision-making (Bührs & Bartlett, 1993, p. 105). The absence of guidance by central government is a relatively common refrain (Devine, 2005; Ericksen et al., 2003; Klein, 2002) with criticism directed at the Ministry for the Environment for that body's reluctance to fulfill its potential under Section 5 of the RMA. New Zealand suffers from a gap in policy around human settlement, a gap that manifests in both rural and urban settings and impacts on rural land fragmentation through the dominance of market forces in determining the location and development of fragmented rural land. There is also a disconnect between central government's objectives for agricultural development, which is primarily focussed on the economic opportunities to be gained through primary production, and other, sometimes competing, non-productivist uses of rural land such as rural residential living or land conservation, or sustainability objectives contained in Part 2 of the RMA. These competing uses reflect Holmes (2006) multifunctionality, that is rural land-use goals of "production (agricultural overcapacity), consumption (the emergence of market-driven amenity uses) and protection (societal values concerned with sustainability and preservation goals)" (Holmes, 2006, p. 143). Primdahl and Swaffield's comparative study looked at the impacts of globalisation on agricultural landscapes and the capacity of governments to "integrate the land-use planning system with agricultural and agri-environmental policies"(Primdahl & Swaffield, 2010, p. 263). In all the countries they researched[7], land-use planning and agricultural / environmental policies are considered under "separate institutional frameworks" (Primdahl & Swaffield, 2010, p. 263).

Ericksen et al (2003) argue that the disjunct between the central government policy of effects-based planning and the Act's purpose left the way open for many

[7] Their research considered agricultural systems in Denmark, Malaysia, Argentina, France, Switzerland, New Zealand, Portugal, Estonia, United States, the Netherlands, and Japan.

local authorities to continue using activities-based planning. Certainly the use of zoning mechanisms carried across into RMA planning (Ericksen et al., 2003, p. 49) although Miller (2011b) argues most plans now contain a mix of approaches, in part because of the high level of complexity of effects-based plans but also because of the certainty generated by use of existing mechanisms.

Its a moot point, the extent to which local authorities can be realistically expected to manage the peri-urban phenomenon within the liberalised RMA planning regime, under hands-off central government, and facing the full effects of the marketability of peri-urban land. The Environment Court stated in *Burnett v TDC* [1995] NZRMA 280 that "the pressure from those seeking a more expansive rural lifestyle is relentless, and this Council [Tasman] like others finds itself exposed to the criticism that it is inconsistent in the administration of its planning instruments" (*Burnett v TDC* [1995] NZRMA 280). The Court found in favour of TDC's decision to decline a subdivision application of 5.5 hectares of low-productive land and stated that sections 5, 6 and 7 of the Act give a clear mandate to local authorities to limit subdivision of rural land, regardless of its productive qualities. The Court outlined three primary functions of rural land: 1) "to provide the life sustaining produce of which it is capable of yielding"; 2) "to provide a habitat for all those non-human life forms which choose to inhabit it" and 3) "the less tangible, but no less real contribution which it makes in its virgin state to the quality of life" (*Burnett v TDC* [1995] NZRMA 280).

Conclusion

The shift into the RMA framework presented challenges in terms of the protection of productive soils and the broader use of rural land because of the changes made to the matters of national importance, challenges around responding to cumulative effects, and ideology around market-based land-use decisions. District Councils write plans under the RMA that include control over the subdivision of rural land, and in the absence of any central government guidance Councils are free to manage rural subdivision in any way they see fit, according to local priorities and politics, and subject only to the appeals process. Post-RMA there has been a very real opportunity for the market to be the prime determinant of land-use decisions,

in the absence of substantive central policy on human settlement, and little cohesive linking between rural land use and agricultural and environmental policy. Arguably these factors have increased levels of rural land fragmentation although it is clear that subdivision of rural land into smaller allotments was occurring prior to the introduction of the RMA. Planning mechanisms and priorities in place under the TCPA framework continue to be used to manage subdivision of rural land, this is particularly the case in Tasman District and is discussed further in the analysis of plans in Chapter 7.

Chapter 6: The Tasman Context

The focus of this chapter is to provide historical context on the Tasman District in order to determine more specific local drivers of land fragmentation. The chapter reviews settlement patterns and local agricultural land use arising from the social and economic trends described earlier in this study. This includes a focus on pipfruit as an example of an important local industry that is moving through both productivist and post-productivist phases. The chapter reviews the current demographic and economic profile of the District and concludes with a description of the influence of local real estate trends on land use and fragmentation.

History of the Tasman District

The growth of cultivated gardening by Māori began around the fifteenth century and the extent of "made soils" suggest a long history of gardening in the Tasman region (Belich, 1996, p. 72). Evidence of extensive agricultural activity is found in a four hundred hectare area of land on a highly fertile terrace along the edge of the Waimea River (Trotter & McCulloch, 1989). Gardens were also established on other sites in the region, farmers in Waimea still find soil fertilized by "fine gravel, ash and charcoal" and the area remains more productive than neighbouring soils (Newport, 1991, p. 8; Tasman District Council, 2011b; Te Ara, 2011).

The establishment of Nelson as a New Zealand Company settlement was based on a plan to develop 221,100 acres (90,000 hectares) into 1100 paid allotments with another 110 for Maori. Each paying colonist would own a town acre, fifty acres of suburban farmland, and 150 acres of rural land (McAloon, 1997, pp. 10-11). Much of the region is mountainous, was heavily forested, with soil of mixed fertility and there was not enough suitable land to meet the New Zealand Company's commitments (McAloon, 1997).

The region's landforms influenced the nature of land ownership and crops planted, with few large pastoral holdings and an emphasis on "small-scale" and "subsistence" farming and landholding (McAloon, 1997, p. 48). Motueka land lots, for example, were typically subdivided into ten to twelve acre blocks and there

were higher levels of land ownership compared to other districts (McAloon, 1997, p. 52). In 1874, in the electorates of Suburbs (between Richmond and Nelson) and Motueka, every second male owned land and in Waimea and Collingwood every third male owned land. McAloon compares these figures with other sheep holding districts where one in nine males owned land and concludes that "this wide distribution of land made Nelson a rarity, approached only by some districts around Christchurch" (McAloon, 1997, p. 80).

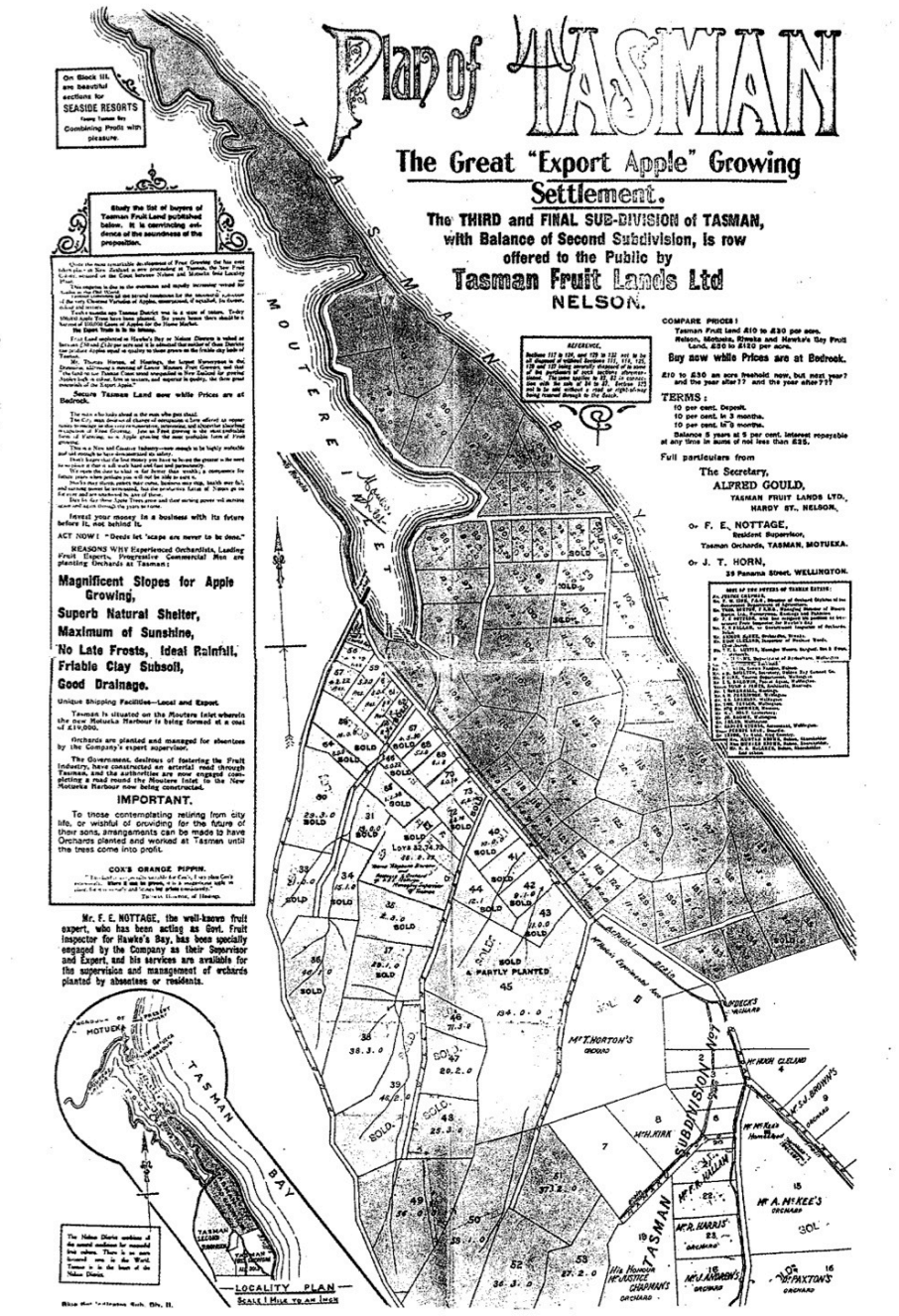
Fruitgrowing and Farming

It was fruit growing that really changed land use in the Tasman Bay area. New Zealand's export pipfruit industry started in the Moutere Hills District[1] in 1908. Orchards were planted on clay soils previously seen as marginal for agricultural production (Mackay, 2008). In 1908 the first experimental shipment of apples to England occurred. In 1910, led by Arthur McKee, a local syndicate purchased and developed 2600 acres of Moutere Hills land that they marketed as "Tasman Fruitlands" and subdivided into orchards between two and a half and thirty acres in size (Mackay, 2008; McAloon, 1997, p. 135). Other syndicates marketed land in other parts of the region. Figure 3 shows a map of Fruitlands subdivisions. Comparison with a contemporary map of this location shows the same allotment boundaries with some additional fragmentation. Department of Agriculture (DoA) data shows the average orchard size in Tasman in 1956 was 13 acres (5 ha) (DoA, 1972 in Gaw, 2003, p. 17).

[1] Now part of the Waimea Ward.

Figure 3: "Tasman Fruitlands" subdivisions

O: A taste of Tasman



A timeworn plan of Tasman, advertising Arthur McKee's first three 'Tasman Fruit Lands Ltd.' subdivisions for orchards. He later developed a fourth subdivision. (Courtesty of the Rush family)

(Mackay, 2008, p. 26)

The emphasis on orcharding had two significant unintended consequences for the region. The first concerned the planting of extensive areas of radiata pine for use as shelterbelts and for milled timber for packing cases. Many of the orchards pulled out in the post war years were converted to pine forestry, a more successful crop on relatively marginal soils (Mackay, 2008). Forests planted in the Depression matured in the 1960s, whole log exports commenced in 1959, and two major timber processing plants were opened in 1986 (McAloon, 1997, pp. 209, 210). State restructuring of the economy in the 1980s also contributed to a shift from sheep farming to forestry. A century on from the first radiata planting, production forestry is the second biggest earner in the region and in 2002 utilised 90,000 hectares of Tasman land (John Cook and Associates, 2010, p. 13; Statistics New Zealand, 2002b).

The second unintended consequence arose through increased use of horticultural chemicals. Despite the marginal economies of orcharding in the early days, the McKee family prospered through "speculative" land development and the 1931 establishment of the Fruitgrowers' Chemical Company (FCC) Plant in Mapua (McAloon, 1997, p. 159). With state support, the company produced a range of pesticides, which, alongside the expertise and research work of the Cawthron Institute in Nelson into fruitgrowing in particular, significantly enhanced the capacity of Tasman farmers to successfully grow crops.

Throughout the first half of the twentieth century pipfruit was a labile industry. In the good years, increased acreage was planted, in the bad years, orchards were pulled out and many orcharding families walked off the land. Difficulties in the industry were experienced during both world wars, the Depression and during the 1951 waterfront strike (Mackay, 2008). "In the 'boom years' between 1911 and 1916 more than 12,000 acres of pipfruit were planted, 50 years later only 4350 acres remained" (Mackay, 2008, p. 104).

Figure 4: Farming and fruitgrowing on the Waimea Plain 1936

(New Zealand Railways Magazine, 1936)

The New Zealand Apple and Pear Marketing Board (NZAPMB) was a state-regulated co-operative operated by apple growers, created under The New Zealand Apple and Pear Marketing Act of 1948. The NZAPMB functioned under a "single desk" structure to manage export marketing of fresh fruit through one channel (McKenna, 2000, p. 369). The Board "nurtured large numbers of independent growers" and insulated them from the volatility of the market (Hayward & Le Heron, 2002, p. 20). In 1949 New Zealand exported half a million cartons of apples and pears around the world and in 1991, with the launch of the ENZA brand, New Zealand exported 14 million cartons (ENZA, 2011).

The production of hops had also been significant but by the 1950s the industry was struggling due to pressure by New Zealand's two large beer breweries (McAloon, 1997). The industry has experienced some resurgence since the 1980s due to the growth of microbreweries and the internationally recognised quality of Nelson hops.

Tobacco was planted in Tasman in 1911 and by 1950 it was the most significant horticultural industry in the Nelson region both in terms of land acreage planted and revenue generated (O'Shea, 1997, pp. 28, 89, 103).

> Most farmers in the district were small holders making a bare living from a variety of crops including hops, pip-fruit, berries and melons … [but] tobacco was realising £60 per acre … the attraction of a cash crop like tobacco was obvious in an area where holdings were so small 'you had to cultivate your back yard to make a living' (O'Shea, 1997, pp. 26-27).

In the 1960s, the region combined traditional small-scale pastoral farming with mixed, often specialised horticulture, which shifted, from the mid 1970s, away from tobacco and hops growing, into grape and kiwifruit growing, along with increased conversion to pine forestry in the region's hill country (McAloon, 1997). Tobacco production peaked in 1963 but from 1965 to the 1980s growers were increasingly subjected to market pressure (O'Shea, 1997, p. 138). In 1986 the government completely deregulated the tobacco industry with growers paid grants to exit the industry and produce other crops:

> In many cases the size of tobacco farms made them uneconomic for other uses. A number were sold as hobby units, thus removing the prospect of more economic use of the land, a prime reason for restructuring in the first place (O'Shea, 1997, p. 195).

As Motueka farmers left the industry, some chose to diversify into other horticultural activities, others sold their farm and the land was used for other non-agricultural purposes. Some diversification had already been occurring in the region but "there remained a significant amount of land for which no alternative use had yet been found" (O'Shea, 1997, p. 205).

In 1993 the domestic pipfruit market was deregulated so that any overseas fruit could be sold in New Zealand. New Zealand pipfruit remained highly competitive in overseas markets based on "an organisational structure promoting single channel selling of export fresh fruit" (McKenna, 2000, p. 370). In 2000, the World Apple Report ranked New Zealand as the world's most competitive apple exporter,

at a time when 85% of orchards in New Zealand operated as family businesses (cited in McKenna, 2000, p. 369). In 1998, the government announced the de-regulation of producer boards, to much opposition, particularly from growers in the Nelson region, although some growers supported the move. Deregulation occurred in 2001 ceasing ENZA's role as the single desk seller. By 2002 there were 90 exporters, with growers separated from suppliers and a shift in emphasis away from returns to growers to the development of global brands (Hayward & Le Heron, 2002; McKenna, 2000; Wilson, 2005).

Changes in forestry also resulted in shifts in land use. In 1997 forest fires destroyed many hectares of radiata plantation in the Waimea Ward. The forestry owners chose not to replant the more valuable land, seeking instead to subdivide the land for rural residential development (Mackay, 2008, p. 109).

Tasman District Today

The population of the Tasman District in the 2006 census was 44,625 people with most of the urban population based in Richmond (population 11,712). The regional population grew 7.9 percent between the 2001 and 2006 census with this rate expected to slow over the next two decades (Tasman District Council, 2011a). Seven percent of the Tasman population identify as Māori (compared with 14% nationally) and 81 percent were born in New Zealand (compared with 73% nationally). Relative to the New Zealand average, Tasman District has very few immigrants from the Pacific Islands and Asia, and a slightly higher proportion of immigrants from the UK & Ireland (seven percent of the Tasman population) (Statistics New Zealand, 2006). Numbers of permanent and long-term arrivals[1] into Nelson Tasman have increased.

Tasman District has a high proportion of people living in rural areas with moderate urban Influence in terms of Statistics NZ categories of ruralness, with a population density of 11.7 people per square kilometre in those areas (the average population density of rural areas with high urban influence is 12.9 people per

[1] Both internal and overseas migration.

km^2). One in six people in Tasman live in a rural area but maintain strong connections with nearby urban centres, particularly for work or schooling. Tasman District has above average numbers of new residential units per thousand households and, is projected to be one of the faster growing areas in New Zealand (Statistics New Zealand, 2004, pp. 96, 112). Median incomes and GDP per capita for the region are below the national medians (John Cook and Associates, 2010, p. 10).

Economy

As shown in Table 7, horticulture, aquaculture, forestry, pastoral farming and tourism are the highest earning regional industries responsible for 31 percent of combined Nelson / Tasman GDP (John Cook and Associates, 2010, p. 1).

Table 7: Relative performance of Nelson Tasman industries 2009

CATEGORY	HORTICULTURE	FORESTRY	SEAFOOD	PASTORAL	TOURISM
Value-added GDP $m	$351m	$339m	$275m	$128m	$128m
Employment (FTEs)	4,635	1,955	2,720	1,795	2,190
No. Business Units	845	570	260	975	545

(John Cook and Associates, 2010, p. 13)

The Regional Economic Development Strategy (REDS) states that relative to other provincial areas, the Nelson Tasman region is unusual because it is "economically diverse" and because "primary industries account for a larger share of economic activity" (John Cook and Associates, 2010, p. 2). Table 8 below shows farm types in Tasman District.

Nelson/Tasman has a high incidence of small and medium enterprises relative to other regions in New Zealand. This is due to "the number of small-scale operators, often family owned and operated entities, which characterize the pastoral, horticulture and tourism sectors of the region" (John Cook and Associates, 2010, p. 19). Statistics NZ figures confirm this pattern. Tasman District has significantly more farms in the five to 39 hectare size than the New Zealand average and significantly fewer farms in the 100 to 599 hectare size than the New Zealand average (Statistics New Zealand, 2002a).

Table 8: Farm types in Tasman 2002

LAND USE	NUMBER OF FARMS	AREA IN HECTARES
Tussock etc for grazing	100	10,415
Grassland	1,200	102,361
Arable crop land	150	1,859
Horticulture	680	6,940
Planted production forest	560	90,914
Mature native bush	310	21,561
Native scrub / regenerating native bush	440	27,363
Other land	1,100	15,606
Total[2]	1,900	277,019

(Statistics New Zealand, 2002b)

NZIER research in 2005 examined growth pressures that were effecting regional economies and impeding regional strategic planning. The study noted that Tasman's urban areas are predominantly "situated on productive plains" and that a key driver of growth in Tasman was demand for lifestyle properties, a trend that was having a particular effect on the pipfruit industry, particularly in coastal areas (NZIER, 2005, p. 32). The report recommended central government provide support to protect productive land in order to safeguard primary industries and to maintain the rural expectations and experience of tourists. The report referred to a collaborative project with the NZ Centre for Ecological Economics Research Group to look at developing "a model for addressing pressures on ecological and resource services" in the Tasman region however no evidence can be found of this project proceeding (NZIER, 2005, p. 32). The most significant imminent economic developments in the region are likely to be the impending Treaty settlements with Te Tau Ihu iwi.

Horticultural Industries

In 2007 the total area of fruit planted in the Nelson Tasman region was 5281 hectares with apples being the main category at 2438 hectares (Plant & Food

[2] Many farms have mixed land use therefore the total number of farms is less than the sum of the number of farms by land use category.

Research, 2009, p. 20). The value of New Zealand's export apple trade has risen from $19.3 million in 1975 to $387 million in 2005 (Plant & Food Research, 2009, pp. 2, 4-5). New Zealand apple producers have traditionally had an opportunity to provide fresh fruit in the Northern Hemisphere off-season although this advantage has been eroded through competition with Chile and because cool storage technology has extended the Northern Hemisphere season (McKenna & Murray, 2002; Wilson, 2005).

Despite the maintenance of ongoing export revenues, the apple industry has experienced a significant level of disruption and change in the last fifteen years (see Table 9 below). The effects of globalisation on the apple industry in New Zealand have seen apple growing, marketing, retailing, and quality control evolve to respond to the requirements of large offshore retail chains. Supermarkets in the United Kingdom have strong preferences for reliable quality pipfruit supply, ongoing development of new products and sales support, and systems that allow "traceability back to individual orchards to assure quality and 'environmental' standards" (McKenna, Roche, & Le Heron, 1998, p. 397). Table 9 shows orchardists have become much more efficient (producing increased yield per hectare) but there has been a significant decrease in hectares planted and the numbers of growers has decreased by 66% since 1999 (Plant & Food Research, 2009, pp. 8-9).

Table 9: Apple statistics 2009

YEAR ENDING 30 JUNE	1999	2009
Apples produced ('ooo tons)	547	431
Fresh apples exported ('ooo tons)	309	307
Yield (tons/ha)	37.6	48.0
Area planted (ha)	14,541	8988
Growers (no.)	1,500	518
Packhouses (no.)	150	76

(Plant & Food Research, 2009, p. 8)

The Hawkes Bay and Tasman regions are home to the bulk of apple orchards in New Zealand. The total New Zealand hectarage in 2007 was 9,247 hectares: Nelson/Tasman has about a quarter of this area, compared to 56 percent in the Hawkes Bay (Plant & Food Research, 2009, p. 20). The first two years post deregulation were a boom time for orchardists but 2004 saw a drop in export

returns (Wilson, 2005). MAF figures show four of the last five years have resulted in trading losses for orchardists with many growers opting to juice their crops to reduce costs (Cowdrey & Pauline, 2011).

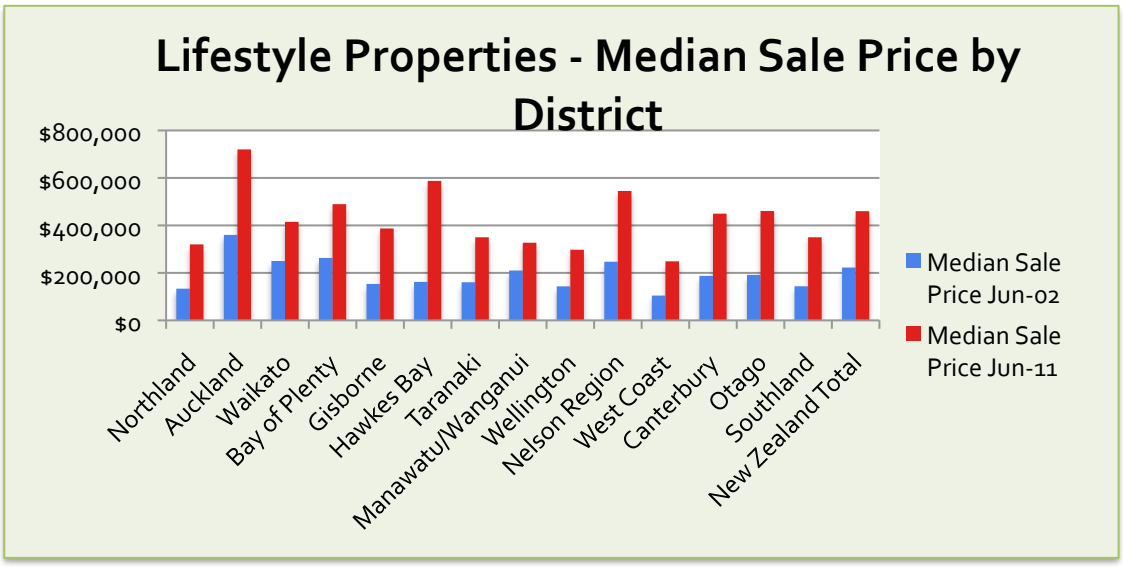
The Nelson/Tasman Regional Economic Development Strategy states:

> With the advent of deregulation (2001) and poor returns in the pipfruit industry, the options that were open to smaller properties included pulling out uneconomic commodity apple varieties, using the land for something completely different, such as grape growing, or selling the property for lifestyle residential blocks. Much of this rationalisation has been completed and consolidation of horticultural blocks has occurred (John Cook and Associates, 2010, p. 35).

Real Estate

Between December 1992 and October 2011 median real estate prices across the top of the South Island rose by 430 percent for sections and 310 percent for residential housing with the biggest jump in 2003/04 and flat prices from 2009 (REINZ, 2011a). Lifestyle property sale prices in the region are considerably higher than most other parts of New Zealand (see Figure 5). Between August 2009 and 2011, Tasman lifestyle block prices continued to increase, while the prices in most other regions remained flat or dropped in value (REINZ, 2011b).

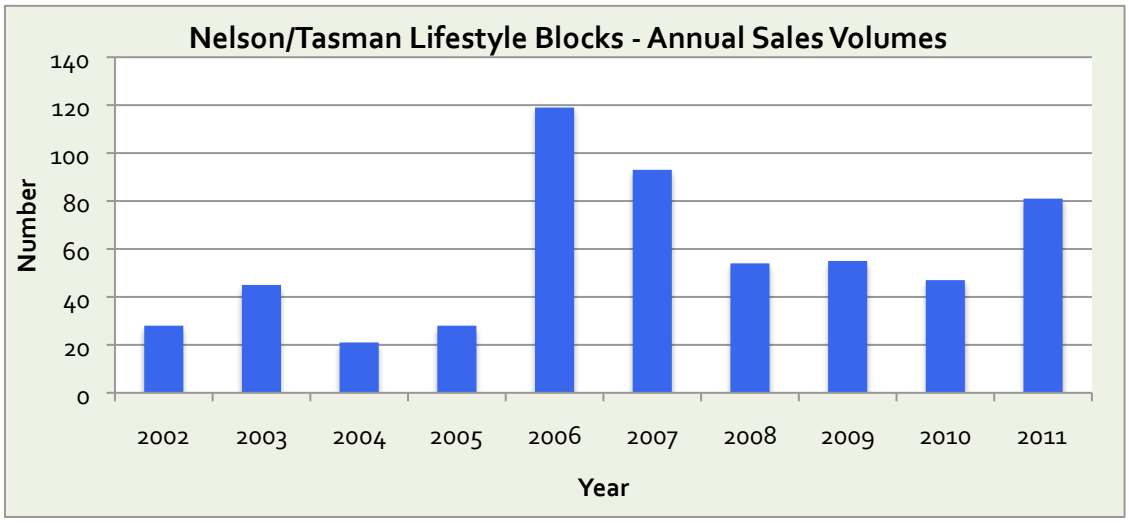
Figure 5: Median sale price of lifestyle properties[3]



(REINZ, 2011b)

Numbers of sales of Nelson/Tasman lifestyle properties peaked in 2006, slightly later than the national peak but sales volumes dropped in 2008, in line with recessionary activity (see Figure 6).

Figure 6: Lifestyle properties – annual sales



(REINZ, 2011b)

[3] The data in Figure 5 includes Nelson City, Tasman District, and Marlborough District so the numbers are not truly reflective of Tasman District.

Nelson/Tasman real estate interests have an ongoing profile in the United Kingdom, visiting London and one northern U.K. city annually to promote the region to potential emigrants (migrate2nelson, 2011). According to the agent who undertakes this promotion, interest in the region by potential U.K. emigrants is generally high but fluctuates depending on external factors including access to jobs and a visa, and the exchange rate. He estimates about forty percent of properties he sells are to migrants, primarily from the United Kingdom. The attraction of rural living in Tasman for the migrants he supports in part lies in the availability of rural living opportunities and the proximity of rural land to work locations. The agent stated U.K. migrants generally prefer to build new dwellings rather than purchase existing housing stock, with many migrants also favouring the lifestyle market (Farquhar, 2011).

Conclusion

Analysis of the history of land use in Tasman District reveals a number of interesting characteristics that are significant in terms of rural land fragmentation. The region has pockets of highly fertile land but most of the region has poor soils. Colonists and later farmers were forced into a less expansive model of farming due to a shortage of land for large-scale pastoral holdings. In general small farming succeeded but was not necessarily prosperous. Early farmers fragmented much of the more arable land and that pattern of land use has continued to recent times with higher numbers of small-scale family-owned farms than in other regions. Fruit growing was the most dynamic of horticultural industries, from the start being subject to external economic pressures but it remains a significant industry in the region. Other crops did not fare as well, succumbing to monopolistic markets and government deregulation. Forestry has experienced steady growth.

The region is not particularly populous but is growing. It is predominantly rural but many rural dwellers maintain close connections with urban centres, particularly through work opportunities. The region is attractive to migrants, particularly those from the U.K. Primary industry continues to be the primary driver of economic activity in the region but in recent times, there is an increase in the development and sale of fragmented marginal farmland, particularly pipfruit

land, for rural residential living. The relationship between the needs of primary industry and the marketability of the region in terms of lifestyle opportunities continues to generate tension around the best use to which rural land should be put and this is explored further in the following chapter.

Chapter 7: Schemes and Plans

This chapter reviews historical planning schemes focusing on rural land fragmentation as it appears in those documents, and related mechanisms such as economic farm units, zoning, minimum lot sizes, and rules around residences that were used by Councils at the time to manage subdivision of rural land. Analysis of the use of these mechanisms provides context and insight into earlier attempts to manage fragmentation. The history of the district very much shapes contemporary land use practices and the management of fragmentation historically has a bearing on current planning practice. The transition into the Tasman Resource Management Plan and Tasman Regional Policy Statement is outlined and those documents are similarly reviewed in terms of district planning's response to rural land fragmentation.

Historic Planning Schemes

Rural Land Fragmentation

Rural land fragmentation was discussed in District Schemes in three of the four regions, Golden Bay being the exception. It was first mentioned in schemes dated 1980 in Waimea and Richmond, and 1982 in Motueka. Waimea's 1980 review stated: "the land has been fragmented into allotments of such a size that 'economic' farming is not possible except with some highly specialized land uses" (Waimea County Council, 1980, p. 13 explanatory statements). Richmond's 1982 Review contained explanatory statements of similar sentiment. Waimea County Council's response to fragmentation was based around encouraging the amalgamation of existing allotments into larger titles and limiting subdivision below a minimum lot size. The Council tempered this somewhat by allowing farmers to subdivide marginal land off for forestry use.

Motueka's 1982 Review included an objective to prevent fragmentation of rural land into lots that were uneconomic or unsuitable for farming (Gabites Porter & Partners, 1982, p. 18). The review cautioned against speculative residential development affecting land productivity, which the Council managed through

subdivision being a conditional use, and ordinance control of the type and use of buildings and land.

Soils and Land Productivity

Loss of land productivity[4] was seen as the key result of fragmentation in the later Waimea, Motueka and Richmond schemes. The 1989 Golden Bay scheme noted the region had no Class I or II soil with nine percent of its soils in Class III and IV and over fifty percent in the least productive Class VIII category. Rural 1 land in Golden Bay was predominantly Class III and IV soils. Richmond and Motueka both had high levels of Class I to III soils and only one rural zone. Richmond allowed some rural residential development on less productive soils. Waimea's soil profile was mixed and rural zones were based on land contour and LUC classes. Waimea had a "very small area of Class I, II and III soils" and these soils were generally classed in the Rural 1 category (Waimea County Council, 1984, pp. 12, 24).

Minimum Lot Sizes

Minimum lot sizes were used to limit fragmentation and sizes varied depending upon the scheme, district, and zone, whether the use was predominant or conditional, and whether it applied to subdivision or dwelling houses. In general, productive Rural A land allowed smaller minimum lot sizes than less productive Rural B land. There was no evidence in rural zones of decreasing minimum lot sizes over time, in fact the opposite was true, with figures from the mid 1960s showing a general trend towards larger minimum lot sizes (see Table 10)[5].

The minimum lot sizes in Waimea in the 1960s confirmed what is evident in the historical analysis of the district, that much of the land in the District was already highly fragmented. The increases in minimum lot sizes over time were part of a strategy to reverse the trend of fragmentation, although there was no information available on how much individual applications departed from these rules.

[4] Determined through the use of the land use capability (LUC) classification system.
[5] Where one acre converts to about 0.4 of a hectare.

Table 10: Changes in minimum lot sizes

Richmond (one rural zone)	**1968** = 10 acres	**1984** = 10 hectares (25 ac)
Waimea	**Pre 1965** = 5 acres **1970** **Rural A** = 10 acres **Rural B** = 50 acres	**1984** **Rural A (Class I-III)** • Undeveloped land = 10 hectares (25 ac) • Developed land = 5 hectares (12 ac) • Irrigated land = 4.5 hectares (11 ac) **Rural B (Class IV-VI)** = 15 hectares (37 ac) **Rural C (Class VII-IX)** = 25 hectares (62 ac)

Economic Farming Units

In the 1970s and early 1980s Councils allowed fragmentation of land below minimum lot size where landowners could demonstrate that their land was an economic farming unit (EFU). The test for EFUs was commonly used throughout the four districts to restrict subdivision and to allow focused agricultural use of small lots. An EFU was defined as a:

> Self-contained farm which when operated by a farmer of average ability is capable of producing, on a continuing basis, sufficient net income to support an average sized family at a reasonable standard of living without supplementary income from other sources (Porter & Martin, 1982, p. n.p.).

This is a definition from a Richmond review but is similar to other definitions used. Farmers were required to prove the economic viability of the intended lot: Motueka farmers, for example, had to demonstrate to Council "an appraisal of the suitability of each allotment to operate as an economic farming unit based on the productivity of the soil, water supply and other relevant factors" (Gabites Porter & Partners, 1982, p. 44). Golden Bay's 1979 scheme required applicants to submit a suitability report based on soil, climate, contour, water availability, and a "Management Plan" to justify subdivision in the Rural A Zone. The Golden Bay scheme also cautioned against "speculative division for horticultural purposes" but the region certainly did not have the same issue with rural land fragmentation as was apparent in Waimea, (Golden Bay County Council, 1979, p. 21). The schemes were silent regarding ongoing use of the land by subsequent landowners nor was

there a great deal of clarity around whether farmers were bound to a particular land use once approved as an EFU.

EFUs were introduced in Waimea in 1973, replacing the minimum ten- and fifty-acre rules. EFUs were in use in 1979 in Golden Bay, and in 1982 in Motueka and Richmond, but by 1980 they had been phased out of use in Waimea District. By the late 1980s all districts had ceased using them, to be replaced by traditional methods of zones, minimum lot sizes and other ordinances. Waimea's 1980 review outlined difficulties around the use of EFUs:

> Over recent years the use of the term 'economic unit' has been battered into non-recognition. Because of the diversity of land usage, fragmentation of land and ownership and equitable climate, it is no longer applicable in this district to use the term as a basic criteria for land usage (Waimea County Council, 1980, p. 21).

The Review goes on to say:

> Better land utilisation and a more propitious use of the land resource will be achieved if a more flexible approach to small scale farming is introduced … the reliance upon receiving a full income from the land should not necessarily be the sole criteria for judging the desirability or otherwise for having a dwelling on rural land (Waimea County Council, 1980, p. 21).

The usefulness of EFUs broke down around the full-time income requirement either because farmers were struggling to earn a full-time living off what were often relatively small blocks of land, or more people were choosing to be part-time farmers. The use of EFUs needs to be seen against the background of obligations arising out of the TCPA77 to manage productive soils and prevent sporadic rural subdivision, and the turbulence of the 1970s and 1980s that threw the rural economy into disarray. The reference to "equitable climate" above signals the growth in numbers of part-time farmers (often retirees) making what would now be called rural 'lifestyle' choices, based in part on the region's good climate. Johnson's (2004) research in Chapter 2 showed that the changing rural economy saw many rural farmers divesting themselves of marginal land, often for

residential use, and increasingly needing to obtain off-farm income. Presumably also the requirement for landowners to demonstrate their EFU was onerous, and Councils are likely to have struggled to monitor and enforce ongoing land use and development as outlined in the consent application.

Dwelling Houses

The link between dwellings and rural fragmentation is a key one. The basic premise is that small lots that don't have a dwelling can be amalgamated back into larger titles whereas small lots with dwellings almost always remain as small lots or are further subdivided. All the schemes reviewed considered the issue of dwellings on rural land although the emphasis differed. Councils reserved a significant amount of control and over time the rules around dwellings became more complex. Ordinances focused on additional or replacement dwelling houses, dwellings for retiring farmers, granny flats, accommodation for farm workers, dwelling houses on lots smaller than the minimum lot size, even communes. For example, Waimea's 1984 scheme permitted, in the Rural 1 zone, a dwelling house and accessory building and additional dwellings for family or workers on land larger than the minimum lot size. Any variation from this was a conditional use. Golden Bay's 1989 scheme permitted one dwelling and one granny flat per title down to the minimum lot size of ten hectares in the Rural 1 zone. One additional dwelling was a controlled activity with a minimum lot size of twenty hectares. Dwellings that did not meet these criteria were conditional uses. In general, Golden Bay placed increased restrictions on the location of buildings and dwelling houses the closer the land was to the coast.

The Motueka Review made an interesting statement clarifying the relation between work location and residence:

> A house occupied by a person whose employment is in a town or city constitutes a residential use no matter where that person is living. If that person lives in the country it is a residential or urban use. Such a use in the rural area would normally be contrary to Section 3(1) of the Act. The house of a farmer is a rural use ancillary to faming and is permitted as of right (Gabites Porter & Partners, 1982, p. 19).

The statement is very similar in analysis to the distinction made by Statistics NZ differentiating categories of rural living based on comparing a person's residence with their workplace and suggests demand for rural lots for residential purposes was already a significant factor in the borough in 1982.

Waimea was already in a substantively fragmented state and the 1980 review commented that there had been little demand for new rural subdivision since EFUs were introduced in 1973. The Review added that "present controls … are designed to keep subdivided land in as large a unit as possible in the hope that the land would be better farmed" but that the problem was "obtaining a building permit to erect a dwelling on an existing smallholding" (Waimea County Council, 1980, p. 39). The review argued for allowing dwelling houses so that "present day farming trends" might make "better utilisation" of existing small allotments (Waimea County Council, 1980, p. 39). That is, farmers wanted to own, live on, and work the same piece of land. By 1984 this had been resolved by allowing dwelling houses (one unit per title but also including granny flats, workers accommodation, replacement homes, retirement homes) on land in all rural zones as a predominant use. Waimea County Council were in a double bind – they needed to encourage use of existing small lots and support a rural economy in a state of upheaval, at the same time as manage ongoing risk of fragmentation and loss of productive soils. The response was reduced control over dwellings on rural land than previously, and compared to other schemes of the time. Lots that were too small to farm could be used for other purposes and further subdivision would be allowed to support horticulture. The 1984 Review had as a priority the "retention of and increasing rural population" and clearly the capacity to live on and farm existing lots was considered central to ongoing prosperity in the district.

Changing Agriculture

The changing state of agriculture was reflected in later schemes. Richmond's 1982 Review noted the need to retain holdings of a sufficient size to "ensure that a diverse range of crops can be grown, so that changing market conditions can be responded to" (Porter & Martin, 1982, p. 26). Golden Bay's 1989 review stated that local farmers face "the same economic and development problems as the industry

faces nationally" and "the pattern of rural land uses is influenced by … market forces and Government fiscal policies", resulting in a growth in "intensive agriculture, horticulture and intensive or diversified livestock farming" (Davie Lovell-Smith and Partners Ltd, 1989, p. 28). Waimea's 1984 scheme argued "continued diversification in the agricultural / horticultural field is an essential part of the district's economic growth" supported by improved access to irrigation water (Waimea County Council, 1984, p. 12). Waimea and Motueka farmers in particular had, by the 1980s, experienced significant changes through the earlier downturn in the hops industry and the deregulation of tobacco in the mid 1980s.

Golden Bay's 1989 review revealed signs of a change in language and market pressures on rural land use and described the role of Council in responding to that pressure. The review argued that:

> Subdivision potential depends on use potential and the use potential for land will sooner or later be realised through the process of market forces. However it is Council's responsibility to enforce restrictions which are regarded as being in the public interest, but are not taken into account in the working of the market (Davie Lovell-Smith and Partners Ltd, 1989, p. 47).

Rural Residential Zones

Motueka introduced a rural residential zone probably in 1986[6] with a minimum lot size of 4000m2 and "limited to single dwellings, home occupations and hobby farming so as to preserve the rural environment" (Beca Carter Hollings & Ferner Ltd, 1988, p. 53). Rural residential housing was located on poor soils but otherwise, few restrictions were placed on the rural residential zone because of the low density of development and Council assumptions that a "reasonable standard of amenity" would be easy to maintain (Beca Carter Hollings & Ferner Ltd, 1988, p. 53). Richmond did not have a rural residential zone by the time of the 1982 review.

[6] Council records are patchy but a raft of scheme changes were introduced in March 1986.

Golden Bay had a rural residential zone in use at the time of its 1979 review. The review acknowledged there was demand for:

> Areas of land (larger than the traditional building site) and, while not engaged in full scale 'commercial' farming, to farm land in ways which have variously been described as 'subsistence farming', 'hobby farming' and 'part-time farming' (Golden Bay County Council, 1979, p. 34).

Rural residential at the time had a minimum lot size of 2000m2 with additional criteria such as allotment size and shape. By 1989 the purpose of the Golden Bay rural residential zone had broadened to provide for small rural holdings, large residential sites, and to provide a nucleus for new settlements (Davie Lovell-Smith and Partners Ltd, 1989).

Waimea did not have a rural residential zone per se but allowed for rural residential allotments in rural zones. This concept was introduced in 1976 but the 1984 scheme commented that there had been little demand for rural residential allotments and only one development had proceeded in that time. The assumption in the scheme was that existing fragmentation would cater for ongoing demand for rural residential lots (Waimea County Council, 1984, pp. 11-12). However, judgement text from *Burnett v TDC* [1995] NZRMA 280 indicates there were significant issues in Waimea around rural subdivision. The judgement outlined historical issues concerning land fragmentation and clarified that in 1984 Waimea County Council commissioned a report assessing rural residential subdivision in the Waimea Basin. The report recommended "immediate plan changes … to protect the productive potential of the land resource and identify specific locations for rural residential development opportunities" (*Burnett v TDC* [1995] NZRMA 280, Judgement Text). The Council notified changes to the plan in October 1984 to set aside areas for future rural residential development to be known as Rural E.

Overall the use of rural residential zones appeared to take pressure off the fragmentation of existing farmland particularly in Motueka and Golden Bay. Waimea was already the most fragmented County and did not establish a rural residential zone until the mid 1980s. Waimea's approach appears to have had a significant effect on ongoing ad hoc and sporadic development of farmland into

fragmented lots, with less account taken of soil types and poorer countywide decision-making about the strategic location of rural residential development.

TDC Planning

Concern about and management of rural land fragmentation was carried over into both the Tasman Regional Policy Statement (TRPS) and the Tasman Resource Management Plan (TRMP). The TRPS, which outlines the broad issues, objectives and policies for the District, was notified in 1994 and became operative in July 2001. The TRMP was first notified in May 1996 and became operative in parts and existing schemes or parts of schemes continued to be used until replaced by the relevant sections of the TRMP. The section of the Plan (Part II Land) relevant to rural land fragmentation became operative in November 2008, the delay in part a result of an appeal of TDC's decision to make subdivision below minimum lot size discretionary rather than non-complying (Markham, 2008). This case is discussed further in Chapter 8.

The judgement in *Burnett v TDC* [1995] NZRMA 280 reveals the ongoing issue of land fragmentation in Tasman. The case was an appeal against Council refusal to grant consent to subdivide 5.5 hectares of Rural B land. The Council's decision was based on the need to preserve productive land and prevent further fragmentation of rural land into residential uses. The activity was non-complying and the Court upheld the Council's decision. The Judge made the following comments in relation to demand for subdivision in Tasman District:

> The Tasman District Council has inherited a significant problem relating to land subdivision which arises from the historical patterns of settlement in the area. Put simply there is historic, and continuing pressure for increasing subdivision of the rural land, leading to the creation of more and more residential allotments, and the inevitable loss of rural land for productive purposes. This of course is not unique to the Tasman District. The Tribunal meets it frequently in many parts of the country. What compounds the problem in this particular area is the large number of small allotments in separate titles, carrying the usual expectation that a building

> permit will be granted for the erection of a dwelling (*Burnett v TDC* [1995] NZRMA 280).

Tasman Regional Policy Statement

The TRPS highlights the need to "sustain the high quality land resource" and "manage the adverse effects of land fragmentation" (Tasman District Council, 2001, pp. 42, 43). It states that productive land is suited to a range of competing, often mutually exclusive uses. The capacity of high quality soils to be used for biological productive purposes can be lost either through "conversion to non-productive land uses", or through the "cumulative effects of land fragmentation" (Tasman District Council, 2001, pp. 42, 51).

The TRPS describes land fragmentation as an increase in the number of separate smaller allotments through subdivision and consequent infrastructure requirements such as improved or new roads, or water reticulation. The Statement argues the adverse effects of rural land fragmentation can apply to an individual piece of land or cumulatively over a broader area and often results in fewer opportunities (both in range and scale) for soil-based productive activities. The TRPS adds:

> The key pressures for increasing land fragmentation are increased interest in rural 'lifestyle' residential living" and "the economic incentive for existing rural property owners to subdivide their land (Tasman District Council, 2001, p. 43).

In contrast to earlier County and Borough schemes that predicted little future subdivision demand, the TRPS argues demand for competing activities on high quality land is likely to continue and intensify, that loss of productive land will be "irreversible" and "a long term community cost", particularly where the Council does not act to contain subdivision of rural land (Tasman District Council, 2001, pp. 42, 43). The Council's objective arising out of these issues is "avoidance of the loss of the potential for land of productive value to meet the needs of future generations, particularly land with high productive values" (Tasman District Council, 2001, p. 51). The outcome sought by Council is to maintain the productive

capacity of rural land, not to prevent fragmentation per se so the TRPS does not include an objective that specifically refers to land fragmentation.

The TRPS identifies two policy responses, the first being to "protect the inherent productive values of land from effects of activities which threaten those values" (Tasman District Council, 2001, p. 53). The methods used include rules and resource consent requirements to:

1. Allow activities on productive land that don't adversely affect land productivity;
2. Control location of activities that do affect land productivity;
3. Restrict/prohibit subdivision where there is an actual or potential loss of highly productive land;
4. Require amalgamation of titles to encourage long term productivity;
5. Regulate subdivision on moderately productive land; and
6. Allow subdivision or other activities on land with little or no productive value (Tasman District Council, 2001, pp. 53, 54).

The second policy response is to ensure that subdivision and rural land use avoids, remedies or mitigates adverse effects on 1) land productivity and versatility; 2) provision of services and infrastructure; 3) rural amenity, heritage and landscape features; and 4) socioeconomic viability of adjacent areas; and that reverse sensitivity effects are minimised. In this context, the Policy Statement explains that while Council is committed to protecting and maintaining productive land there is "high demand" for "large-site residential development in rural areas" (Tasman District Council, 2001, p. 55). On less productive land it "may be desirable or appropriate for activities such as rural residential development provided the adverse effects of such development may be managed" (Tasman District Council, 2001, p. 55). Rules require that rural subdivision and land use avoid, remedy or mitigate adverse effects on productive values although it is not clear how or whether this is being enforced. Adverse effects would in part be assessed in terms of reverse sensitivity but this is outside the scope of this study.

The Council's anticipated results include "continued demand for rural subdivision below sustainable limits" although it is not clear in the plan what the sustainable

limits are (Tasman District Council, 2001, p. 54). The TRPS specifies monitoring that includes surveying changes in use of productive land including numbers and sizes of land titles, availability and coverage of productive land, numbers of dwellings, actual use of productive land, relative property values, and assessment of adverse effects and cumulative effects (Tasman District Council, 2001, p. 55). However to date, TDC has no comprehensive ongoing land use monitoring system in place. Information has been collected in "various forms for the past 10 to 15 years [but] much of the data is not in readily accessible or usable form" (Honey, 2011, p. 6).

Tasman Resource Management Plan

Chapter 7 of the TRMP deals specifically with rural environment effects that have been flagged in the TRPS and in particular aims to reconcile the following:

1. Cumulative effects of land fragmentation on productive opportunities
2. Provision for non soil-based activities
3. Rural residential development in the coastal Tasman area
4. Rural character and amenity values

The TRMP clarifies the regulatory framework used to manage these effects, including use of zones, rules, and matters to be taken account of. Rural zones in Tasman are delineated in terms of actual and potential productive rural land capacity. The Rural 1 Zone covers the most productive land (about five percent of the District) and subdivision and development rules in that zone aim to protect long-term productivity while allowing for use and development of the land resource. The Rural 2 Zone covers less productive land and rules allow for a range of productive activities of less intensive use and development than in Rural 1 land. The Rural 3 Zone was introduced in 2003 and combines a blend of previously Rural 1 (more coastal) and Rural 2 (more inland) land in the coastal Tasman area. The Rural Residential (RR) Zone occurs in discrete pockets on mixed productive land and a number of the RR zones are closed for further development. Relevant rules in the plan relate to minimum lot sizes in the different zones, activities allowed, and other restrictions.

Rural 1 and 2 Zones

Minimum lot sizes for subdivision are twelve hectares in the Rural 1 Zone and fifty hectares in the Rural 2 Zone as a controlled activity, with control over a range of factors such as frontage, shape, access, rural amenity effects, and provision of services, as well as criteria in Schedule 16.3A outlined below (Tasman District Council, 1996, pp. 16/69-70)[7]. Otherwise applications are discretionary with discretion over largely the same matters as for controlled subdivision, the key difference being that for a controlled application, the Council must grant consent. Schedule 16.3A: Assessment Criteria for Subdivision includes the following criteria that relate to fragmentation:

- "The productive value of the land in Rural 1, Rural 2 and Rural 3 zones, and the extent to which the proposed subdivision will adversely affect it and its potential availability";
- The cumulative effects on infrastructure, including the capacity of existing services to meet demands arising from subdivision;
- "Taking into account local land form, whether allotments are of a regular shape that will maximise the range and efficiency of potential activities that may take place on the land in the future" (Tasman District Council, 1996, pp. 16/92-96).

Dwellings are permitted where there is one residence per site. Construction or alteration of dwellings is controlled on Rural 1 land where the minimum lot size is met or the land was subdivided prior May 1996, with control reserved over building related matters as well as "the effects on the potential availability of productive land" (Tasman District Council, 1996, p. 17/88). On rural 2 land, construction or alteration of dwellings is a permitted activity. Relocatable workers accommodation is controlled on Rural 1 and 2 land where minimum lot size criteria are met.

Two dwellings per allotment are a restricted discretionary activity with a minimum lot size of 24 hectares on Rural 1 land and fifty hectares on Rural 2 land.

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[7] Page numbering in the TRMP includes chapter number then page number.

In both zones discretion is restricted to a broad range of effects including "the effects of the building on the potential availability of productive land, including any effects relating to the extent of the building and capitalisation of the site", potential for reverse sensitivity and cross boundary effects, as well as a range of adverse effects on the character of rural and coastal landscapes and vegetation (Tasman District Council, 1996, pp. 17/89-90). The overall rationale is that building construction is linked to land fragmentation with more stringent rules for buildings on Rural 1 land.

Rural 3 Zone

Rural 3 covers about 4000 hectares from Mariri in the north to Waimea Inlet in the south and includes most of the coastal Tasman area (see Figure 7 below), an area that has been subject to considerable development pressure since the 1980s. It combines rural and coastal amenity and sought after landscape, is close to the three main urban centres in the District – Richmond, Motueka and Mapua, and is close to major transport routes (Tasman District Council, 1996). The Rural 3 zone allows residential development through restricted discretionary subdivision and controlled residential development at the same time as protecting more productive land. Subdivision and development in this zone are subject to the Coastal Tasman Area Subdivision and Development Design Guide, which is an appendix to the TRMP.

Subdivision in the Rural 3 Zone is a controlled activity where the minimum lot size is fifty hectares with control over matters including shape, access, location, provision of water supply and wastewater (pending Council reticulation), and rural amenity effects. Otherwise subdivision is a restricted discretionary activity where the land has not had a subdivision consent granted after December 2003 (when Rural 3 was introduced) and subject to a broad range of matters over which discretion is restricted including:

- "the extent to which the proposed subdivision retains and protects land with actual and potential productive values";
- effects on rural landscape, amenity, coastal character and values;
- consistency with the design guide;

- water supply and wastewater treatment;
- "long-term legal and physical protection of identified undeveloped open space from inappropriate subdivision and development";
- "ability of the wider landscape to absorb the extent of development proposed without significant loss of rural character";
- actual and potential cumulative adverse effects;
- Schedule 16.3A; and
- Cross boundary effects (Tasman District Council, 1996, pp. 16/79-80).

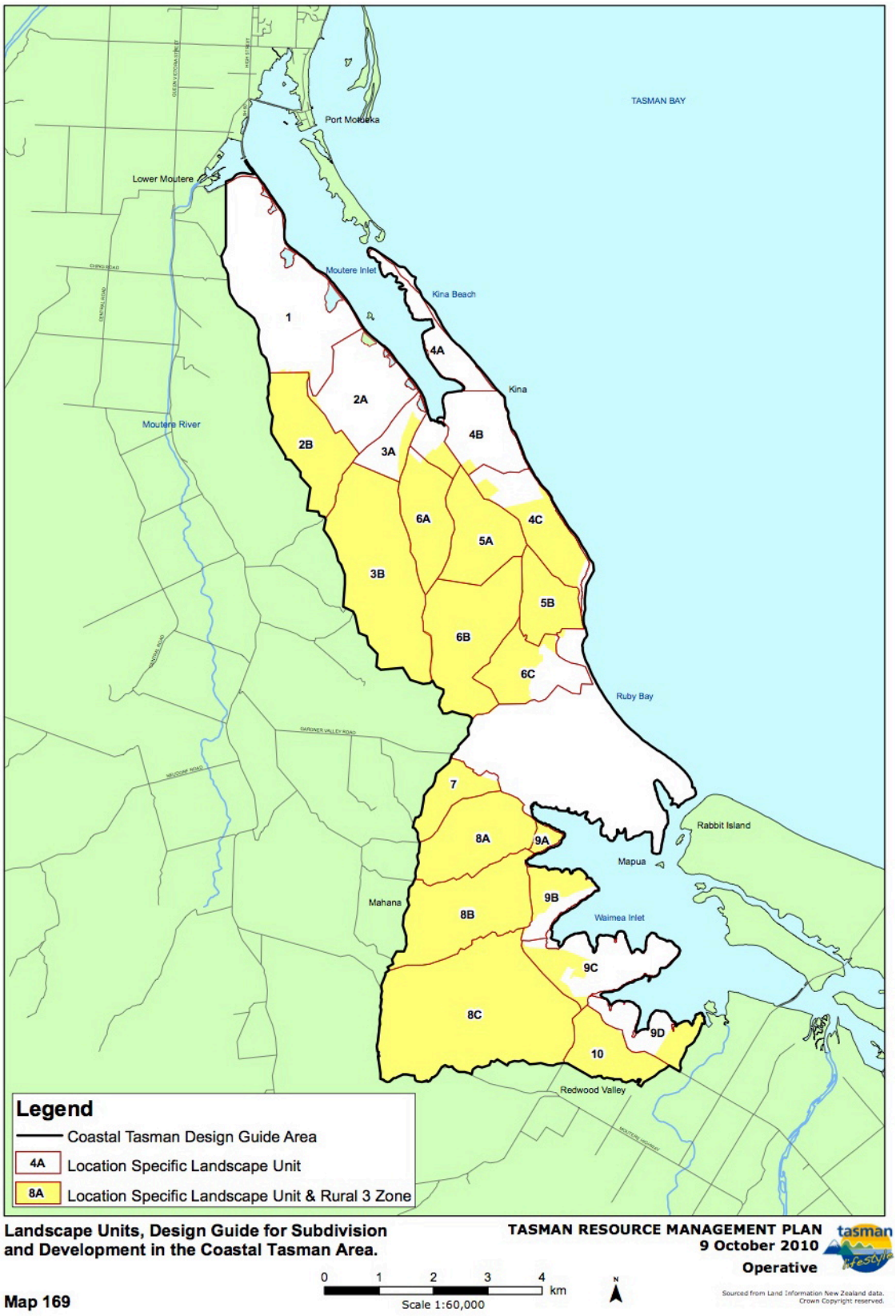
Subdivisions that do not comply are discretionary where they are boundary adjustments or are at least fifty hectares in size. Otherwise applications are non-complying and are subject to Schedule 16.3A and other provisions of the Plan or Act.

Construction or alteration of a dwelling is a permitted activity unless it is workers' accommodation. The controlled activity status allows more than one dwelling per site in some specified sites and allows relocatable workers accommodation with a minimum lot size of fifty hectares. The restricted discretionary category allows two dwellings on a site with discretion over effects on the ability to utilise land with productive value and consistency with the design guide.

The design guide aims to influence subdivision and development design through "innovative design approaches" however consent can be refused where an application is inconsistent with the guide's criteria (Tasman District Council, 1996, p. 16/91). The document outlines broad considerations such as relationship to the coast, management of productive land, and development considerations such as wastewater and water supply. The guide also has location-specific guidelines for ten landscape units within the coastal Tasman area so the guide also has a non-regulatory effect in some Rural 1 and 2 areas, marked in white on Figure 7 below.

Overall the TRMP expects that zoning and consent decision-making should maintain the "current rural character" in Rural 1 and 2 zones, while Rural 3 "is expected to undergo a degree of transformation as a result of increased residential use and development, but no net loss of values" (Tasman District Council, 1996, pp. 7/15-16).

Figure 7: Coastal Tasman Area



(Land Information New Zealand, 2010)

Rural Residential

Subdivision in the rural residential zone is a controlled activity with minimum lot sizes that vary (from 2000 m^2 to four hectares) depending upon location. Areas close to Richmond have smaller lot sizes and areas further from urban centres and without wastewater reticulation have larger minimum lot sizes. Otherwise subdivision is a restricted discretionary activity with discretion over effects on the rural landscape, adherence to the design guide, the ability of the wider landscape to absorb the extent of development, actual and potential cumulative adverse effects, and Schedule 16.3A (Tasman District Council, 1996, pp. 16/81, 16/86). One dwelling per site is permitted in this zone. Otherwise up to two dwellings may be had on one site as a restricted discretionary activity with discretion over the impacts on adjacent landowners regarding compatibility with productive rural activities, and some additional matters, for example whether the second dwelling is relocatable, temporary or permanent (Tasman District Council, 1996, p. 17/150).

Conclusion

Rural land fragmentation appeared in schemes in the 1980s and was described as a problem in terms of a loss of productive land and as an impediment to economic farming in the region. The fragmented nature of much of Tasman District, particularly Waimea, contributed to the failure of economic farming units and Councils continued to use minimum lot sizes, rules around dwellings, amalgamation of titles where possible, and development of rural residential zones in order to take pressure of already fragmented land. Despite productive land not being specifically protected under the RMA, a focus on limiting fragmentation, the protection of productive soils, and the existing mechanisms for doing so, were carried over into the Tasman District policy statement and district plan. In addition, the development of the Rural 3 zone is an attempt to manage and contain demand for rural smallholdings within a confined area under strict development guidelines.

However the management of fragmentation within Tasman District policy and planning is conflicted on a number of levels. The planning framework attempts to

cater for rural residential demand and other non soil-based activities at the same time as protecting rural land from further fragmentation, all within a discretionary consent framework. Monitoring of fragmentation and rural subdivision, and the effects of these activities, is poorly managed, with little in the way of sustainable limits or baseline criteria to measure against. The reasons for these inconsistencies are explored in the following chapter.

Chapter 8: Planning Policy and Case Law

TDC Policy Reviews

The fundamental trade-off in Chapter 7 of the TRMP concerns the balance between protecting productive soils through management of land fragmentation, and the demand for non-soil based activities, particularly rural residential living. In *Burnett v TDC* [1995] NZRMA 280, the Court commented on the lack of clarity in Waimea's transitional plan. The judgement stated: the "operative plan … is a confusing document pointing both ways on matters of rural subdivision" that there was little point trying "to reconcile the irreconcilable" (*Burnett v TDC* [1995] NZRMA 280). This dilemma between limiting fragmentation and catering for smallholding demand has not been resolved under the current planning framework, as the following policy developments indicate.

When the PTRMP was first notified in 1996 it classified Rural 1 subdivision above twelve hectares as a discretionary activity, and subdivision below that as non-complying. Following submissions to the notified Plan and Variation 1 in 1998, TDC Councillors (against Council officer advice) changed Rural 1 subdivision below twelve hectares to a discretionary activity, and subdivision above twelve hectares to a controlled activity (*Thoma v TDC* [2008] YourEnvironment 158). The Nelson Mail reported TDC's policy manager as stating:

> The council has viewed with growing concern the economic difficulties orchardists face with the downturn in the market. It has a view that there should be a degree of liberalisation of rural subdivision rules … The council believe that there is a demand for more rural-residential subdivision and express the view that there should be an ability for this to be located almost anywhere (Markham, in Murdoch, 2000, p. 13).

The Environment Court noted the difficulties posed by this change:

> In spite of … the chapter on *Rural Environmental Effects* which reiterates … concerns about the adverse effects of land fragmentation, the … downgraded [status means] … the PTRMP therefore does not envisage

> absolute protection of the Rural 1 lands, even those of high productive value (*Johnston v TDC* [2002] BRM Gazette 38).

In 1994 TDC began a process of improving identification of classes of productive lands with this work contributing to the identification of rural zones in the PTRMP. The original intent was to establish a land class database however mediation involving Tasman Horticulturists, TDC, soil scientists and other parties, resulted in a watered down "draft protocol for the assessment of the productive values of land" (*Thoma v TDC* [2008] YourEnvironment 158 Judgement Text para 12). Tasman Horticulturists had originally agreed to the protocol but in 2002 withdrew their support, refusing to sign a draft consent order and the protocol was never formalised. The appeal hearings arising out the 1998 PTRMP variation heard evidence that:

> The horticultural industry in the Tasman District was by then [2002] not very buoyant and wanted to have … more flexibility to exit the industry when required. Thus, the protection of the productive capacity of its soil resources for future generations was now seen as secondary to the desire to have the option to subdivide horticultural land and exit the industry (Thoma giving evidence in *Thoma v TDC* [2008] YourEnvironment 158).

At the hearing for *Zwart v TDC* [2002] BRM Gazette 175, which was an appeal of TDC's refusal to grant rural subdivision consent, TDC's Policy Manager gave evidence for Council stating: "the council should be encouraged to prevent the development of any more small titles of land on the Class A (Rural 1) on the Waimea Plains" (Zwart v TDC [2002] BRM Gazette 175). The Court upheld TDC's decision but does not appear to have made a specific direction to the Council on fragmentation or protection of productive soils, despite the Policy Manager having specifically requested the Court to do so.

In 2004 the Council issued a discussion paper seeking community feedback on the future of the District's rural areas. The paper said the spread and rate of subdivision and dwellings in Rural 1 land suggest "policies have not been effective in limiting the rate of fragmentation on the most productive lands in the District" and in Rural 2 land there was "almost 'on demand'" fragmentation (Tasman

District Council, 2004, pp. 14, 15). In addition, the paper noted the setting aside of Rural Residential and Rural 3 zones had not taken pressure off Rural 1 and Rural 2 land stating:

> These policies have been used by developers to argue the right to undertake specific subdivision and development throughout the Rural 1 and 2 zones, with varying and sometimes inconsistent outcomes (Tasman District Council, 2004, p. 16).

The discussion paper stated "very little work has been done to assess the effectiveness of all the various planning policies and methods for rural development" (Tasman District Council, 2004, p. 3). Appeals had also raised issues around "the regulation of rural subdivision" and the "mismatch between strong policies concerning protection of productive opportunities, and the discretionary status of subdivision in the Rural 1 zone" (Tasman District Council, 2004, pp. 3, 15).

Rural 3 was conceived as a way to take pressure off Rural 1 and 2 land and was initially intended to cover an area of largely Rural 2 land, which tended to be in large holdings and "suited the design guide approach" (Morris, date unknown, p. 2). Much of this land was less productive forestry land owned by Carter Holt Harvey that been logged but not replanted and was eventually developed for residential development (Scollay, 2002). Rural 3A land was more productive, predominantly orcharding land in Coastal Tasman that was subject to stricter development rules (Williams, 2005). In 2003, following submissions from Rural 1 landowners on the Rural 3 framework, TDC Councillors amalgamated Rural 3A into this framework, incorporating smaller blocks of land that were never intended to be managed by the design guide. This caused problems for Council staff deciding subdivision consents, in particular because there was no baseline against which to assess acceptable lot density, loss of productive land, or rural character (Morris, date unknown).

In the mean time, community feedback on the discussion paper was collated and released in 2006 and included the following community priorities:

- reduce “uncertainty and speculation” based on inconsistent subdivision and land use decision-making / enforcement;
- manage development pressure and link a rural vision to a settlement strategy;
- consolidate existing urban settlements and discourage dispersed rural housing;
- better use of planning tools;
- limit fragmentation and use of productive land to relieve population pressure;
- protect productive capacity; and
- provide for worker / family accommodation (Honey, 2006, pp. 1-2).

The Council agreed to review rural policy, in particular, Rural 1 and 2 zones and rules but Council signalled the review could not happen until after rural land use provisions became operative in 2008. In 2009 Council removed the review from the list of priority projects in favour of other objectives. In April 2009 Council staff sought clarification from the Environment and Planning Committee regarding issues arising out of the implementation of the Rural 3 framework. In particular, the report noted an absence of policy around subdivision applications for lots that were already fragmented into small non-productive parcels of land, that single applications were difficult to argue against but cumulative applications resulted in significant adverse effects. Staff also sought clarification around how to find an appropriate balance between protection of productive soils and enabling rural residential opportunities.

In October 2011 Council staff reactivated the Rural Futures project and Council approved a major policy review titled “Rural Subdivision and Land Use”. The review has a broad scope and includes establishment of a land use monitoring system, technical fixes to include new soil classification information, improved “coherence between policy and rules” including reinstatement of non-complying status for Rural 1 subdivision below twelve hectares, and a simplified zone framework.

Case Law

Eleven Environment Court appeals[8] relating to rural subdivision in Tasman were analysed in this study. The cases were heard between 1995 and 2005 and all dealt with land fragmentation as a component of the consent decision and subsequent appeal. Ten of the cases were appeals of Council decisions to decline subdivision consent of rural land below the minimum lot size in a mix of Rural 1 and 2 land. One case involved council approval of rural subdivision that was subsequently overturned on appeal. The appellants in this case were an Incorporated Society representing a number of submitters on the original application. Of the ten cases declining subdivision consent, the Court found in favour of TDC's decision in eight cases. Of the two cases where the court upheld the appeal, both related to subdivision of rural land adjacent to existing residential or rural residential allotments and this proximity was a key factor in the Court allowing subdivision to proceed. For example, *Johnston v TDC* [2002] BRM Gazette 38 was resolved through a Consent Order to submit a revised subdivision plan to better retain productive potential. However the Court stated:

> If the Council continues to allow residential and rural subdivision on Rural 1 land adjacent to rural blocks, if it allows uses on rural land which have nothing to do with rural production, and if it allows rural subdivision on Rural 1 soils as a discretionary activity, then it will continue to face the difficulties evident in the present case (*Johnston v TDC* [2002] BRM Gazette 38)

Overall the court has supported Council's approach to limiting the adverse effects of rural land fragmentation and loss of productive soils, particularly around cumulative effects. The court noted in *Whiting v TDC* (1995) W070/95 the cumulative effect of one-off subdivisions that compromised Council's ability to apply the PTRMP consistently. In *Appleby Estates v TDC* [2003] BRM Gazette 123

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[8] The cases reviewed are listed with the bibliography. *Thoma v Tasman District Council* [2008] YourEnvironment 158 was not included in the analysis, as it did not relate to a specific subdivision consent.

the Court noted significant cumulative effects where a proposed subdivision is proximal to existing lots less than the minimum lot size.

The transition between the pre-RMA schemes and the TRMP was important in terms of fragmentation and subdivision appeals. The transitional schemes were operative until superseded by incoming legislation made operative under the RMA. In Waimea's case, some of the relevant provisions in the transitional plan (previously the Waimea County Scheme) were altered by 1994 plan changes prepared under the RMA (*Jennings v TDC* (2003) 9 ELRNZ 344). In addition, different sections of the PTRMP became operative over time. This created a hiatus of uncertainty in terms of which plans, or sections of plans, applied over time, and potentially a vacuum in which applicants could 'try their luck'. In *Jennings v TDC* (2003) 9 ELRNZ 344 (an unsuccessful appeal against council's refusal to grant consent for subdivision of a 5.3 hectare property into three lots) the application was non-complying under the transitional plan and discretionary under the PTRMP. The Court stated the operative transitional plan had a mix of provisions prepared under both the T&CP Act 1977 and the RMA, but that most of the provisions relevant to the case had been decided under the PTRMP. The Court ruled it was the PTRMP that carried the greater weight. In *Blyth v TDC* [2006] YourEnvironment 17 the Court considered the proposal according to any actual or potential effects, the Transitional District Plan, the PTRMP, any other matters, subject to Part 2 of the Act.

Conclusion

The uncertainty created by the long transition into the TRMP is characteristic of a broader, disjointed approach to rural fragmentation that has a decades-long history. This manifests in a number of ways, central to which are the competing priorities of limiting fragmentation versus provision for demand in rural smallholdings. Political decisions have favoured landowners' rights to subdivide land rather than protect a diminishing resource and this has eased the way for subdivision applications. These political decisions have occurred despite clear signals from the community about the need to manage fragmentation, repeated attempts by council planners to resolve uncertainty and discrepancy around the

policy and mechanisms used to manage fragmentation, and strong statements from the Environment Court that the approach taken by council worsens fragmentation in the district. TDC appears to be making consistent decisions to decline rural subdivision, although this needs further testing, and is unlikely to be the case in terms of subdivision approvals because of the paucity of baseline criteria against which to assess subdivision applications and the discretionary status of decision making. The next chapter looks at the scale of the problem, how many subdivision applications are being approved and what are the apparent patterns in the dispersal of fragmentation?

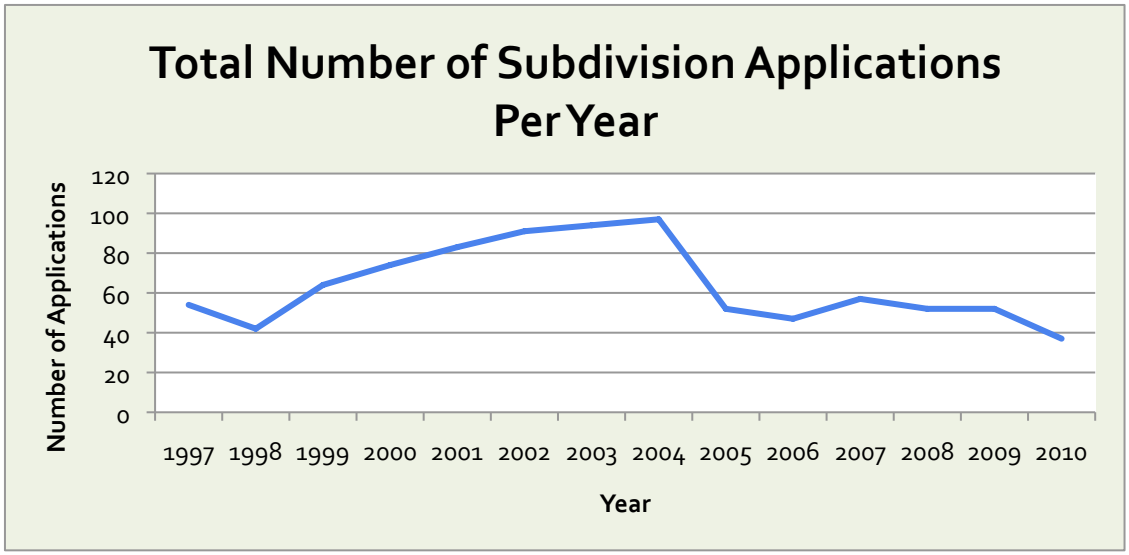
Chapter 9: Quantitative Results

Subdivision Data

The analysis of subdivision data shows the extent of ongoing fragmentation. TDC's original dataset contained 1779 subdivision records from May 1996 to May 2011. Of these, TDC filtered out 854 records[9] relating to boundary adjustments leaving only subdivision applications that relate to land fragmentation. Boundary adjustment data was not assessed so it is not clear how many of these applications relate to amalgamation of titles. The remaining 920 subdivision applications represented subdivision into smaller blocks. For the remainder of this document, the term 'subdivision applications' excludes all boundary adjustments.

Figure 8 shows annual subdivision applications with a low of 37 in 2010, a high of 97 in 2004, and a steady growth in applications from 1998 followed by a sharp drop in 2005. It is not entirely clear why this decrease occurred because it is consistent when the data is broken down into all wards and zones and therefore cannot be explained by the Rural 3 implementation or drop-off in sale of orcharding land.

Figure 8: Annual subdivision applications



[9] 48 percent – a level that seems high but which TDC consider acceptable.

Most applications (68 percent) were for discretionary activities meaning that for Rural 1, 2 and 3 zones, they did not meet the controlled criteria for subdivision including minimum lot sizes, rules around allotment shape size, and access, "potential effects on rural character and amenity values", section 220 of the RMA, and other matters such as setbacks and provision of services. Twenty percent were 'controlled' activity consents.

Of the 920 applications, 43 (4.7 percent) were declined, most (39) by Council Committee. Only one application was declined under delegated authority[10]. Of the applications granted (876), most were done so under delegated authority (709) or by Council Committee (122). Composition of the committee is unknown. Of the applications declined, 28 percent were in Golden Bay and 55 percent were in Waimea, both of which are higher than the spread of consents across those Wards.

Figure 9: Decision type and year

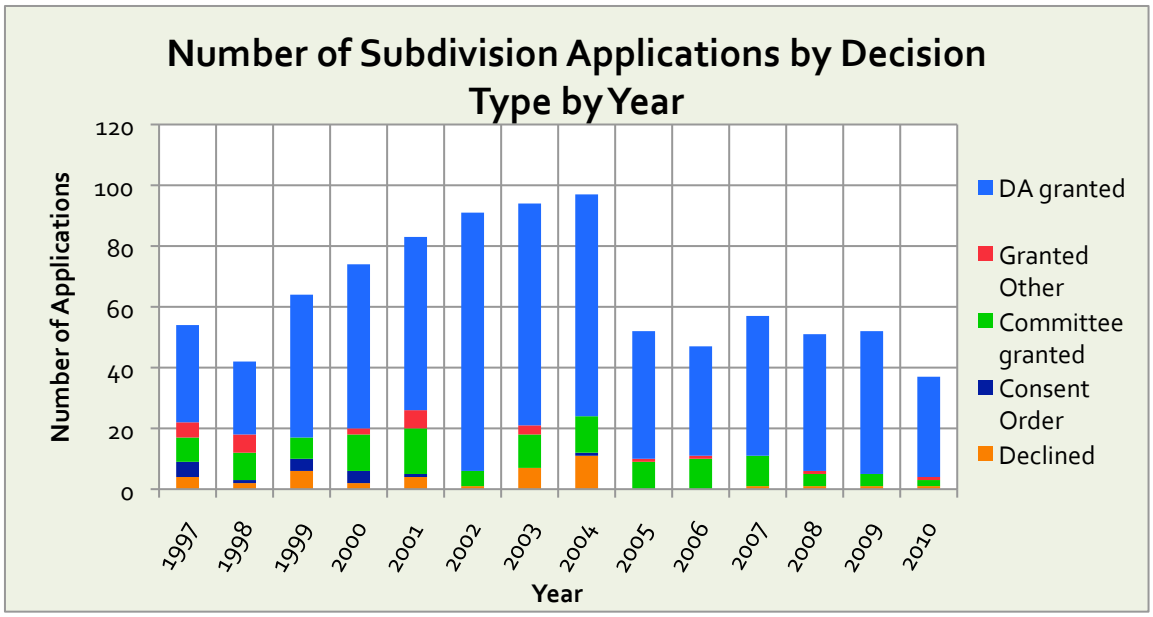


Figure 9 shows decision types by year and indicates several things of note. Most (75 percent) declined applications occurred between 1999 and 2004 although it is not clear why. Certainly this was a time when numbers of subdivision applications

[10] Where under section 34A of the RMA council employees decide resource consent applications on behalf of the council.

were at their highest, but in 1999 and 2004 declined applications represented about ten percent of total applications. This may indicate a 'climate' of land development, however more in-depth analysis of declined applications is needed to understand these figures and this has not been undertaken in this study.

There were seventeen consent orders issued by the Environment Court in relation to subdivision consents with five in 1997, four each in 1999 and 2000, and none since 2004. Other than the consent orders, the Environment Court decided four additional subdivision applications between 2000 and 2005. Council staff report increased use of mediation since about 2005 and the numbers reflect this change. Use of Commissioners for deciding subdivision applications has been much less common since 2004 although it is not clear why this is the case.

The spread of subdivision applications across the four rural zones is shown in Figure 10. Thirty eight percent of subdivision applications applied to the Rural 1 Zone, and Rural 2 and Rural Residential accounted for about thirty percent each. Relatively few Rural 3 subdivision applications have been submitted.

Figure 10: Subdivision applications by zone

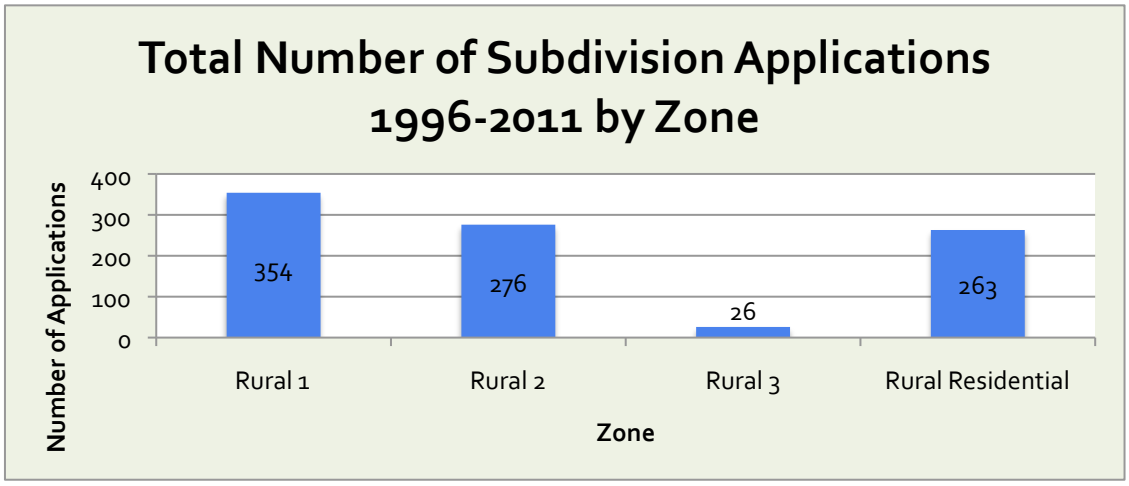
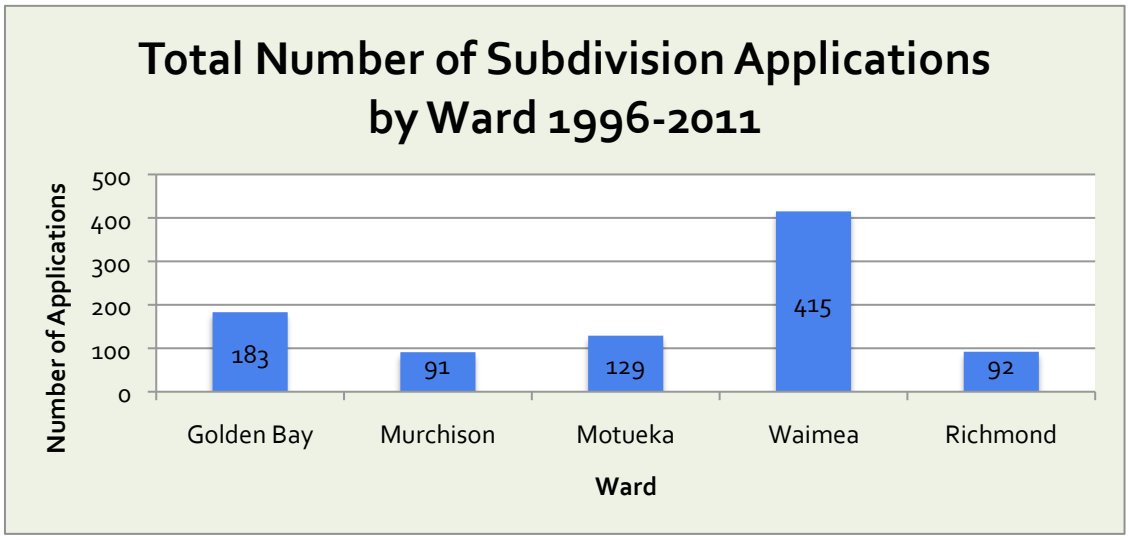


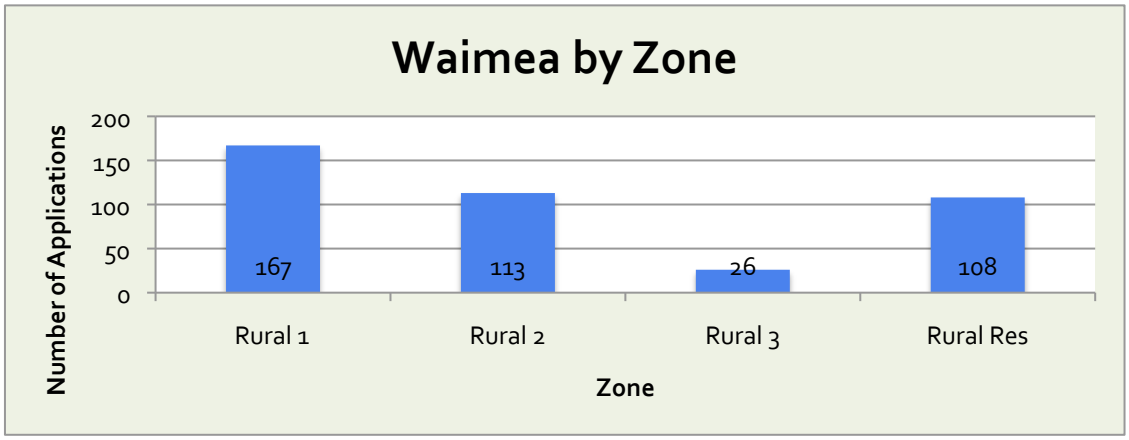
Figure 11 shows the spread of subdivision applications by ward. Waimea sees the most demand for subdivision with forty five percent of applications, and twenty percent of applications apply to Golden Bay. Waimea contains the most contested land with the least number of consents granted under delegated authority (70%), while Murchison is the least contested with 97 percent of subdivision applications granted under delegated authority.

Figure 11: Subdivision applications by ward



Waimea's subdivisions are dispersed across the inland valleys with clusters around townships, the inland peninsulas of the Waimea Inlet and coastal Tasman Bay, much of the latter being orcharding land progressively on-sold following deregulation of the pipfruit industry in 2001, or forestry land that was retired from production and converted to rural residential development. Most of these locations are within commuting distance of Nelson City. Forty-one percent of applications are on Rural 1 land.

Figure 12: Waimea – subdivision applications by zone



Subdivision applications for Golden Bay show more than half in the coastal zone, which is to be expected given that region's coastal attractions, with most inland subdivision applications clustered around Takaka. Murchison Ward generally has low levels of subdivision applications. Subdivisions in the Motueka Ward are

dispersed across the Motueka plains with some clustering around the town of Motueka and in the coastal regions. Richmond subdivisions peaked in 2000 and have remained at relatively low levels. Two thirds of Richmond's rural subdivision applications relate to Rural Residential land.

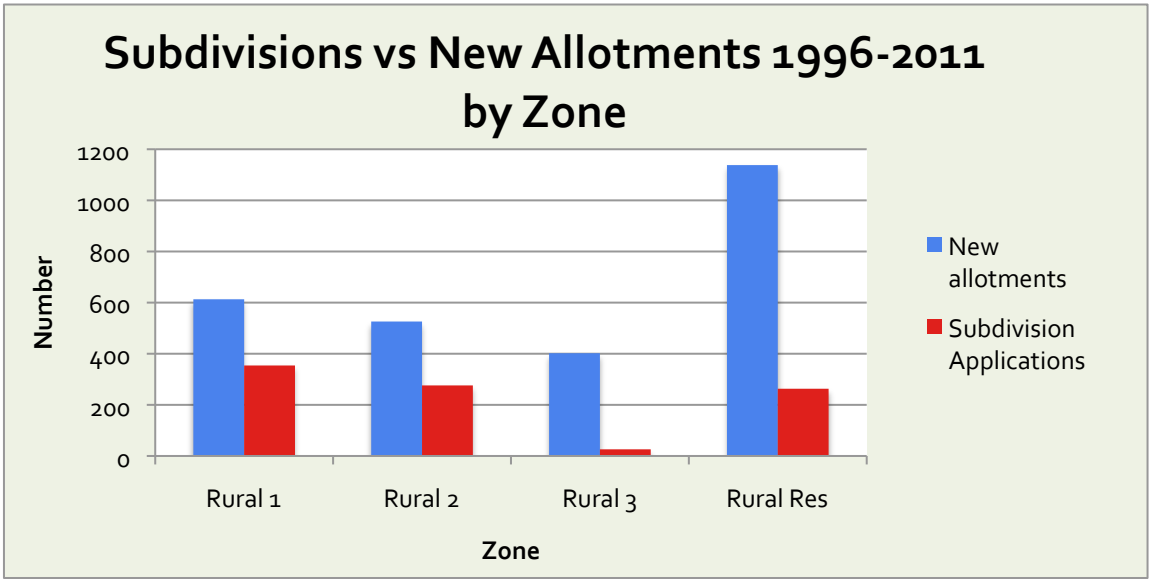
New Allotments

The TRPS and the definitions of fragmentation in Chapter 1 highlight that the key effects of fragmentation are: 1) the reduced size of allotments resulting in loss of productive land; and 2) the corresponding increase in number of rural allotments resulting in cumulative and other effects. Thus the number of allotments generated by each subdivision application is an important characteristic of fragmentation.

A total of 833 of the 920 subdivision applications contained information on the number of allotments generated by the subdivision, with 2,700 additional lots of varying size created from those 833 applications. The number of allotments generated per application varies significantly depending upon the zone. This suggests the rules governing each zone are important in managing fragmentation, although factors such as location and original lot size (for which no data was available) are also critical. The variance across the zones in number of allotments generated per application shows two things. First, that applicants' expectations for development differ across the zones. Second, that the threshold for successful subdivision consents in each zone influences the number of lots and the types of cumulate effects.

For example, Figure 13 below shows that subdivision applications in Rural 3 and Rural Residential zones clearly generate a far higher number of new allotments per application than in Rural 1 and 2 zones. Rural 3 applications generate an average of 15 new allotments (more rural fragmentation) per proposal but the threshold for approval (including possibly the design costs of development) is higher, resulting in fewer successful applications.

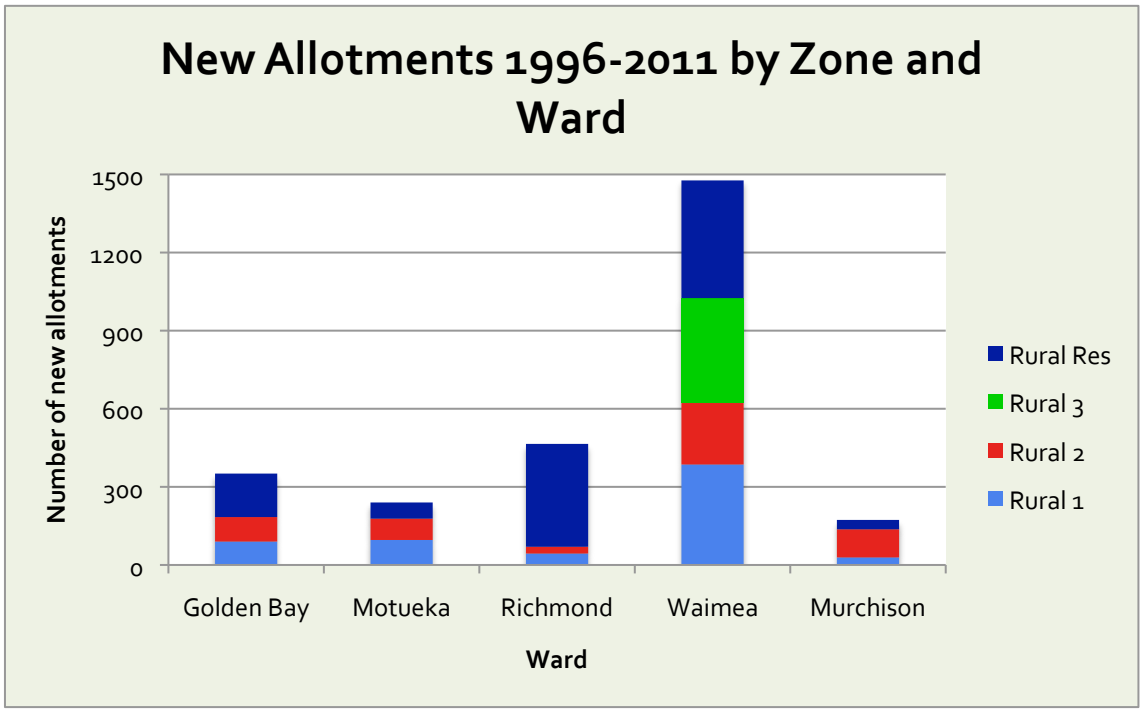
Figure 13: Subdivision – new allotment comparison



The cumulative effects of fragmentation in the Rural 1 and 2 zones were described in *Whiting v TDC* (1995) W070/95 as one-off, small-scale subdivisions that result in an incremental creep of fragmentation across the rural landscape. These results confirm this pattern. Rural 1 and 2 applications generate between 1 and 2 new allotments per application, based on proposals that are generally small-scale and over time cause fragmentation that is more likely to impact as loss of productive land than requirements for additional infrastructure. The precedent effect of previous approvals is particularly important in the Rural 1 and 2 zones, a factor that has been identified by TDC staff (Leusink-Sladen, 2009).

The cumulative effect of rural residential and Rural 3 developments manifests in a different way. A successful subdivision application in the Rural Residential or Rural 3 zones generates more allotments and dwellings and the fragmentation impact includes significant infrastructure requirements. The Environment Court also noted in *Appleby Estates v TDC* [2003] BRM Gazette 123 that there is more of a cumulative effect where residential and rural subdivision is located adjacent to rural blocks and this has the potential to be a factor in Rural 3 developments.

Figure 14: New allotments by zone and ward

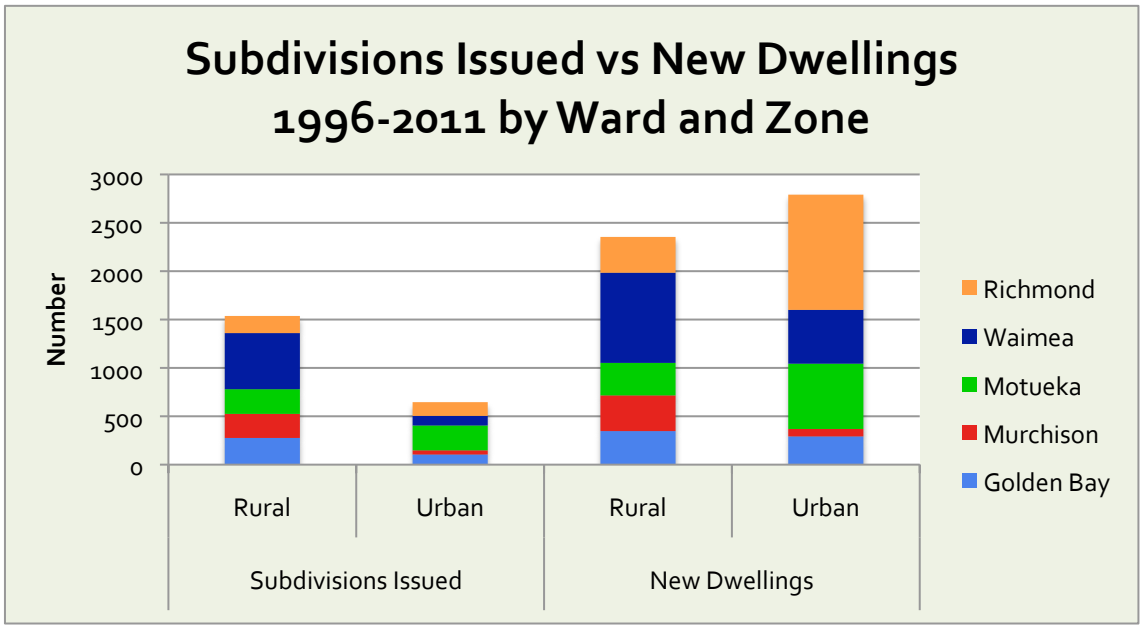


What the results don't show is how many new allotments are below the minimum lot size but in general fragmentation is dispersed across the rural zones despite objectives to limit subdivision where there is an actual or potential loss of moderate or highly productive land. One quarter of new allotments are in the Rural 1 zone and fifty five percent of new allotments are in the Waimea Ward as per Figure 14 above.

New Dwellings Data

Fragmentation is in part driven by policies on human settlement and the location of residential development. Like the new allotment data, the numbers and location of new dwellings give some indication of how and why fragmentation is occurring. The new dwellings dataset provided by TDC includes information for the residential zone, which allows a district-wide assessment of where TDC are encouraging residential growth.

Figure 15: Subdivision consents issued and new dwellings



The rural data in Figure 15 includes all four rural zones; urban data includes the residential zone only. Urban subdivisions generate more new dwellings per subdivision than rural subdivisions do, but there are more rural subdivisions so the outcome is almost as many new dwellings in rural locations (46%) as in urban locations (54%). Only Richmond and Motueka had more new dwellings in their residential zones, although this is in part explained by the fact that Waimea and Golden Bay have only small existing settlements. Forty percent of new rural dwellings were in Waimea, the rest were evenly split across the other four wards. One fifth of all Waimea's new dwellings were on Rural 1 land.

Across the district, the results show residential development dispersed across the rural zones despite methods in the Plan to control the location of activities affecting land productivity and despite dwellings being a cumulative effect of fragmentation. These findings, along with the results from this and previous chapters will be discussed in Chapter 10 below.

Chapter 10: Discussion

Changes in Land Use

The question at the centre of this study asks what are the drivers of rural land fragmentation in the Tasman District and what have been the planning responses. Land fragmentation arises through the process of subdivision and impacts in two ways that are central to this study. First, fragmentation results in an increase in smaller-sized land allotments and produces more dwellings and increased requirements for infrastructure. It also may result in reverse sensitivity effects and leads to changes to rural amenity and landscape, however these effects are outside the scope of this research. Second, cumulative reduction in the size of rural allotments results in productive land being lost to productive uses because people often choose small rural lots for non-productive reasons, and because of economies of scale related to use of farming land. These are the more literal effects of land fragmentation.

Fragmentation also signifies a set of global processes with consequent local effect. A Castellian interpretation describes the structural dominance of global economics changing the way land can be used in a remote location such as Tasman. Globalisation results in increased differentiation of rural landscapes into productivist, high-intensive farming, or post-productivist, fragmented landscapes. The pipfruit industry reveals both these characteristics. New Zealand orcharding, a quarter of which is in Tasman District, has become highly intensive and efficient, producing more fruit off less land, and more responsive to the preferences of international apple consumers. At the same time much of Tasman's more marginal orcharding land has been on-sold to release land-locked capital to exit the industry or direct investment elsewhere, in the process, catering to demand for high amenity rural living experiences on smaller rural allotments.

Post-productivist land use change is fuelled by a process of urbanites migrating into rural areas, driving up the value of rural land, resulting in a shift in rural investment towards housing and fragmented allotments marketed around satisfying the desire for rural arcadia. The post-productivist commodification of

rural environments is predicated on the increase in amenity value of fragmented land relative to the value of aggregated agricultural land. The Tasman District has a more fragmented landscape, a higher density of population and dwellings, and a preponderance of new build residences, relative to similar rural regions. In 2004, Tasman had the third highest volume of land in lifestyle farms - an estimated 41,000 hectares of land. The median price paid for Nelson/Tasman lifestyle properties has consistently been higher than most other regions.

The implications for existing rural residents are significant as the nature of rural housing gentrifies in the face of the lifestyle property boom. Wage and salary levels in Nelson/Tasman are below the national medium, the region has higher real estate prices compared to other parts of New Zealand, and employers describe difficulties in recruiting and retaining lower-wage employees because of the high cost to workers of purchasing or renting houses (John Cook and Associates, 2010, p. 38).

Planning policy inadvertently encourages this process. Planning mechanisms limit numbers of dwellings per site to limit fragmentation of rural land, and restrictions on additional dwellings apply equally to residential dwellings and workers accommodation (apart from the Rural 3 zone where there is a lower consent threshold for additional dwellings than for workers accommodation). However, new dwellings data shows high levels of new build residences across all rural zones in the district, despite there being ongoing shortage of accommodation for agricultural workers in the region (Honey, 2004, 2011). The higher per hectare value of fragmented land invites investment in non-productive gentrified dwellings over productive working dwellings.

Demand for fragmented rural properties in Tasman is fuelled by in-migration, although apart from Statistics NZ figures on overseas migrants, there is little concrete data on incoming migrants. Tasman District has anecdotally been a popular destination for New Zealand retirees, and migrants from the UK and Ireland represent the biggest overseas migrant group. Real estate interests in the district actively market the region to U.K. migrants although geographical distribution is uneven with clusters of U.K. immigrants settling in specific areas of

the District. Subsequent localised population growth drives real estate development and places pressure on existing infrastructure in those areas.

As an example, the Mapua area is under considerable development pressure and TDC have development plans in place that include rezoning of land, substantial water reticulation infrastructure, and the implementation of the Rural 3 Zone and design guidelines to manage growth in the Coastal Tasman Zone. Evidence of incoming migrants fuelling population growth can be seen in Education Review Office data for Mapua Primary School that indicates thirty percent of the student population is of Other European descent (Kent, 2009, p. 2). In 2011, of a total roll of 260, about 78 students are U.K. born with the school having experienced significant roll growth in the last three years. The school Principal receives an increasing number of inquiries from U.K. families who say they are attracted to Mapua by a better quality of life with some buying lifestyle properties and others buying residential properties in the Mapua village (Chalmers, 2011).

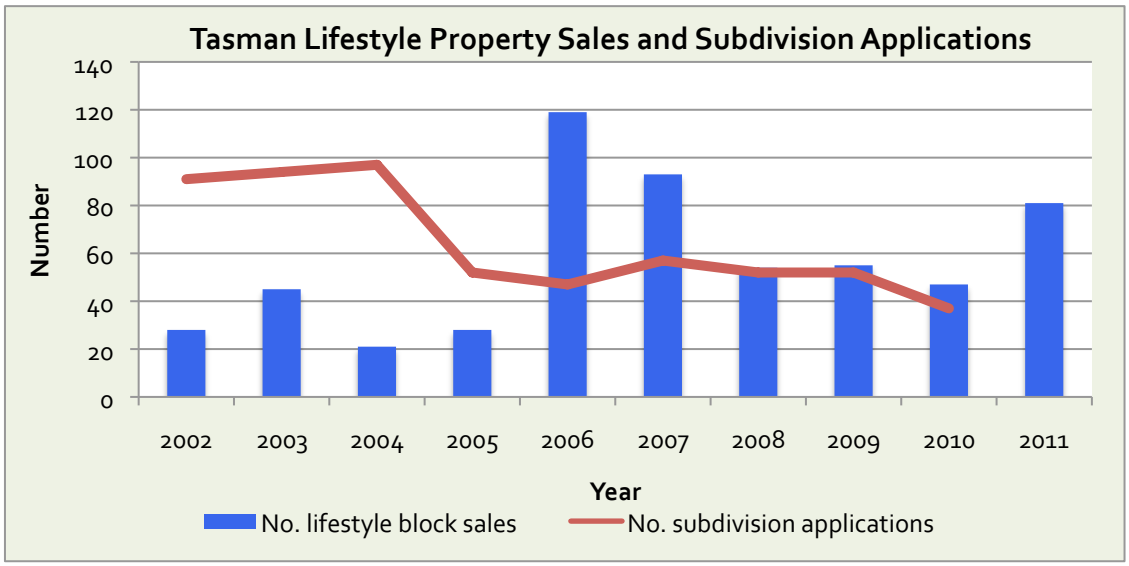
Notwithstanding these recent trends, the review of the region's history and historic plans clearly show that since colonisation, Tasman has been more fragmented, relative to other regions, with higher levels of ownership of smaller parcels of land. The region has undergone numerous agricultural cycles as broader events have impacted on the economic viability of farming and horticulture, particularly on land of lesser quality. Industry pressure on hops farmers in the 1950s, the effects of economic deregulation on pastoral farming in the 1980s, the 1986 deregulation of the tobacco industry, decisions in the 1990s to retire forestry land, and the 2001 deregulation of the pipfruit industry: collectively these events have generated a pattern of land use change based on exposure to the effects of world/global markets.

Overwhelmingly this cycle releases land into other uses. In some instances whole-scale changes to land use occur, such as the conversion of much of Tasman's land to forestry. The cycle also encourages the development of alternative productive uses like tobacco, grape, or kiwifruit growing, or more unusual and often high-capital farming activities such as breeding alpacas or growing olives for oil production. Renewed capital investment in diversified agricultural practice is often

facilitated through on-selling land to finance new operations. Part-time farming has become more common and ongoing farm viability is often maintained through off-farm income.

In a post-productive setting there are two additional consequences of exposure to global markets that result in increased fragmentation. The first is that selling land for conversion into smallholdings becomes one of the most financially advantageous strategies, particularly in a region of high amenity where there is a greater differential between the per hectare value for aggregated agricultural land versus lifestyle land. The second consequence is that the threshold of what is considered marginal land shifts, to the point where, in Tasman District, there is ongoing subdivision of highly fertile Rural 1 land.

Figure 16: Lifestyle property sales and subdivision applications



(REINZ, 2011b)

The three hundred percent jump in numbers of lifestyle properties sold in 2006 (see Figure 16) reflects an earlier 2005 nationwide trend and very likely reflects the output of the earlier rise in number of subdivision applications reappearing as marketed properties. The 2008-drop in sales is related to broader economic downturn. Anecdotal evidence suggests there are a number of rural properties in the region subject to successful subdivision applications that have yet to be developed because of lack of demand, caused presumably by the economic

slowdown, but also potentially by there being a glut of rural allotments on the market. Given the cyclical nature of real estate activity, some of these undeveloped properties may revert back to productive use and certainly the spectre of ongoing recession threatens the immediate likelihood of another speculative real estate boom such as that experienced in the previous decade. However, outside of the real estate cycle, there has been a decades-long cumulative shift of rural land into fragmented allotments.

District Plan

This raises the question of the capacity of the District Plan to deal with changing rural environments. The work undertaken by Council staff and evidence given in appeals processes indicate planning staff know to a detailed level the causes of fragmentation and are also clear around the changes needed to better protect rural land from fragmentation. It would seem there is capacity within district plan mechanisms to better manage the issue.

However, since notification of the TRMP in 1996, there have been three notable Council decisions that have undermined substantive policies designed to limit fragmentation and protect productive land, all following submissions by rural landowning groups. The first decision was the change of status from non-complying to discretionary for subdivision below minimum lot size following submissions to the 1998 Plan change process. The second was the discontinuation of the land class database following withdrawal of support by Tasman Horticulturalists in 2002. The third was the decision by Council to combine more productive Rural 3A land with the existing Rural 3 zone under a single set of less stringent rules following submissions by landowners to the Rural 3 framework in 2005. In addition, there has been a sluggishness by Council around responding to planning officer requests for clarification and providing planners with a mandate to resolve problems with the TRMP as it affects fragmentation.

The fundamental issue is not the capacity of the District Plan to respond to changing rural environments, but rather, whether there is enough political will to do so. Miller argues planning “is a political activity that depends on political structures for the authority to achieve its aims” (Miller, 2011 p. 22). And further,

that significant political commitment is required to see the environment as important as individual property rights, or economic interests (Miller, 2011 p. 190). In the above examples, the political decision-making processes consistently favoured landowners' property rights and economic interests over the environmental imperative to protect a resource, undermining existing planning objectives in the process. The planning theorist, Flyvbjerg, would describe the Council's response as distorted relations of power where "rational deliberative democracy" gives way to "rule-by-the-strongest" (Flyvbjerg, 2002 p. 131).

Perhaps the weakest component of the District Plan is the inclusion of goals that concurrently aim to limit cumulative fragmentation effects as well as provide for non soil-based activities, including rural residential development in the coastal Tasman area. The Environment Court has commented on the difficulties faced by TDC around trying to achieve both these objectives. In practice, rural residential development is occurring across the region and is not limited to dedicated rural residential zones. This is particularly so in the Waimea Ward with its high levels of amenity and proximity to urban centres and main transport routes. Waimea was the last ward to implement a rural residential zone; there was instead a reliance on existing fragmentation to cater for the demand for rural residential living. Evidence given in Environment Court cases indicates the Waimea County Council were caught napping around the management of rural residential development and there has been a game of catch-up ever since. It also appears there is a strong political bloc of landowners in that ward who have fought to retain the right to dispose of their land on their own terms and have influenced planning process in order to do so.

The Rural 3 framework is an attempt to reconcile the objectives of allowing rural residential development in a way that is more sensitive to the landscape, is more careful around protecting productive land, and results in reduced fragmentation. In practice, this framework has had mixed success because of the late inclusion of already fragmented Rural 1 land under its auspices.

The objectives within the TRPS around limiting residential development on productive land are clearly not being met, based on the new dwellings data.

However the problem is not around urban containment, which in any case is outside the scope of this study, the problem is instead around a dispersed residential sprawl and confirms the PCE's description of the peri-urban as a kind of unmanaged in-between area. The dispersal of new dwellings outside of urban centres and across the rural zones has substantial implications for land fragmentation, particularly in terms of the cumulative effects of overcapitalised rural residential investment. It also demonstrates an ineffective population growth strategy. The TRMP is muted when it comes to human settlement with residential growth in rural zones driven more by speculative development processes than any strategic growth framework.

The move from the TCPA to the effects-based RMA is an interesting transition in the Tasman District. At face value the protection of productive soils is as strong with many of the existing mechanisms and priorities carried through to the TRPS and the TRMP. Ericksen et al's assessment of Tasman's plan relative to other plans was that the quality of the PTRMP was quite high (Ericksen et al., 2003, p. 293). However, the early RMA era was characterised by an ease of passage for development projects. The rhetoric during implementation of the RMA was very much concerned with withdrawal of control by planners around the choices that individual landowners could make around their own land use, particularly where those controls were seen as distorting or fettering market practice. Political decision-making by TDC Councillors certainly echoes this market-based approach to land-use. The series of decisions by TDC in 1998, 2002 and 2005 to wind back control over rural land use in favour of landowners, eased the passage for subdivision applications and the capacity for farmers to divest themselves of marginal land or retire with a sizeable capital return.

TDC Planners have continued to focus on the objectives of managing the fragmentation of rural land and loss of productive soils that goes with fragmentation, in the face of political decision-making that effectively undermines the planning process. Fisher (1993) argues that for regulation to work well it requires both mandate and substance. In Tasman District the regulatory mandate is rendered inefficient and ineffective by an ambiguity between property rights and the environmental imperative. This ambiguity manifests as a significant

disjunction between political decision-making and planning policy and practice, and raises the question of whether politicians are well placed to be making planning decisions.

Land Productivity

In 2002, TDC Policy Manager, Steve Markham gave evidence in *Zwart v TDC* [2002] BRM Gazette 175 describing the cumulative effect of fragmentation on productivity. Fragmentation through decreasing subdivision size "creates increasing or cumulative limitations to realizing the value of the land for production end-uses", reducing "future community choice" to virtually nil, and tipping land-use decisions over a threshold into "market or political decision-making to treat the site as a living or residential site only" (*Zwart v TDC* [2002] BRM Gazette 175, para 89).

The TRMP defines the productive value of land as follows:

> The inherent or existing ability of the land to produce plant or animal biomass, arising from its natural and physical features, and includes measures of productivity and versatility (Tasman District Council, 1996, p. 2/25).

The Council's objective in the TRPS is "avoidance of the loss of the potential for land of productive value to meet the needs of future generations, particularly land with high productive values" (Tasman District Council, 2001, p. 51). The productivity research shows that fragmentation of rural land below a certain threshold is more likely to tip land use over into non soil-based uses. The fact that the region is already peppered with properties below the minimum lot size undermines the effectiveness of the minimum lot size criteria and opens up the discretionary nature of decision-making to wider interpretation. The Plan is effectively silent on how to respond to properties that are already fragmented below the minimum lot size. Planning officers signalled this in their report to Council in 2009.

Consideration of productivity in the plan raises the spectre of the economic farming unit. EFUs were introduced at a time when Councils were newly mandated to manage subdivision and protect productive soils, and at a time of rising environmental consciousness and changes to traditional farming markets. An EFU represented a kind of gold standard of what a farm ought to be able to do, that is support a family without recourse to off-farm income. Waimea's 1980 review stated that a number of factors had rendered EFUs unusable, including diverse land use and land fragmentation.

Arguments around productivity in the plan are problematic for the same reasons the use of EFUs were problematic. The repeated emphasis in the plan to productivity, along with discretionary subdivision status, at a time when farming is consistently exposed to global economic effects, backs the Council into a kind of farm-economics cul de sac. Appeals to the Environment Court are peppered with arguments by appellants that their land is no longer productive therefore they should be able to subdivide it, or haggling over the definition of productive. In general, productive capacity varies depending upon a range of factors including access to irrigation or the application of fertilisers – early orcharding in Tasman was highly productive on marginal soils due in large part to the application of pesticides and fertilisers and this ultimately had huge ramifications for the region in terms of environmental harm. Recent proposals for increased irrigation coverage in the District include the Lee Valley dam and the success of this proposal will alter the productive capacity of a number of fragmented rural properties.

The TRMP attempts to get around productive variability by arguing that to "maintain the productive values of land" subdivision controls allow for retention of "soil-based production opportunities … **despite shifts over time in the economic prospects for particular production activities**" (Tasman District Council, 1996, p. 16/91 subdivision rules explanation - author emphasis). The intent signalled in this statement is only partially reflected in the Plan objectives but is completely undermined by political decision-making and the methods used to manage subdivision and dwellings, and in general the TRMP falls short of prioritising future needs over current needs. The message that land has a value outside what is economically viable at any given time gets lost amongst the day-to-day

expectations of rural landowners and the constant demand for rural smallholdings. The Council might simplify this situation if its objectives focused on limiting further fragmentation since productivity is so labile and complex to define. The Environment Court has also signalled that productivity is not the only consideration when considering fragmentation of rural land.

The issue of when subdivision actually becomes fragmentation needs clarifying. In Chapter 3 it was argued fragmentation doesn't apply to all subdivision, but that the effects of fragmentation vary depending upon a range of factors. However, reduction in size of land allotments over time is almost always a one way process, particularly when a dwelling house of sizeable investment is included as part of the development (although analysis of TDC's boundary adjustment data needs further analysis to test the extent of title aggregation). In many instances subdivision of rural land into smaller units may make it more productive, however when farm profit becomes more marginal, land use often shifts into post-productivist use. In that instance, at what point should regulatory controls have managed the loss of productive soils that have occurred as a result of fragmentation and changing economic circumstances? Planning controls don't seem to take account of Tasman's cyclical nature of land use following exposure to global markets.

Minimum lot sizes are a blunt and arbitrary tool but they do draw a line in the sand around what is considered a threshold for sustainability. The problem of fragmentation in Tasman is compounded by a lack of clarity about what sustainable limits of rural subdivision are. Underpinning this is a lack of guidance by central government as to what a sustainable rural land use is and this is in the context of booming dairying, forestry and aquaculture industries. Holmes's (2006) multifunctional differentiation of rural land use into production, consumption and protection modes is a useful concluding frame for the fragmentation dilemma. The Tasman District is characterised by a lack of balance as much of its rural land resource shifts into consumption purposes. The regulatory framework struggles to take effect in the face of a history of fragmented land-use, an ongoing cycle of exposure to global markets that marginalises rural land, demand for fragmented allotments, and highly politicised decision-making that hampers the capacity of planners to respond to a changing rural space.

Conclusion

The drivers of rural land fragmentation in Tasman District are a mix of historical specificity and modern global change. In a contemporary setting the pressure on rural land for amenity living opportunities is likely to continue with some fluctuation depending upon broader economic and social trends. Certainly this pressure is not unique to Tasman, with other New Zealand regions experiencing similar growth, and worldwide demand for small lots in high amenity rural settings.

An additional driver of fragmentation, and what sets Tasman apart is an existing pattern of fragmented allotments that evolved because of a very specific set of historic and geographic circumstances. Since the 1973 legislated requirement to protect productive soils, planning in the region has been playing catch-up, initially because of historic fragmentation, more recently because of ongoing vulnerability to waves of exposure to global markets, and significant development pressure for rural amenity lots.

Within the effects-based RMA framework, the key drivers of fragmentation are not so much a lack of capacity within the district plan, but rather a disconnect between the environmental imperative to protect productive resources and a pattern of political choices to insulate rural landowners from the effects of broader agro-economical effects. Coupled with a strategic blind spot around managing human settlement, this has left the rural environment overly susceptible to post-productivist trends and ongoing rural fragmentation. As such, planning responses to fragmentation have been muted and compromised, and the broader mandate of sustainable development of the rural land resource is clearly not being met in the Tasman District.

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Appendix 1: Ethics Approval

MASSEY UNIVERSITY

19 August 2011

Helen Watson
165 Quebec Road
Washington Valley
NELSON 7010

Dear Helen

Re: What Are the Drivers of Rural Residential Subdivision in Tasman and What Have Been the Planning Responses?

Thank you for your Low Risk Notification which was received on 18 August 2011.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

> *"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, e-mail humanethics@massey.ac.nz".*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

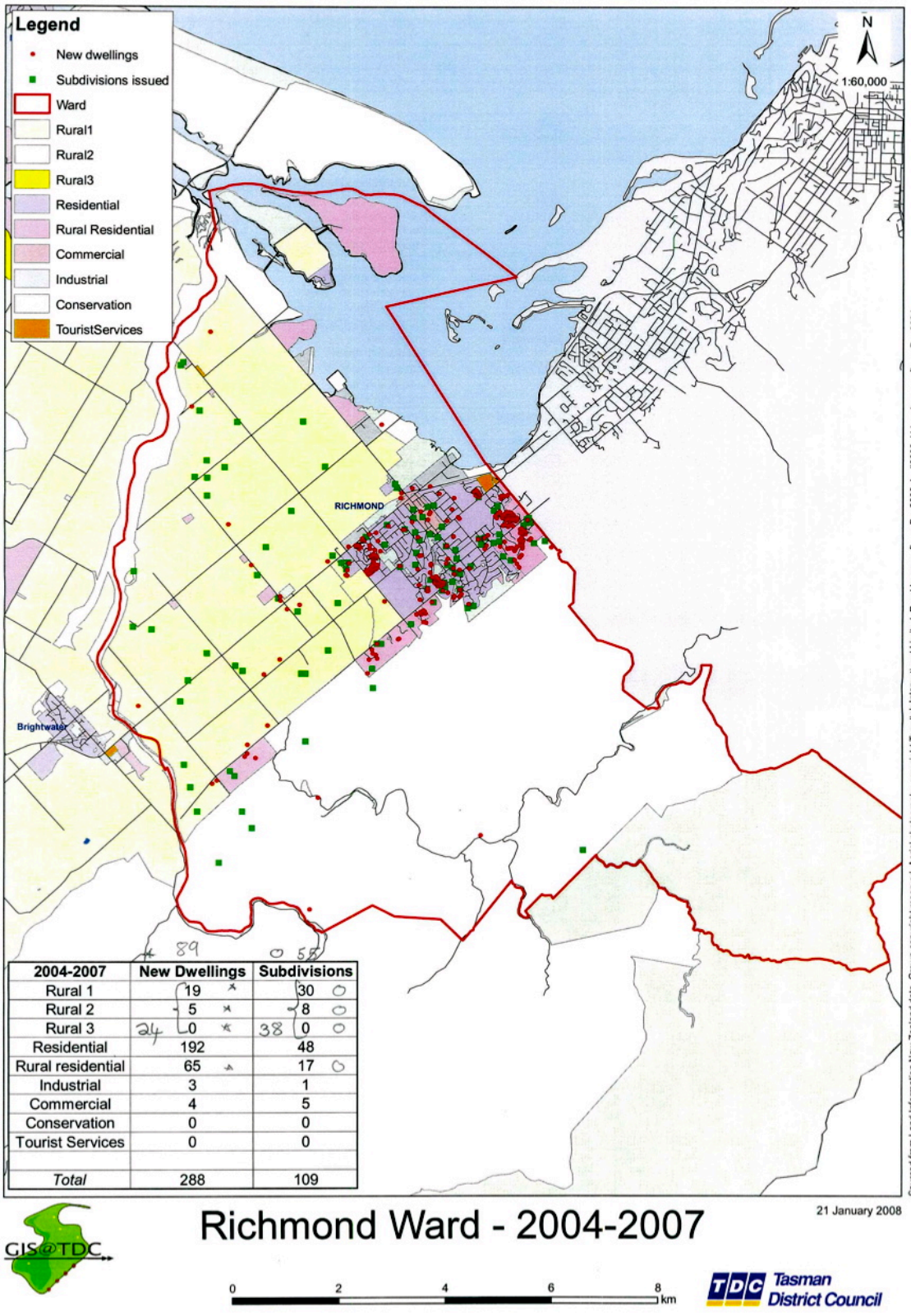
J. O'Neill

John G O'Neill (Professor)
Chair, Human Ethics Chairs' Committee and Director (Research Ethics)

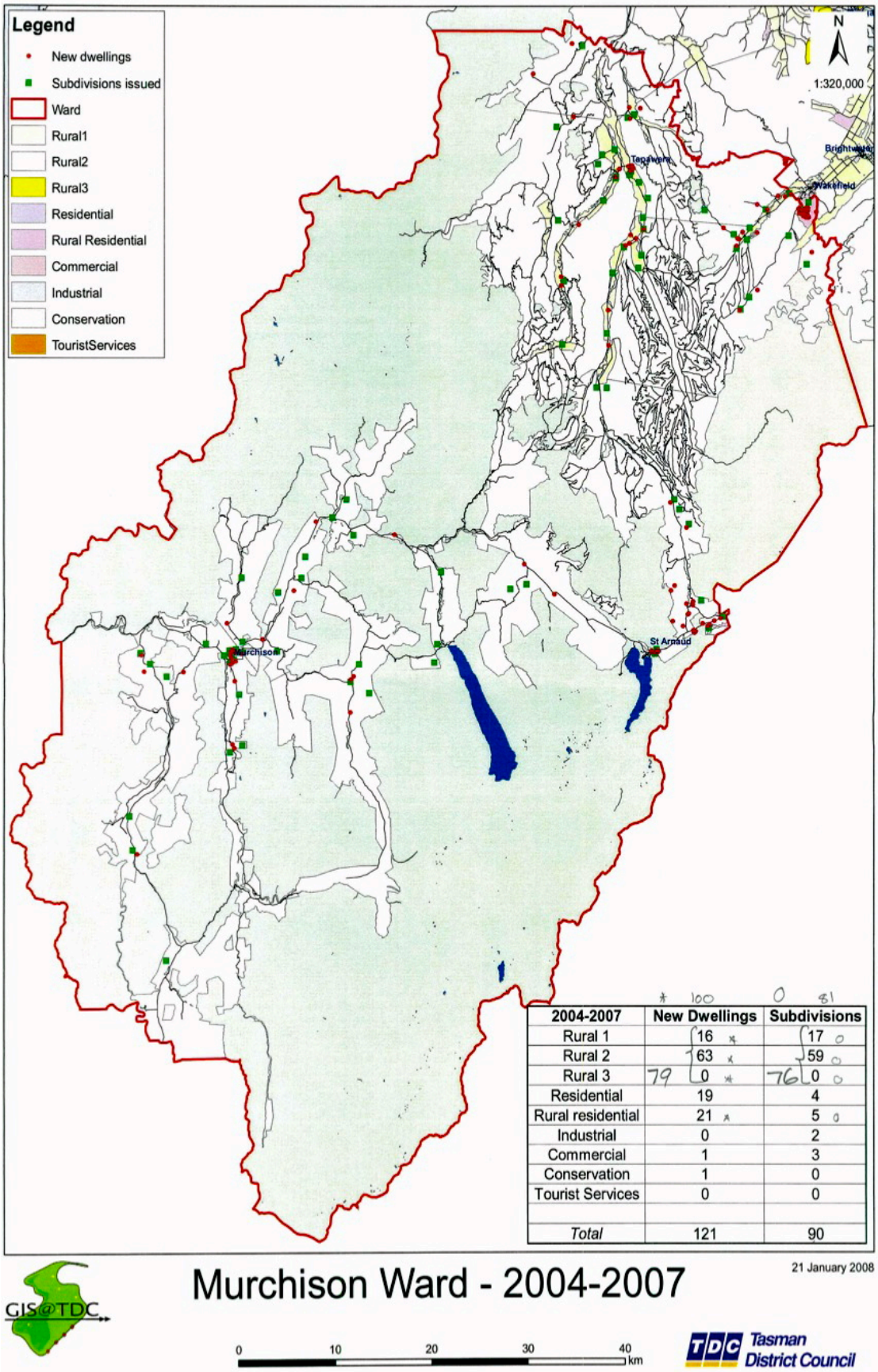
cc Dr Caroline Miller
School of People, Environment and Planning
PN331

Mrs Mary Roberts, HoS Secretary
School of People, Environment and Planning
PN331

Appendix 2: Maps of Tasman District Wards



2004-2007	New Dwellings	Subdivisions
Rural 1	19	30
Rural 2	5	8
Rural 3	0	0
Residential	192	48
Rural residential	65	17
Industrial	3	1
Commercial	4	5
Conservation	0	0
Tourist Services	0	0
Total	288	109



2004-2007	New Dwellings	Subdivisions
Rural 1	16	17
Rural 2	63	59
Rural 3	0	0
Residential	19	4
Rural residential	21	5
Industrial	0	2
Commercial	1	3
Conservation	1	0
Tourist Services	0	0
Total	121	90

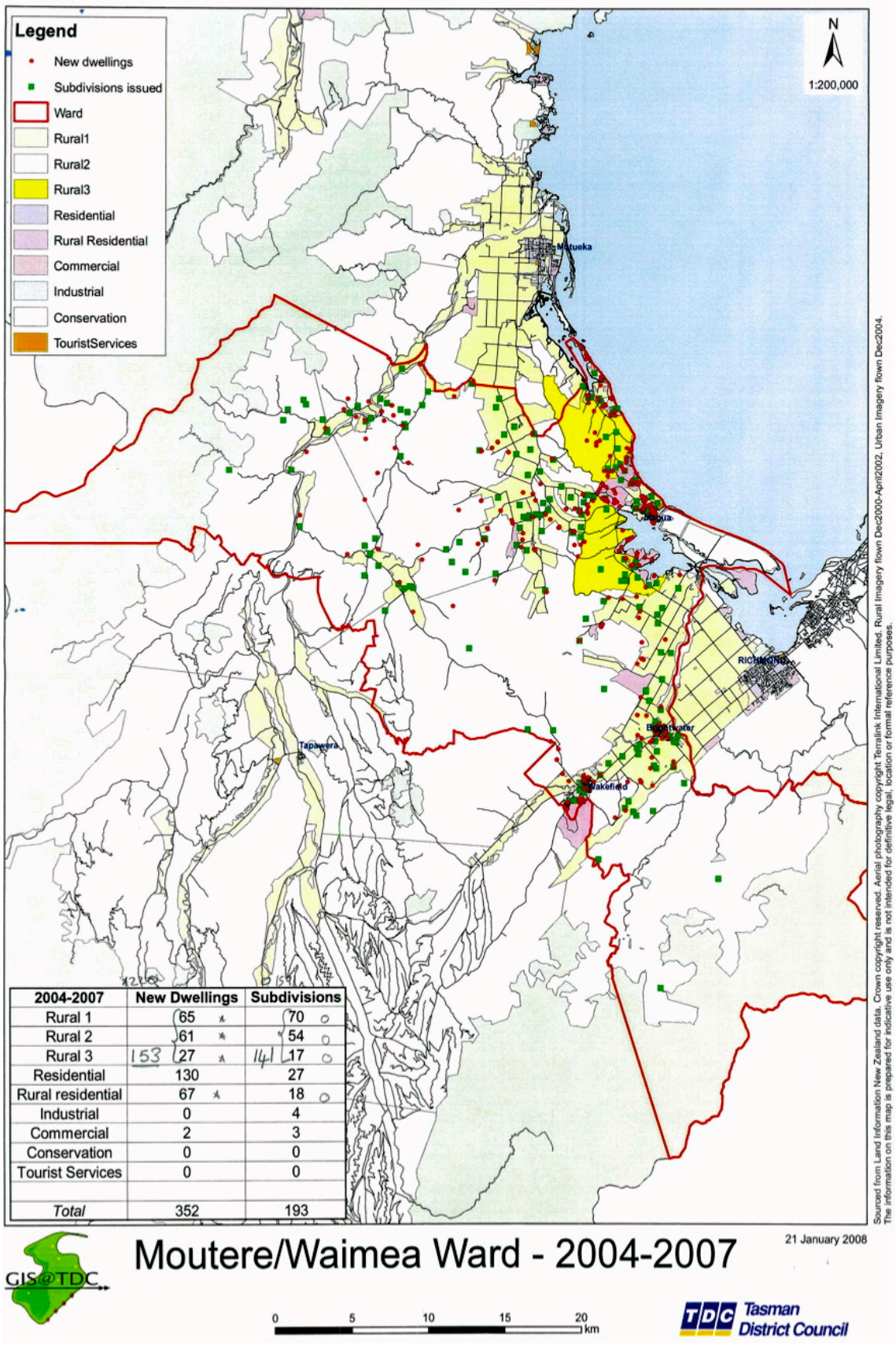
21 January 2008

Murchison Ward - 2004-2007

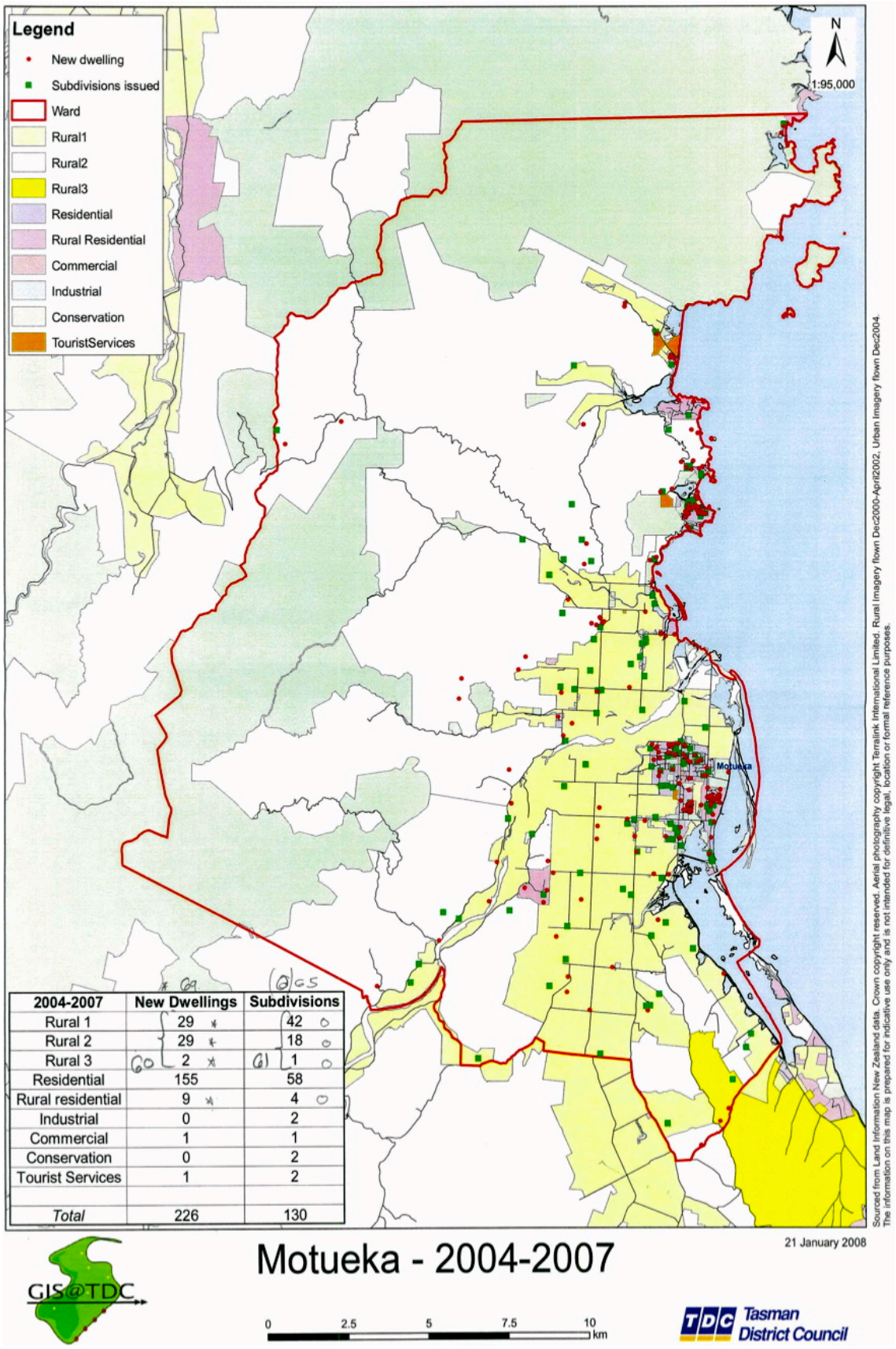
GIS@TDC

0 10 20 30 40 km

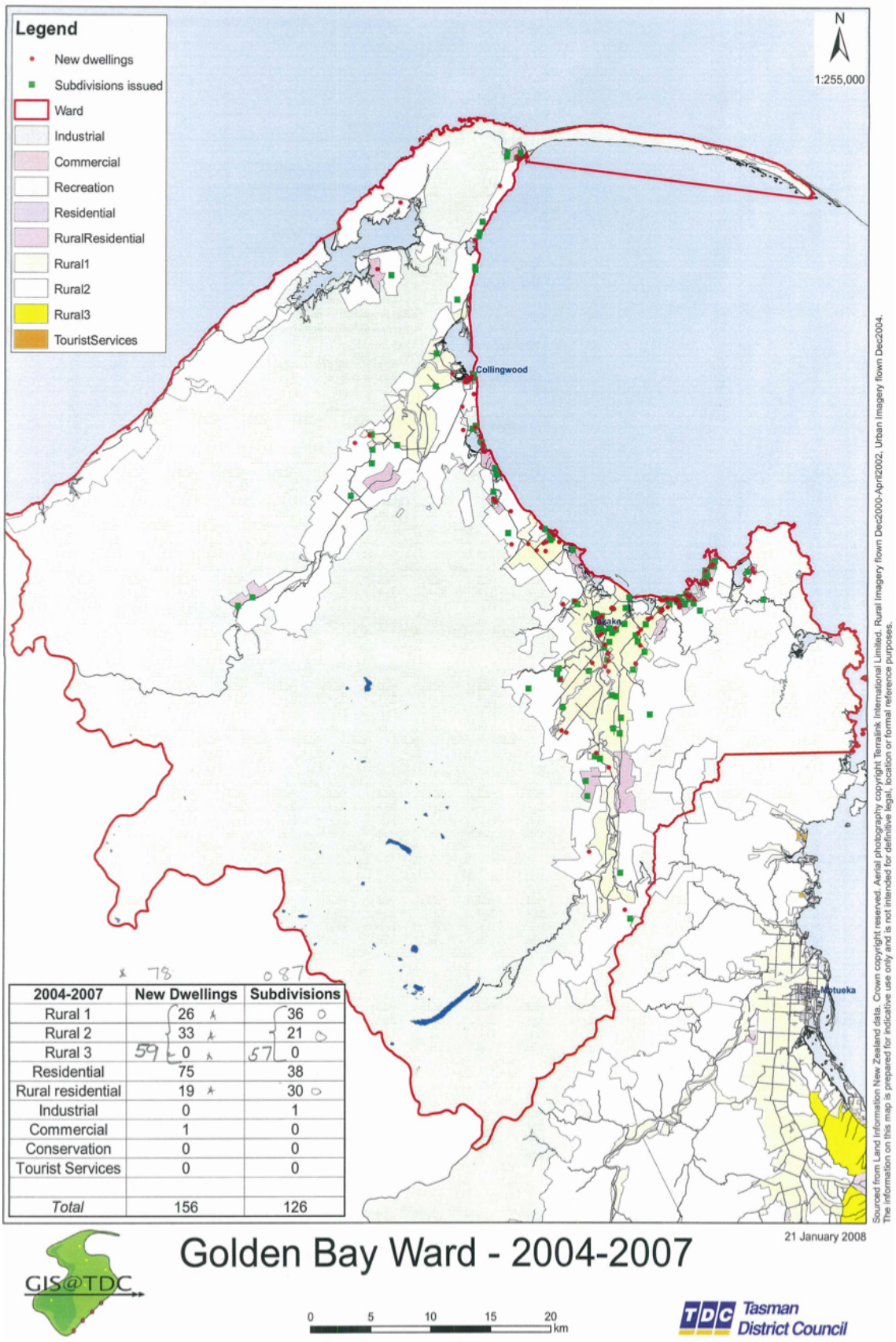
TDC Tasman District Council



2004-2007	New Dwellings	Subdivisions
Rural 1	65	70
Rural 2	61	54
Rural 3	27	17
Residential	130	27
Rural residential	67	18
Industrial	0	4
Commercial	2	3
Conservation	0	0
Tourist Services	0	0
Total	352	193



2004-2007	New Dwellings	Subdivisions
Rural 1	29	42
Rural 2	29	18
Rural 3	2	1
Residential	155	58
Rural residential	9	4
Industrial	0	2
Commercial	1	1
Conservation	0	2
Tourist Services	1	2
Total	226	130



2004-2007	New Dwellings	Subdivisions
Rural 1	26	36
Rural 2	33	21
Rural 3	0	0
Residential	75	38
Rural residential	19	30
Industrial	0	1
Commercial	1	0
Conservation	0	0
Tourist Services	0	0
Total	156	126