Ministry for Primary Industries
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Proposed National Policy Statement – Highly Productive Land

Indicative Cost-Benefit Analysis

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m.e consulting

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Executive Summary

The purpose of the report is to provide an analysis of indicative costs and benefits anticipated to arise from the proposed National Policy Statement on Highly Productive Land (NPS – HPL), as currently drafted for upcoming public consultation. Highly productive soils (HPS)[1], which are a key factor in defining highly productive land (HPL)[2] under the NPS – HPL face considerable pressure from growth, driving demand for urban land and rural lifestyle land. The high incidence of HPS and the nature of the land market means that the total economic value of the HPS resource rarely influences subdivision and development decisions when assessed at the micro-level for individual properties.

Purpose of the NPS - HPL

The NPS - HPL seeks to improve the way HPL is managed under the Resource Management Act (RMA), in order that the availability of HPL for primary production[3] for future generations is maintained, that HPL is protected from inappropriate subdivision, use and development; and that the full range of values and benefits associated with the use of HPL for primary production is recognised.

It does not seek to provide absolute protection of HPL, nor that that there should be no net loss of HPS within a region or district. Rather, the NPS – HPL seeks that local authorities will proactively consider the HPS land resource to ensure its availability for primary production now and for future generations, especially that urban development should avoid HPL where other options are feasible. It is therefore focussed on redirecting activity that is not dependent on HPL to other areas rather than constraining urban and rural lifestyle development.

Approach to CBA

Analysis of wider costs and benefits has been carried out based on a high-level understanding of the processes through which effects will arise as a result of the NPS – HPL policies. To help identify relevant costs and benefits of the NPS - HPL, M.E has considered the draft discussion document (MPI), a summary of stakeholder consultation feedback (November 2018, 4Sight Consulting Ltd), other relevant documents supplied by MPI or sourced by M.E and initial information gathered from interviews with soil/soil mapping experts.

Detailed spatial analysis of six case study council areas has established the baseline against which the NPS - HPL has been evaluated and modelling of projected rural lifestyle subdivision without and with the NPS - HPL has enabled a significant long-term economic benefit (avoided loss of primary production gross output) to be estimated. The case study areas span both high and low growth urban and rural environments, differing primary sector roles within the local economy, different mixes of primary production activities, and differing extents of land use capability (LUC)[4] class 1-3 resource relative to total council land area.

[1] Refer Appendix 1 – Glossary of Terms.

[2] Ibid.

[3] Ibid.

[4] Ibid.

The spatial analysis of each case study area has examined the incidence of both social and economic activities in each district relative to LUC class 1-3 land. It has included an understanding of the relative significance of different activities and land uses in the rural environment compared to the urban environment, and the relative significance of activities located on indicatively defined HPL versus other (less productive) land.

The analysis confirms that large shares of primary production activity[5] are tied to HPS. This correlation between HPS and primary production gross output[6] is a key issue that the NPS - HPL seeks to address and why priority should be given to protecting that capacity for primary production and not other land uses. Put simply, primary production is generally not 'transferable' and the greatest efficiency will be achieved by allowing primary production to stay in place.

The analysis has examined operative district plan zones, focussing on those zones in the rural environment – being rural general or productive zones and rural residential/rural lifestyle zones as well as deferred growth zones. The NPS - HPL focusses on rural productive zones or rural areas generally for the purpose of defining HPL, but all of these zone types are relevant for accommodating future urban and rural lifestyle development[7] demand.

The composition of each zone in the case study councils has been examined in terms of the coverage of LUC class 1-3 land. The results show that in some rural residential/rural lifestyle zones and deferred growth zones, the share of land containing HPS is high, but overall the scale of this future loss (when these zones are fully developed) is small relative to the size of the HPS resource in each district. It is not clear what consideration was given to the loss of HPS when these zones were being evaluated, and in some cases, this would have made no difference due to a lack of feasible options. In any case, the losses in future urban zones and rural residential/lifestyle zones are sunk costs under the NPS - HPL. It is the HPL in rural general or rural production zones that is the focus of the NPS - HPL and where the greatest benefits will be achieved. What is clear, is that any future zoning for urban expansion or for consolidated rural residential or rural lifestyle living will result in better outcomes for HPL under the NPS - HPL policies than under the status quo (and consistently across New Zealand).

The exact timing of when those benefits will be felt is uncertain and will be different for each council experiencing growth. In the case study councils, the benefits arising from strategic growth planning that gives greater consideration of the values of HPL may not be evident until the medium or long-term. This is because of the timing of the NPS - HPL. The assessment indicates that all six councils have recently undertaken strategic growth planning in one form or another and the operative zones (which include future urban zones or deferred rural residential zones) reflect the outcome of those exercises. The expectation therefore is that these zones have capacity for future growth. How much capacity, and the year in which additional zones may be required has not been quantified. This requires complex analysis that is outside the scope of this CBA.

[5] Refer Appendix 1 – Glossary of Terms.

[6] Ibid.

[7] Ibid.

A key outcome of the NPS - HPL is that it complements best practice planning generally, and the objectives of National Policy Statement on Urban Development Capacity (NPS – UDC)[8]. It does not seek to restrain urban growth, rather direct it away from HPL where it is feasible and efficient (in terms of costs and benefits) to do so. The NPS – HPL links closely to the NPS – UDC requirement to complete Future Development Strategies (FDS)[9] as this is the point where Council's make strategic decisions about new urban growth areas. While progress is currently ongoing in terms of FDS completion by some high and medium growth councils, it is possible (but not certain) that the location of HPL may be able to be incorporated into the evaluation of growth options, where the FDS is not yet finalised. If not now though, the NPS – HPL will have an impact on the next FDS (and all subsequent strategies) as well as decisions on plan changes on the rural fringe.

Because the requirement to zone new areas for urban growth is infrequent, the timing of that expansion is uncertain (without detailed assessments of demand, supply and sufficiency), the location of that expansion is uncertain, and the expected small losses of HPL as a result of that expansion relative to rural lifestyle development (due to much more efficient use of the land at higher densities), this CBA has not quantified the cost of urban expansion[10] on HPL or primary production activity.

In qualitative terms however, we estimate that for the six case study areas, the scale and significance of the benefits of the NPS - HPL associated with urban expansion[11] will be moderate.

This is because the urban areas in Ashburton, Selwyn, Horowhenua and Waipa Districts are almost entirely (or totally) surrounded by HPS and so those policies are not expected to have any (or little) effect in those districts over and above the status quo. However, in Western Bay of Plenty and Auckland, there are urban areas/fringes where there are options to expand outside of HPL and so there is potential that the NPS - HPL will have a beneficial effect in those council areas (and especially if growth is directed away from important horticultural land in the south of Auckland, including around Pukekohe). Nationally however, this benefit is expected to be highly significant due to the cumulative effect of positively influencing the location of urban expansion across the full count of councils experiencing urban growth.

The CBA *has* focussed on the important issue of rural fragmentation arising from rural lifestyle subdivision and development. In many districts, there is constant and steady demand from this market segment and the scale of these properties combined with the high probability that primary production activity is foregone, means that this land use is having a significant impact on the loss of HPL.

The analysis has considered current patterns of lifestyle block subdivision and development. Future demand for lifestyle properties has been modelled in detail in each case study area and placed on the ground based on an approximation of current subdivision potential under operative minimum lot sizes. The location of future subdivision relative to the HPS resource highlights the scale and significance of subdivision activity that could be deterred or redirected to less productive land under the NPS – HPL.

The results from the six case studies showed that all of the council areas had significant potential for further subdivision on HPL and all had significant potential for further subdivision on non-HPL. When considering

[8] Ibid.

[9] Ibid.

[10] Refer Appendix 1 – Glossary of Terms.

[11] Ibid.

just the subdivision potential that is broadly in keeping with the size of lifestyle blocks (i.e. an upper limit of around 8ha), three of the council areas demonstrated sufficient capacity to redirect anticipated lifestyle property growth to 2048 away (totally, or largely) from HPL. However, in three of the council areas, the NPS - HPL has the potential to constrain expected lifestyle demand growth by removing all or a portion of subdivision capacity (on HPL). Of these, two would have potentially experienced a long-term shortfall of capacity to meet demand growth under the Status Quo, so the NPS - HPL is either having a marginal effect or is potentially introducing a constraint that would not have been expected in the next 30 years.

These outcomes assume that Councils will maintain current minimum lot sizes and will not make changes to enable lifestyle development on non-HPL (to provide additional capacity and help redirect growth). Given that this is a key objective of the NPS - HPL, the potential constraint on lifestyle property growth may well be remedied or mitigated as part of the plan change to implement the NPS – HPL (or at a later stage when needed). On that basis, only limited weight should be given to the potential outcome of constrained growth.

To the extent that lifestyle-driven subdivision is deflected away from HPL (whereby the analysis tests a strict 100% avoid High regulatory scenario and a less rigid 70% deflected outcome (Low-Medium regulatory scenario), the avoided loss of primary production output on parcels that may have been expected to subdivide to create lifestyle lots is the key output of the spatial and quantitative analysis.

Key Benefits

The key benefits of the NPS – HPL are environmental and economic focussed. They relate to protecting HPL so that productive capacity is available for future generations. In doing so, the primary sector can continue to operate efficiently, local food supply is not threatened, and primary sector export earnings are sustained (both downstream supply chain outcomes). It also maintains employment opportunities in rural areas and maintains wider economic activity associated with the upstream supply chain. The avoided loss of primary production gross output is a year on year benefit that accumulates over time so is significant, even when the costs of inputs to produce that level of output are factored in.

Social benefits are also key and arise as a consequence of economic benefits. Protecting rural employment opportunities benefits both rural and urban workforces. Those primary production incomes have flow on effects to the wider economy through personal and household spending. Similarly, the owners of primary production businesses can retain their earning potential and spending by these businesses and households flows through the wider economy, helping to sustain both urban and rural businesses. Having places to work and being part of the workforce contributes to social wellbeing. The primary production sector plays a key role in many districts and therefore helps sustain communities and the social connections, cultural identify, earning potential etc that comes with that. These benefits arising from the NPS - HPL, while unquantified, are considered to be significant.

Other benefits of the NPS - HPL arise from greater consistency of resource management practice across New Zealand and better information on the benefits and costs of urban expansion and rural fragmentation on the productive capacity of land (which leads to better decision making) and greater certainty for primary producers. It is expected that the NPS - HPL will have a positive and immediate impact on council strategies for managing demand for rural lifestyle living and will have a positive impact on strategies for managing urban expansion in those jurisdictions experiencing growth, albeit that this benefit will become more apparent in the medium-long term.

A key benefit of the NPS - HPL is that it allows Council's to continue to provide for future urban and rural growth. The main impact is better management of the location of growth. Better management of reverse sensitivity effects through strategic planning processes and strengthened provisions focussed on primary production activities on HPL are also key benefits.

Key Costs

The key costs of the NPS – HPL are also largely associated with natural capital (unquantified) and economic outcomes for HPL and the consequent effects of redirecting urban and rural lifestyle growth. Implementation costs for central government, regional councils and district councils are an obvious cost that will be passed onto tax payers and rate payers. Implementation costs may be considered one-off and short-term costs (e.g. mapping the HPL resource), although data maintenance and monitoring costs may be ongoing.

Other costs of the NPS - HPL arise from the externalities of primary production on the environment and additional costs for consent applicants seeking to subdivide HPL on the urban fringe (requiring site-specific land use capability assessments). There may also be an opportunity cost[12] for other land use activities on HPL when HPL is prioritised for primary production. Similarly, owners of HPL that may have been able to free up some capital by subdividing lifestyle blocks may no longer have that opportunity under the NPS - HPL, although the degree to which this opportunity cost will be felt will depend on the approach taken by council.

Quantifying this opportunity cost is difficult and has not been attempted for this CBA. The value of subdivided lots will depend on their size and location, and these prices are difficult to project over time. However, across the district, the opportunities lost for owners of HPL will be generally offset by opportunities gained by owners of non-HPL, especially when the quantum of growth is the same and demand is not constrained. Because the NPS - HPL seeks to redirect growth, there are not expected to be any net opportunity costs at a district level in most cases (but not all).

Any potential costs and inefficiencies associated with redirecting urban or rural lifestyle growth to non-HPL areas are recognised but are also difficult to quantify. Relevant considerations are the capacity of network and other infrastructure to support additional catchment growth. The contour, ownership and value of land, as well as existing land uses can all influence the relative cost and feasibility of different locations.

Key Findings

It appears from this examination of six case study areas that most councils have operative provisions that recognise the importance of primary production and the finite soil resource to some extent, although this varies. This is perhaps to be expected given that our case studies all have moderate or considerable HPS coverage relative to total area. All have taken a strategic approach to planning for urban growth (although not all will have factored HPL into their option assessment). All have provided zones for rural residential or lifestyle living (or large lot living). Horowhenua District has specific subdivision rules that appear effective in deterring most lifestyle property demand on LUC Class 1-2 land in certain parts of the district.

The impact of the NPS - HPL is therefore focussed on strengthening existing provisions, shifting the weight or priority given to certain activities, being specific about where HPL is located, and in many cases widening

[12] Refer Appendix 1 – Glossary of Terms.

the scope of provisions that seek to protect or manage HPS to include (potentially) LUC class 3 land (in addition to LUC classes 1-2 where not already included) and across the total district. It will also change the discourse of decision making so that the total value of protecting HPL for primary production activity is taken into account. This requires a shift to considering aggregate effects rather than the effects of a single site in isolation.

The degree to which council's need to make changes over and above their operative planning framework has a direct influence on the cost of implementation. While it is likely that some councils will need to make substantial changes, many of the councils studied will not. Outside of the case studies examined, the extent of change required to give effect to the NPS - HPL will also be influenced by the significance of the HPS resource in the district or region and the relative importance of the primary production sector[13].

Monetised Results

Only a limited number of economic costs and benefits have been able to be monetised in this indicative CBA, but those that have are among the key ones. Not all implementation costs for councils have been estimated for example. The key gap is the cost for regional councils to identify and map HPL, including any potential data costs needed for that exercise (which may be substantial depending on what data source is preferred as the base standard[14]). Following public consultation, feedback from regional councils on this potential cost can be incorporated.

The benefit of redirecting urban expansion away from HPL (where feasible alternatives exist) has not been quantified. The difficulties and uncertainties of quantifying this mean that is likely to remain unquantified in any future updates. If anything, including this benefit is likely to increase the net benefits of the NPS – HPL summarised below.

Of the costs and benefits that have been monetised, they apply over a 30-year time period and only to the six case study areas (combined). The estimated benefits relate to the primary production gross output retained on HPL as a result of the NPS – HPL (i.e. the loss avoided by redirecting demand for rural lifestyle development). The estimated costs include both regional policy statement and district plan changes as well estimated consent application costs (assessments of effects). The cost of primary production is also captured, limited to the costs of inputs (resources, labour and the time cost of labour) associated with the amount of primary production gross output retained on HPL in each case study area. This is necessary to avoid double counting of upstream economic benefits and effectively converts primary production gross output to net output (akin to gross domestic product (GDP).

Comparing the present value[15] of those costs and benefits (using a conservative discount rate[16] of 8%) suggests that the NPS – HPL returns a net benefit and a benefit cost ratio (BCR[17]) of 1.01-1.24 (for the Low-Medium and High regulatory response scenarios respectively). Figure 0.1 tests two alternative discount rates. At a 4% discount rate, the NPS – HPL returns a BCR of 1.12-1.28 respectively. Under a lower discount rate again (2%), the BCR is 1.16-1.29 respectively.

[13] An indication of this is provided in Figure 2.4.

[14] Consideration of S-Map (Manaaki Whenua) is relevant here.

[15] Refer Appendix 1 – Glossary of Terms.

[16] Ibid.

[17] Ibid.

Figure 0.1 – Results of the 'With NPS - HPL' Scenario

		Discount Rate					
		8%		4%		2%	
		L-M (Total)	High (Total)	L-M (Total)	High (Total)	L-M (Total)	High (Total)
PV of Cost ($m)	*Plan Change and Consent Applicant Costs*	$ 17	$ 17	$ 20	$ 20	$ 23	$ 23
	*Cost of resources used **	$ 53	$ 198	$ 100	$ 375	$ 142	$ 533
	Sub-total PV Costs	$ 70	$ 215	$ 120	$ 396	$ 165	$ 556
PV of Benefits ($m)	*Future production protected*	$ 71	$ 266	$ 135	$ 505	$ 191	$ 717
PV of Net Benefit ($m)		**$ 1**	**$ 51**	**$ 14**	**$ 109**	**$ 26**	**$ 161**
Benefit Cost Ratio		**1.01**	**1.24**	**1.12**	**1.28**	**1.16**	**1.29**

*Source: M.E * Cost of inputs to production to procude primary production gross output.*

Conclusions and Limitations

The ongoing loss of the productive capacity of HPL for primary production requires a solution that gives greater focus to strategic growth planning, at the district or local area level, based on the (spatial) relationships between the HPL resource, the district growth strategy, and the trade-offs between protecting HPL and accommodating urban growth in an efficient spatial pattern, while also meeting demand for lifestyle living. This would recognise that the nature of the HPL resource means that it needs to be examined and assessed in the context of the rural and total economy.

The policy direction of the NPS - HPL strikes that balance. Policies address both the site-specific matters and matters which are important at the aggregate or cumulative level, though not at the individual scale. This allows specific consideration of aggregate or cumulative effects on HPL, and in the context of the growth processes which are the main sources of pressure on the HPL resource.

A key outcome of the NPS – HPL objectives and policies is allocative efficiency. It does not seek to stop rural or urban growth, rather, it seeks to ensure that it occurs in locations not best protected for primary production activities. It is expected to achieve this in most cases, although further analysis is needed to identify the proportion of urban growth areas that are completely surrounded by HPL in the rest of the country, as this is an outcome where the NPS - HPL accepts that losses of HPL cannot be practicably avoided. The modelling also indicates that redirecting subdivision for lifestyle property demand to non-HPL is feasible in most cases or only has a marginal adverse effect over and above the status quo where shortfalls are anticipated in the long term (although it is anticipated that councils will respond by providing additional capacity where needed to remedy or mitigate such effects). The reallocation or transfer of activity is relevant to the overall assessment of net costs and net benefits (relative to the status-quo).

The current analysis of monetised costs and benefits of the six case study councils suggests a net positive outcome for the NPS – HPL – that is the long-term net benefits outweigh the long-term net costs when expressed in present value terms. It is important that consideration is also given to costs and benefits that have not been quantified in these council areas (including additional implementation costs and non-market environmental and social costs and benefits).

It is also important to recognise the costs and benefits of the NPS - HPL will not be spread evenly across the country. The impact of the NPS - HPL will depend on the geography of the HPS resource, the significance and nature of the local primary production economy, the rate of projected growth in urban and rural locations and the degree of change required to operative planning frameworks to give effect to the NPS - HPL policy direction. The combined variability of these four factors, is the reason that a case study approach was preferred in this instance.

Following public consultation, additional information will be incorporated into this CBA, and amendments may be needed to address changes to the NPS - HPL provisions as drafted. As such, this indicative CBA should be viewed as a living document that will be subject to further changes and refinement.

1 Introduction

Market Economics Limited (M.E) has been commissioned by the Ministry for Primary Industries (MPI) to deliver an indicative cost and benefit analysis (CBA) of the proposed National Policy Statement on Highly Productive Land (NPS - HPL). This is on the basis of the draft objectives and policies available at the time of preparing this report, with the primary purpose being to maintain the availability of highly productive land for primary production, and protect it from inappropriate subdivision, use and development.

The high-level CBA will inform decision making by MPI officials and will inform public consultation on the NPS - HPL. Depending on any revisions that come about from public consultation, this high-level CBA will also inform a subsequent section 32 report and Regulatory Impact Statement. Alternatively, this CBA may be updated/modified to better align with any changes to the NPS - HPL post consultation or to capture new information.

In order to understand the costs and benefits anticipated to arise from the implementation of the NPS - HPL, M.E has adopted a case study approach which includes detailed spatial analysis and examination of operative district plan provisions for six councils. It has also been possible to pull together some spatial data for all council areas, thus contributing to the evidence base at the national level.

For the purpose of this report, highly productive soils (HPS) are defined as including land use capability (LUC) classes 1-3 from the Land Resource Inventory (LRI) dataset. Highly productive land (HPL) as defined in the NPS – HPL has a broader meaning that may relate to a smaller or larger area than the LUC 1-3 area and is something that needs to be defined within a local context. The NPS – HPL gives some guidance on this. At times, these terms may be used interchangeable as necessary to accommodate the limits of available data (i.e. a high reliance on the LUC 1-3 spatial layer in this report), but also reflect the language of the NPS - HPL policies.

1.1 Discussion and Problem Statement

1.1.1 NPS - HPL purpose

The HPS resource is increasingly in the spotlight, as population growth and associated urban and peri-urban expansion place higher demand on the land resource, including land with HPS.

The NPS - HPL seeks to improve the way highly productive land is managed under the RMA, in order that the availability of highly productive land for primary production for future generations is maintained, that highly productive soils are protected from inappropriate subdivision, use and development; and that the full range of values and benefits associated with the use of highly productive land for primary production is recognised.

It does not seek to provide absolute protection of highly productive land, nor that there should be no net loss of HPS within a region or district. Rather, the NPS - HPL seeks that local authorities will proactively

consider the HPS resource to ensure its availability for primary production now and for future generations, especially that urban development should avoid HPS where other options are feasible.

1.1.2 Key Issues Arising

The pressures on the HPS resource which the NPS - HPL seeks to address arise predominantly from growth, as distinct from land use change. One pressure is from urbanisation of rural land, where urban development typically sees the HPS resource covered or removed, with that change almost always irreversible. The other main pressure is through the conversion of primary production land to lifestyle or countryside living properties. In many instances, this change does not result in the physical loss of the HPS resource, as most of the land in lifestyle properties is not built on. However, the HPS resource is usually no longer used for primary production. Because lifestyle properties are typically priced much higher than primary production land on a per ha basis, there is little prospect of the land reverting to primary production. The more common course is for the lifestyle properties to be eventually taken up for urban use.

This has several consequences. One is that the large number of individual owners of the HPS are each individual decision-makers as to the utilisation and changes to the resource itself. That also applies to decisions around changes in the ownership of the resource, and changes in land subdivision patterns. These decisions may be unrelated to the HPS resource at the individual level.

However, while the structure is diverse and widely spread, the effects of changes to the HPS resource typically are seen to be significant for society only when multiple small-scale effects are counted at the aggregate level.

This is problematic for achieving the purposes of the NPS - HPL. That is because district and regional policies and rules commonly apply at the property level or site specifically. If evaluation is based on marginal assessment, to examine only the direct effects of any change, then it is extremely unlikely that any single development would be considered significant enough to decline or modify. This means that multiple individual changes could occur without them being considered in aggregate to identify their cumulative effects. On that basis, unless the evaluation mechanisms are structured so that individual small-scale changes are examined in the wider context as part of cumulative or aggregate changes, then it is difficult to manage effects on HPS and achieve the NPS - HPL objectives.

The issue is compounded because the effects on the HPS resource of changes may arise indirectly. The direct effects on HPS will result from land use and land utilisation. However, land use is driven by several influences, including the subdivision patterns where division of land into smaller holdings increases the feasibility of countryside living as an activity, replacing productive farming.

The issue is further compounded by the approach to assessment. Marginal analysis based on comparison of land use outcomes in financial terms at a single parcel level is heavily weighted toward favouring change away from productive farming. This is because the financial returns from residential and business uses are in almost all instances greater than those from productive farm activity using the HPS, while the value of land for countryside living is usually several times that of land used for productive farming activity. That means there is considerable incentive for current (farming) landowners to sell land, because the value of the HPS resource to the individual landowner is usually far less than the potential price to be gained by selling for countryside living or urban purposes. The differential in market prices for the land (between primary production and subdivision to support dwelling capacity) is not necessarily evenly spread

throughout a district. It is usually greatest near the urban fringe or in locations with high amenity and reasonable access to urban areas. Wherever it occurs, it then influences land value for neighbouring land and the trend for land use change is perpetuated.

Throughout this process the individual landowner does not have to consider the flow on effects of the decision they are making. HPS generate a direct income for the famer and are the start of a chain of downstream activities that each sustain employment and generate income as usually higher value primary produce is transported and further processed before either export or local consumption. Often these production chains form the basis of industrial activity in rural areas and are vital to the wider economy in terms of providing a diversity of employment and because of the other trades and support industries they help sustain (mechanics, electrical services and so on). None of the benefits associated with either these jobs or the fact that a district can offer a diversity of employment and economic opportunity (and contribute to food production and supply) are captured in the single landowner transaction with a developer looking to provide urban edge expansion.

At the same time, it is important to recognise that pressures on the HPS resource vary considerably according to location, and timing. Stating the obvious, subdivision and conversion to lifestyle properties or urban dwelling densities is an issue for the HPS only as far as it directly affects land and properties which contain the HPS resource. Unless the HPS resource is relatively ubiquitous, then both protection of HPS and subdivision of at least some land for lifestyle living may occur without the latter impacting the former.

This potentially leads to a degree of solution with respect to preventing consumption of HPS for non-productive purposes unnecessarily. Rather than asking developers to show on balance (in cost benefit terms) that the development of HPS for non HPS uses is beneficial for the economy, the key issue is how can the District or City provide for urban expansion or lifestyle block development whilst protecting HPS for future generations? This leads to an assessment framework that focuses on alternatives for the urban expansion rather than having to prove at the single parcel level that the benefits of intensive farming outweigh the benefits of urban development (this is a battle the HPS will lose every time).

At the macro level, it is relatively easy to prove that providing for urban development on non HPS soil is far less costly to the overall economy, than allowing consumption of HPS land. The cost benefit framework needs to focus on the development alternatives rather the highest and best use for each single parcel.

This implies a greater focus on strategic growth planning, at the district or local area level, based on the (spatial) relationships between the HPS resource, the district growth strategy, and the trade-offs between protecting the HPS and accommodating urban growth in an efficient spatial pattern, while also meeting demand for lifestyle living. This would recognise that the nature of the HPS resource means that it needs to be examined and assessed in the context of the rural and total economy.

Policies to implement the NPS - HPL have been developed accordingly. Policies address both the site-specific matters and matters which are important at the aggregate or cumulative level, though not at the individual scale. This allows specific consideration of aggregate or cumulative effects on HPL, and in the context of the growth processes which are the main sources of pressure on the HPL resource.

Several steps are indicated for how councils might respond to the NPS - HPL:

Step 1 - assess the geography of the HPL resource to cover its location, scale, and distribution, and then the land uses and subdivision patterns across the HPL.

Step 2 – examine the HPL resource in relation to the district economy, to show the place and role of the HPL resource in the wider economy. This will include direct assessment of where the HPL resource, and its associated primary production activity, both fit within the spatial economy, especially the (urban) growth strategy.

Step 3 – Examine the likely/potential changes in the district economy, to identify how changes at the micro-level – principally subdivision for lifestyle holdings in the rural environment, and subdivision at or near the urban edge for urban development – can individually and especially in aggregate be expected to impact on objectives for the HPL resource as per the NPS - HPL requirements.

Step 4 – Evaluate and prioritise potential outcomes for the HPL resource, including by location and timing. This is likely, because the relatively ubiquitous nature of the HPS resource in some districts is likely to mean that protection in its entirety may not be feasible because of the constraints that might impose on a district growth strategy to accommodate a sufficient scale of growth and do so in an efficient (sustainable) growth pattern. This would be assessed in terms of the RMA generally, and with specific regard to the requirements of the NPS - UDC. Such assessment is likely to include s32-type evaluation of different growth paths, representing different provisions relating to the HPL.

Step 5 – develop plan provisions for the HPL which address objectives at the micro-level (individual property level) and at the macro-level (area or district). These will consider NPS - HPL objectives, and wider objectives including HPL objectives but also other plan objectives, at the macro-level. This is likely to mean that plan provisions have a specific locational element, where some activities which will adversely affect the HPL are nevertheless enabled in some locations because the scale and significance of their effects would not be significant at the local or district level. However, the exact same activities (especially subdivision and re-zoning) may be not enabled in other locations, because their effects would in aggregate be contrary to the NPS - HPL. Consideration of likely effects in aggregate would provide a basis for constraining activities which at the micro-level would not be significant, or material.

1.1.3 Problem Statement

The HPS resource faces considerable pressure from growth, driving demand for urban land – which irreversibly removes productive potential - and rural lifestyle land – which effectively retires the resource from primary production activity, and is commonly an intermediate step to urbanisation. The high incidence of HPS and the nature of the land market means that the value of the HPS resource rarely influences subdivision and development decisions when assessed at the micro-level for individual properties. However, loss of the HPL resource may be significant at the aggregate level, when cumulative effects are considered. Accordingly, achieving the objectives of the NPS - HPL will require assessment which is at the aggregate level and location specific.

1.2 Key Matters for Developing a CBA on the NPS - HPL

This report examines MPI's **preferred option** for provisions in the NPS - HPL (and the resource management issues associated with that). This preferred option is however in draft form and may be subject to further

refinement. As such, this indicative CBA is based on the version of the objectives and policies provided to M.E just prior to consultation (minor revisions were subsequently made).

Several key issues guide our approach to the CBA.

First, the nature of most of the likely benefits and costs arising from greater protection of New Zealand's HPS are reasonably well understood, as are benefits and costs from implementing the NPS - HPL to provide protection, and these have been set out in the preliminary papers prepared to date. This knowledge is an important resource for a cost and benefit assessment of a national policy statement.

However, for a CBA it is important to understand the scale and timing of effects, as well as their nature, and to identify the cumulative and flow on effects, which will arise from NPS - HPL outcomes at the aggregate / macro-level.

There is good understanding of potential NPS - HPL effects at the micro-level, in terms of the key processes, and potential effects on HPS from changes in land subdivision patterns, land use and land ownership, as well as fragmentation and reverse sensitivity issues. However, there has been limited assessment at the aggregate level – that is important to identify the quantum, distribution (geography) and timing of the effects, without and with the NPS - HPL. There may also be significant differences in the distribution of costs compared with the NPS - HPL benefits.

Second, the HPS resource itself is widely distributed among many thousands of (private) landowners, across many locations, is utilised for many different activities, and has important downstream connections with processing and transport activities. At the macro-level, the effects are more complex than just the sum of many micro-level effects accruing to individual landholdings with HPL.

Third, the main processes which are likely to affect HPL and which the NPS - HPL as a planning instrument can affect, are reasonably well understood. These are urbanisation *per se*, which would lead to the irreversible loss of the resource if it occurs on land with HPS, the conversion of land from primary production into urban land uses (whether residential, commercial or industrial), and the shift to lifestyle living. Generally, the conversion to urban residential sections and industrial land use is an irreversible loss of HPS. While the conversion to countryside living may not be irreversible from a physical perspective (the HPS land may not be built on), the higher land values for countryside living properties (combined with often uneconomic lot sizes) mean a return of that land to primary production is very unlikely, even in low growth regions. There are also effects through reverse sensitivity and constraints on land utilisation.

Fourth, at the same time there is a reasonably sound basis for estimating the status quo or counterfactual ('no NPS – HPL') outcome, which may be compared against the 'with NPS – HPL' scenarios. There is good data by district and region on the trend toward lifestyle block living since 1995 (numbers of holdings with dwellings) to show the % share of household growth which has been accommodated on lifestyle properties, and on currently urbanised areas and land intended for urbanisation. In combination with district and regional household growth projections, this can be used to identify the likely status quo effects on the HPS resource, in total and by geography. The key difficulty in this task is understanding current urban capacity to cater for growth and therefore the year in which further urban expansion may be required. This is a complex exercise when done right (i.e. NPS – UDC guidelines) and is dealt with at a high level only in this study.

Matters three and four above are important because they would allow for relatively simple 'scenarios' to be identified for a CBA, where the focus can be on two main processes, and on outcomes which represent varying degrees of effectiveness for the NPS - HPL in terms of how much of the HPS resource is protected / retained. The base outputs from the status quo and scenarios would be estimated patterns of urban growth without and with the NPS - HPL, and patterns of lifestyle living activity, without and with the NPS - HPL. The latter has been our key focus for analysis. These would be in effect different growth patterns, and the amount of growth would be the same for each scenario, on the basis that the NPS - HPL would act to re-direct growth rather than constrain it.

These outcomes and future patterns of activity would be compared to identify the main effects at both the micro-level (including the area (ha) and % shares of HPL, numbers of land parcels affected, and numbers of landowners potentially affected by being unable to subdivide and sell land for lifestyle demand) and at the macro-level in terms of urban form outcomes and the urban growth path (NPS - HPL effect on urbanisation), on primary production activity and processing in the economy, and the effects on rural population patterns, including the flow on effects.

Fifth, the NPS - HPL objectives and policies provide a suitable basis for developing scenarios. These largely capture the key issues, and the plan options for regions and districts to give effect to the NPS - HPL. The outcomes sought by individual councils will not be 'one size fits all' but will likely vary, according to the significance of HPS in their primary production activity and expected growth levels.

Finally, there is an established framework generally suitable for the CBA, in the Regulatory Impact Assessment. The RIA template, and the s32 assessment framework, are both more comprehensive than a CBA. Nevertheless, it is logical to ensure that a CBA for the NPS - HPL is compatible with those frameworks, for any subsequent and wider-ranging assessment.

1.3 Case Study Approach

Six councils have been identified as case study areas to examine potential costs and benefits arising from implementation of selected policies within the NPS - HPL. These case study areas have been identified in collaboration with MPI and based on some high-level economic and resource indicators. The primary aim was to identify case study areas that met the following relevant criteria:

- High and lower growth areas. This is to help capture areas where there is strong pressure for urban expansion and lifestyle block subdivision and areas where there is little or no pressure for land use change in the rural environment.
- Districts with a substantial HPS resource (in terms of land area). This ensures that the CBA captures the councils that are significant in the national context.
- Districts where the HPS resource is a significant component of the total soil resource. This ensures that the CBA covers councils for which HPS is a significant local issue.
- Districts with a primary production focus. That is, council areas in which primary production plays a key role in the local economy and/or is strategic in the national economy.

The selected case studies are Auckland, Waipa District, Western Bay of Plenty (WBoP) District, Horowhenua District, Selwyn District and Ashburton District. Combined these case study areas:

- Include just over 17% of the national HPS resource (LUC 1-3),
- account for around 57% of total recent population growth, including Auckland's 50% share, (1996-2018).
- account for around 26% of total growth in lifestyle properties (as defined by CoreLogic[18]) between 2000 and 2015.
- account for 65% of total projected population growth in New Zealand (medium growth projection, Statistics NZ 2018-2013), including Auckland's 59% share.
- Account for 21% of New Zealand's land based primary production businesses in 2017 (including horticulture, farming and forestry).
- Account for 19% of New Zealand's land based primary production employment (2017).

A high-level review of the operative district plan approaches to managing issues like urban expansion, rural lifestyle (or rural residential) development, and rural subdivision and fragmentation in each case study area has been completed (but not verified by each Council at this stage). The findings indicate a range of approaches exist in terms of rural zone types/purposes and minimum lot sizes for rural subdivision. Some of the case studies have provisions specifically relating to managing activities and effects on HPS (although the definition of HPS varies). This indicates that the marginal costs and benefits of the NPS – HPL on the case study councils will be highly variable. This is key reason why it is not appropriate to extrapolate the cost and benefits from the six case studies to the total country until further data can be collated to inform that, and an appropriate approach is agreed.

Key data sources relied upon for the case study analysis are Statistics NZ population and household projections (these may differ from projections used by specific councils[19]), data on business and employment counts by industry and location from the StatisticsNZ Business Directory 2017, the Land Resource Inventory spatial LUC layer, operative district plan zones and minimum lot size subdivision rules and CoreLogic data on lifestyle properties and land use categories.

Given the need to build spatial models to project possible future land use outcomes, M.E has necessarily taken a simplified approach to applying key rules in each case study operative Plan. The results are therefore indicative.

We note that this report has relied on operative district plans in the case study areas to inform the status quo and future outcomes without the NPS - HPL. It has not been possible (in the time available) to factor in current planning and work that is underway (such as plan change reviews) in the case study areas that

[18] Corelogic defines lifestyle properties as those larger than residential properties and smaller than productive rural properties and that can be managed by a single household. This is broader than the definition in the NPS which is limited to properties generally between 2,000sqm and 8ha in size.

[19] For example, Horowhenua District Council's Growth Strategy 2040 adopts customised growth projections that are considerably higher than the StatisticsNZ high projections. The analysis in Section 8.4 for Horowhenua District is therefore conservative relative to the Council's view of future growth.

may be leading to changes to the operative plans, and potentially changes that may better give effect to the objectives of the NPS - HPL. We have also not had the benefit of talking with the case study councils on this matter. This is considered important for future iterations of this report (if applicable).

1.4 Scope and Report Structure

Section 2 of this report provides a national summary of the extent and distribution of the HPS resource, primary production employment by sector and land tenure of the HPS resource. This sets the wider context of the NPS – HPL and its potential spatial significance at a territorial or unitary authority level.

Section 3 outlines the draft proposed NPS - HPL and describes the processes through which the NPS - HPL is expected to be implemented by regional and district councils. Section 4 contains the assessment of indicative wider costs and benefits. To avoid potential for duplication/overlap, a single assessment is provided that bundles all provisions of the draft NPS – HPL. That is, the assessment covers the total policy direction. The CBA framework addresses the status quo (without NPS - HPL) and 'with NPS - HPL' scenario.

Section 5 provides the analysis and discussion of selected costs and benefits not limited to the case studies. It also includes a summary of the approach used to analyse each case study area, including the scenarios adopted to model outcomes for rural lifestyle subdivision over a 30-year period. Sections 6-11 contain the detailed analysis of each case study.

A summary of net costs and benefits of the NHS - HPL is discussed in Section 12 along with overall conclusions of the CBA. A glossary of terms commonly used in the report is included in Appendix 1.

2 National Resource Overview

This section presents a high-level spatial analysis of the scale and distribution of the HPS resource, and its relative importance within the total soil and land resource nationally and by territorial/unitary council area. It also examines the role of primary production activity in each area relative to total economic activity and the distribution of primary production activity across the country. Last, it examines the relationship between the HPS resource and land tenure for each area. Combined, these three indicators help to inform where the NPS – HPL is most relevant.

2.1 HPS Resource by Territorial Authority

The HPS resource (defined as LUC classes 1-3 for the purpose of this report as defined in the LRI dataset) is widespread across New Zealand. The HPS land area that has been classified and mapped[20] equates to a substantial 3,833,930ha (Figure 2.1). Nationally the HPS area represents 14.3% of the total land area included in the LUC dataset (inclusive of towns, quarries, rivers, estuaries and lakes).

Figure 2.1: National Summary of LUC and HPS Resource

LUC Class/Other	Area (ha)	Share of Total Area (%)	Share of Classified LUC Area (%)	Share of HPS Area (%)
1	187,160	0.7%	0.7%	4.9%
2	1,202,780	4.5%	4.7%	31.4%
3	2,443,990	9.1%	9.5%	63.7%
Sub-Total HPS	3,833,930	14.3%	14.9%	100.0%
4	2,778,900	10.3%	10.8%	
5	210,310	0.8%	0.8%	
6	7,478,390	27.8%	29.0%	
7	5,694,890	21.2%	22.1%	
8	5,807,190	21.6%	22.5%	
Sub-Total Classified LUC Area	25,803,610	95.9%	100.0%	
n.e.c	300,730	1.1%		
Estuary	33,700	0.1%		
Lake	334,130	1.2%		
Quarry	1,060	0.0%		
River	273,940	1.0%		
Town	147,250	0.5%		
Total Area	26,894,420	100.0%		

Source: LUC, Landcare.

[20] The LUC dataset includes 'town' areas (main urban areas) where LUC has not been defined. Similarly, areas of river, lake, estuary and quarry are identified separately from the LUC areas. In total, LUC classes 1-8 cover 95.9% of the area included in the dataset (referred to in this report as the total 'soil' area), with towns occupying 1% of the total area and water bodies/other occupying 4% of the total area in the dataset.

Figure 2.2: Map of the HPS Resource (LUC 1-3) – North Island

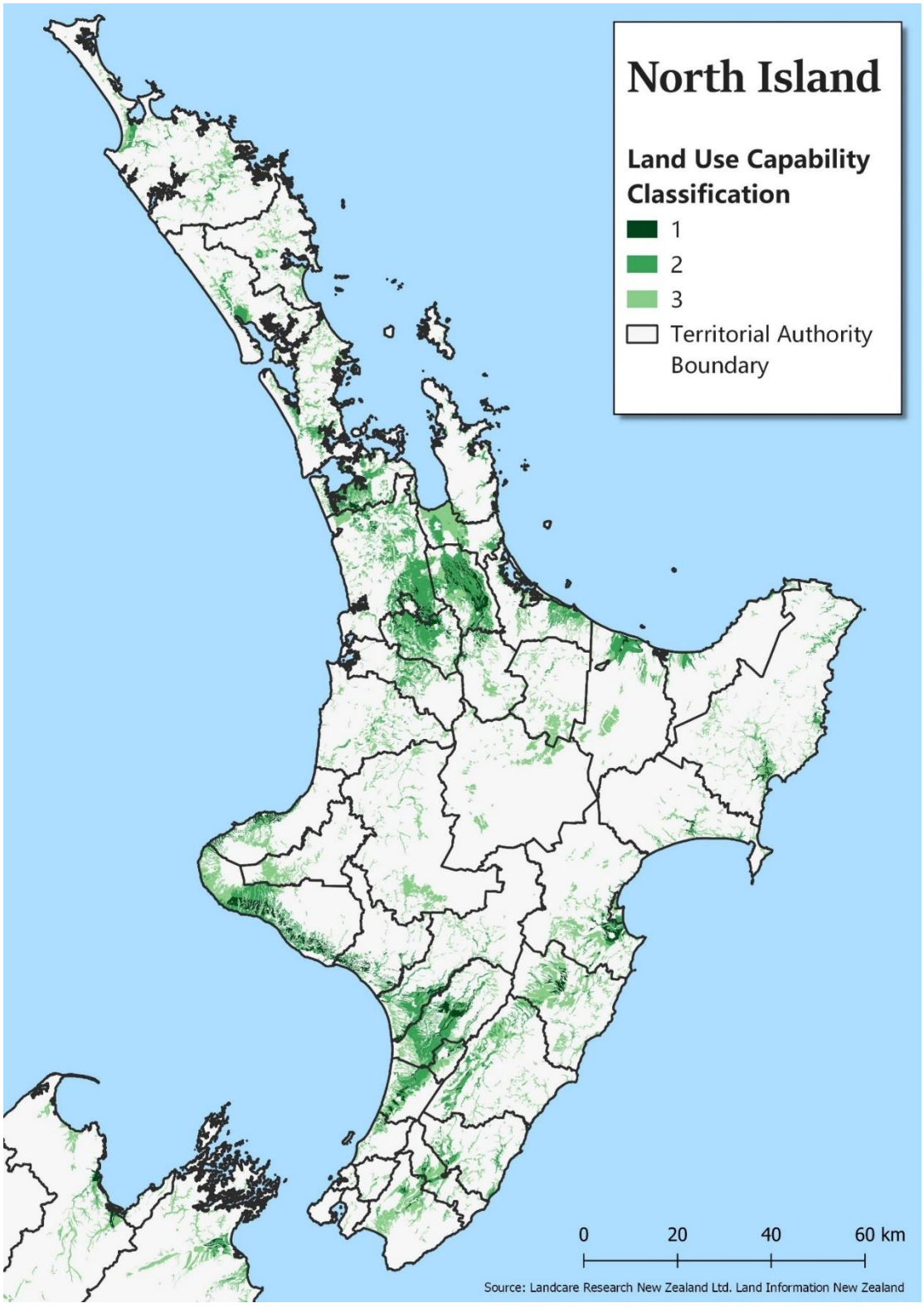


Figure 2.3: Map of the HPS Resource (LUC 1-3) – South Island

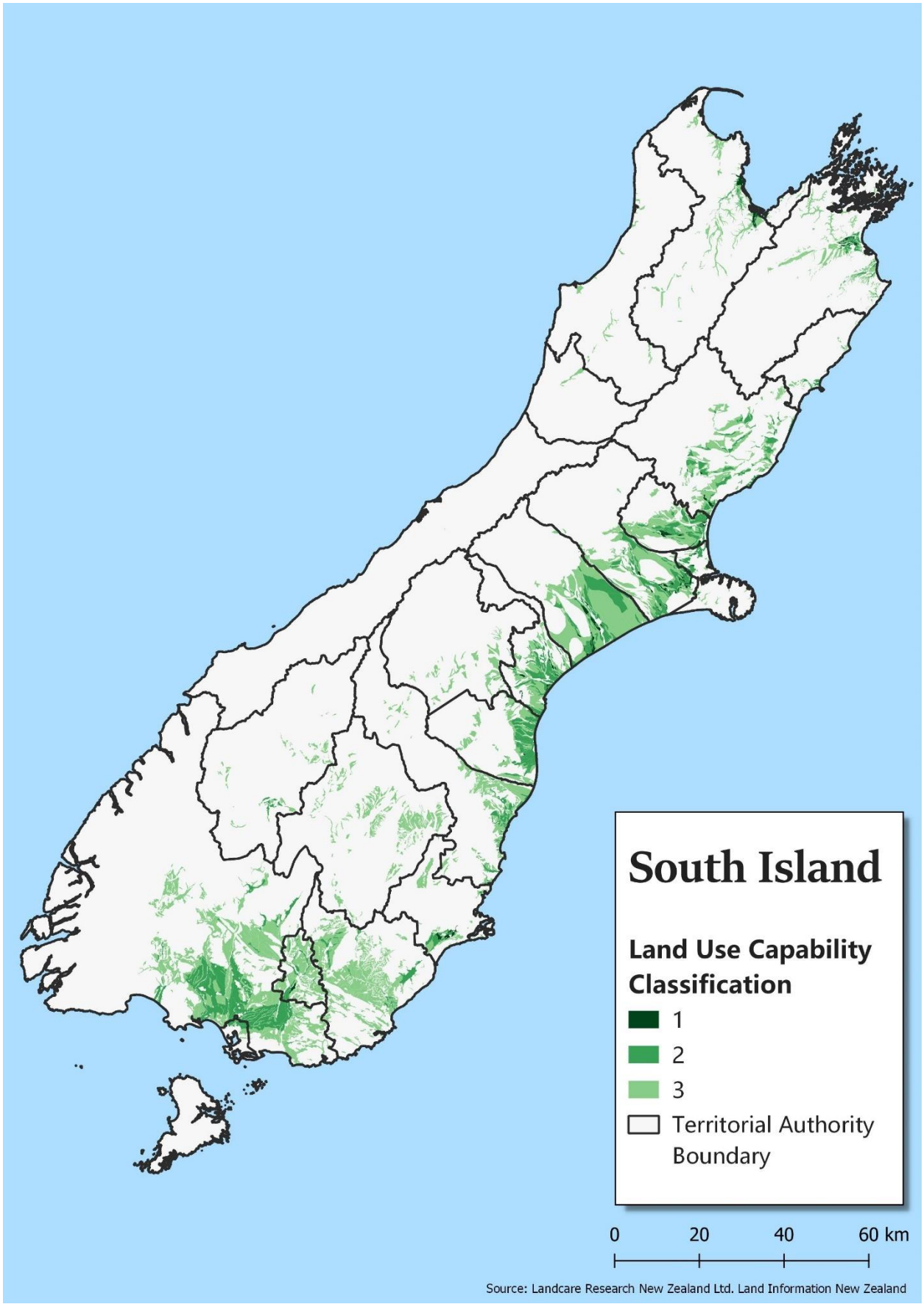


Figure 2.4: Land Use Capability and HPS Summary by Territorial/Unitary Authority

	Land Use Capability Summary (ha)					Highly Productive Soils - Local Context			Highly Productive Soils - National Context		
Territorial Authority	Highly Productive Soils (ha)	Other Soils (ha)	Town Area (ha)	Other (incl Water bodies and n.e.c)	Total Area	Share of Total District Soil Area	Rank	Local Coverage Category	Share of Total National High Class Soil Area	Rank	National Coverage Category
n.e.c	3,487	46,111	1,549	32,156	83,302	7%	51	Very Small	0.1%	60	Minor
Area Outside Territorial Autl	-	8	-	2,481	2,489	0%	67	Very Small	0.0%	67	Minor
Ashburton District	227,950	361,004	1,038	28,959	618,952	39%	13	Considerable	5.9%	2	Very Significant
Auckland	123,716	316,324	44,309	9,921	494,269	28%	18	Moderate	3.2%	7	Significant
Buller District	10,701	777,309	559	5,582	794,152	1%	64	Very Small	0.3%	52	Minor
Carterton District	24,663	92,877	333	124	117,997	21%	24	Moderate	0.6%	45	Moderate
Central Hawke's Bay District	82,986	245,588	217	4,513	333,304	25%	21	Moderate	2.2%	15	Significant
Central Otago District	79,002	912,143	436	5,267	996,848	8%	49	Small	2.1%	16	Significant
Chatham Islands Territory	-	-	-	80,833	80,833	0%	67	Very Small	0.0%	67	Minor
Christchurch City	16,809	110,771	11,559	9,327	148,466	13%	37	Small	0.4%	51	Minor
Clutha District	189,362	439,251	491	7,115	636,219	30%	17	Considerable	4.9%	3	Very Significant
Dunedin City	32,135	290,075	4,849	1,568	328,627	10%	45	Small	0.8%	39	Moderate
Far North District	64,464	597,708	1,335	5,685	669,192	10%	46	Small	1.7%	23	Important
Gisborne District	70,969	764,305	2,115	1,193	838,582	8%	48	Small	1.9%	20	Important
Gore District	71,813	51,853	771	945	125,382	58%	4	Extensive	1.9%	19	Significant
Grey District	3,804	334,963	910	11,865	351,542	1%	65	Very Small	0.1%	59	Minor
Hamilton City	4,636	1,657	4,655	150	11,098	74%	2	Considerable	0.1%	57	Minor
Hastings District	68,490	445,918	1,768	6,501	522,676	13%	35	Small	1.8%	22	Important
Hauraki District	56,946	68,095	816	1,151	127,008	46%	7	Considerable	1.5%	25	Important
Horowhenua District	43,765	59,591	1,780	1,263	106,399	42%	9	Considerable	1.1%	31	Important
Hurunui District	128,453	718,239	-	18,754	865,446	15%	33	Moderate	3.4%	6	Significant
Invercargill City	9,656	25,855	2,272	1,096	38,879	27%	19	Moderate	0.3%	53	Minor
Kaikoura District	7,295	191,997	104	5,281	204,678	4%	61	Very Small	0.2%	55	Minor
Kaipara District	33,232	273,025	504	4,110	310,871	11%	43	Small	0.9%	37	Moderate
Kapiti Coast District	9,308	61,226	2,300	316	73,150	13%	36	Small	0.2%	54	Minor
Kawerau District	751	1,150	459	3	2,363	40%	12	Considerable	0.0%	65	Minor
Lower Hutt City	1,130	31,052	5,011	448	37,640	4%	62	Very Small	0.0%	63	Minor
Mackenzie District	32,826	657,204	88	54,114	744,232	5%	60	Very Small	0.9%	38	Moderate
Manawatu District	102,560	151,959	734	1,455	256,709	40%	10	Considerable	2.7%	10	Significant
Marlborough District	62,119	966,887	1,970	16,070	1,047,046	6%	53	Very Small	1.6%	24	Important
Masterton District	34,694	193,665	1,373	287	230,019	15%	32	Moderate	0.9%	35	Important
Matamata-Piako District	114,663	59,915	956	8	175,542	66%	3	Extensive	3.0%	9	Significant
Napier City	5,926	1,931	2,449	236	10,542	75%	1	Extensive	0.2%	56	Minor
Nelson City	2,629	37,870	1,319	624	42,441	6%	52	Very Small	0.1%	62	Minor
New Plymouth District	37,220	179,271	3,666	390	220,547	17%	27	Moderate	1.0%	32	Important
Opotiki District	18,313	289,763	-	845	308,921	6%	55	Very Small	0.5%	49	Moderate
Otorohanga District	33,254	165,873	313	477	199,917	17%	30	Moderate	0.9%	36	Moderate
Palmerston North City	18,205	17,094	3,775	396	39,470	52%	6	Considerable	0.5%	50	Moderate
Porirua City	784	14,290	2,381	25	17,481	5%	58	Very Small	0.0%	64	Minor
Queenstown-Lakes District	20,808	841,860	-	74,851	937,519	2%	63	Very Small	0.5%	47	Moderate
Rangitikei District	68,840	377,212	1,046	1,276	448,374	15%	31	Moderate	1.8%	21	Important
Rotorua District	35,173	201,519	3,278	21,929	261,899	15%	34	Moderate	0.9%	34	Important
Ruapehu District	49,100	623,236	1,032	75	673,442	7%	50	Very Small	1.3%	28	Important
Selwyn District	140,493	465,593	-	49,166	655,252	23%	22	Moderate	3.7%	5	Very Significant
South Taranaki District	120,931	234,165	1,487	927	357,510	34%	16	Considerable	3.2%	8	Significant
South Waikato District	30,129	149,256	970	1,536	181,891	17%	29	Moderate	0.8%	41	Moderate
South Wairarapa District	48,645	186,179	500	10,461	245,785	21%	25	Moderate	1.3%	29	Important
Southland District	470,089	2,277,007	383	272,361	3,019,840	17%	28	Moderate	12.3%	1	Very Significant
Stratford District	28,417	187,925	-	-	216,342	13%	38	Small	0.7%	43	Moderate
Tararua District	78,269	357,061	889	204	436,422	18%	26	Moderate	2.0%	17	Significant
Tasman District	56,123	899,869	137	8,843	964,973	6%	56	Very Small	1.5%	26	Important
Taupo District	32,115	598,784	1,232	64,266	696,398	5%	59	Very Small	0.8%	40	Moderate
Tauranga City	4,031	6,114	3,061	269	13,476	40%	11	Considerable	0.1%	58	Minor
Thames-Coromandel Distric	19,067	198,735	708	2,194	220,704	9%	47	Small	0.5%	48	Moderate
Timaru District	88,202	168,511	1,891	14,638	273,243	34%	15	Considerable	2.3%	12	Significant
Upper Hutt City	2,890	48,695	2,301	101	53,987	6%	57	Very Small	0.1%	61	Minor
Waikato District	152,312	282,345	773	9,624	445,054	35%	14	Considerable	4.0%	4	Very Significant
Waimakariri District	91,810	120,769	940	8,224	221,743	43%	8	Considerable	2.4%	11	Significant
Waimate District	87,884	258,623	344	11,466	358,317	25%	20	Moderate	2.3%	14	Significant
Waipa District	77,450	67,200	1,317	1,039	147,006	54%	5	Considerable	2.0%	18	Significant
Wairoa District	24,307	381,571	299	6,837	413,014	6%	54	Very Small	0.6%	46	Moderate
Waitaki District	88,090	612,713	1,056	19,782	721,641	13%	39	Small	2.3%	13	Significant
Waitomo District	36,181	316,277	561	461	353,479	10%	44	Small	0.9%	33	Important
Wellington City	-	22,444	6,494	49	28,987	0%	67	Very Small	0.0%	67	Minor
Western Bay of Plenty Distri	44,263	149,598	328	895	195,084	23%	23	Moderate	1.2%	30	Important
Westland District	139	1,150,730	191	35,212	1,186,272	0%	66	Very Small	0.0%	66	Minor
Whakatane District	51,654	391,236	881	1,230	445,002	12%	41	Small	1.3%	27	Important
Whanganui District	27,908	205,578	2,325	1,514	237,324	12%	40	Small	0.7%	44	Moderate
Whangarei District	29,893	235,064	3,662	2,592	271,210	11%	42	Small	0.8%	42	Moderate
Total New Zealand	3,833,929	21,969,684	147,247	943,558	26,894,418	15%			100.0%		

Source: New Zealand Land Use Capability (LUC) Classification, Landcare Research New Zealand Ltd. M.E Consulting.

We note that not all of this HPS resource is available for primary production – certainly the town area of the dataset represents only a portion of current urban land use (residential, commercial, industrial and road area) that otherwise 'locks up' the underlying soils. Hence our analysis of 2018 urban boundaries and the HPS resource shows a substantial share of overlap and the HPS that falls outside of those urban boundaries (in the 'Rural Other' area or non-urban operative district plan zones for that matter) is a more realistic estimate of what HPS resource is not occupied by urban land uses.

The HPS resource (as represented in the LUC dataset) is made up of a small area of LUC 1 (187,160 ha or 0.7% of the total land area), a more substantial area of LUC 2 at 1,202,780 ha or 4.5%, and a larger area again of LUC 3 at 2,443,990 ha or 9.1% of the total land area. Figure 2.1 highlights that LUC 1 soils are rare and account for just under 5% of the HPS resource, which is dominated by LUC 3 soils (at nearly 64% of the total).

Figure 2.2 and 2.3 map the HPS resource in the North and South Island respectively. Figure 2.4 provides an overview of the geography of the HPS resource. It summarises HPS by territorial and unitary authority and shows the significance of the resource within the total land base of each city and district.

Figure 2.4 shows some reasonable geographic concentration, with districts such as Southland (11.3%) Ashburton (5.9%), Clutha (4.9%), Waikato (4.0%), Selwyn (3.7%), Hurunui (3.4%), Auckland (3.2%), South Taranaki (3.2%), Matamata-Piako (3.0%) and Manawatu (2.7%) making up the 10 top districts in terms of their share of the total HPS resource. Each of these districts contains at least 100,000 ha of HPS, with Southland District containing the largest amount at 470,090ha.

Irrespective of the absolute size of the HPS in each district in the national context, certain districts also stand out because of the local significance of HPS relative to total LUC 1-8 area within the council area (Figure 2.4). These include (in descending order) Napier City (HPS equates to a 75% share of LUC 1-8 area within the council boundary), Hamilton City (74%), Matamata-Piako District (66%), Gore District (58%), Waipa District (54%), Palmerston North City (52%), Hauraki District (46%), Waimakariri District (43%), Horowhenua District (42%) and Manawatu District (40%) making up the top 10 districts where HPS accounts for considerable share of land (outside of defined towns, quarries and water bodies). It is these districts who will face greater constraints to where urban and rural lifestyle growth can occur under a regime that seeks greater protection of HPS – if in fact growth is a key feature of their economy.

2.2 Primary Production by Territorial/Unitary Authority

Figure 2.5 summarises the size and structure of the land-based primary production sector, exclusive of forestry and associated service activity. In 2017, there were an estimated 57,239 businesses in the sector, with Sheep, Beef Cattle and Grain Farming making up nearly half (47% or 26,845). While the Horticulture and Fruit growing industry accounts for just 15% of businesses in New Zealand, it makes up 28% of primary production employment (33,246 workers). This figure does not represent the influx of seasonal workers who are hired at different times of the year to help with horticultural harvests.

Figure 2.5: National Summary of Primary Production (Land) Activity 2017 (Excluding Forestry)

	Horticulture and fruit growing	Sheep, beef cattle and grain farming	Dairy cattle farming	Poultry, deer and other livestock farming	Total Primary Production (Land) Excl Forestry
Count (n)					
Businesses	8,442	26,845	16,619	5,334	57,239
Employment (MEC)	33,246	37,996	36,963	8,489	116,694
Share (%)					
Businesses	15%	47%	29%	9%	100%
Employment (MEC)	28%	33%	32%	7%	100%
Average Employment per Business					
Total	3.9	1.4	2.2	1.6	2.0

Source: Statistics NZ Business Directory 2017, M.E.

MEC is modified employment count (includes estimated working proprietors and employee count)

Figure 2.6 shows that Hastings (6.2%), Auckland (6.1%), Southland (5.6%), Tasman (4.3%), Waikato (4.0%), Ashburton (3.3%), Central Otago (3.1%), Gisborne (3.1%), Selwyn (3.0%) and Western Bay of Plenty (3.0%) make up the 10 top districts in terms of their share of the total primary production employment in 2017. Many of these districts are the large horticultural hubs, but not all. Southland, Waikato and Ashburton are dominated by dairy farming employment and Selwyn and Gisborne are dominated by Sheep, Beef and Grain farming employment. As employment is a good guide on primary production output, it is these districts that are most important to protect in terms of domestic and export food supply.

It is relevant to note that these top 10 districts in terms of primary production employment, are not the top 10 districts in terms of their contribution to the national HPS resource. Ashburton, Auckland, Selwyn, Southland and Waikato District are in the tot 10 for HPS land area in the national context, but the others rank between 16th and 30th nationally. This confirms that in some cases, a lot of production can be generated off relatively small areas of HPS (particularly for fruit orchards), and in other cases, the presence of HPS is not always a key factor in primary production output. This applies where plentiful water (for example) can support primary production even on poorer, less versatile soils, or where poorer, gravely and free draining soils have proven ideal for growing grapes. This highlights that the definition of HPL should not be limited to just those areas of HPS.

Irrespective of the absolute size of primary production employment in each district in the national context, certain districts also stand out because of the local significance of primary production employment relative to total employment within the council area (Figure 2.6). These include (in descending order) Waimate District (primary production equates to a 40% share of total employment within the council boundary), Southland District (35%), Otorohanga District (30%), Hurunui District (30%), Central Hawke's Bay District (28%), Clutha District (28%), Tararua District (26%), Wairoa District (26%), Rangitikei District (25%) and Central Otago District (24%) making up the top 10 districts where primary production accounts for a considerable share of total employment. It is these districts who are most dependent on the primary production sector for their social and economic wellbeing and will benefit strongly from the NPS - HPL in terms of greater protection of primary production activities on HPL.

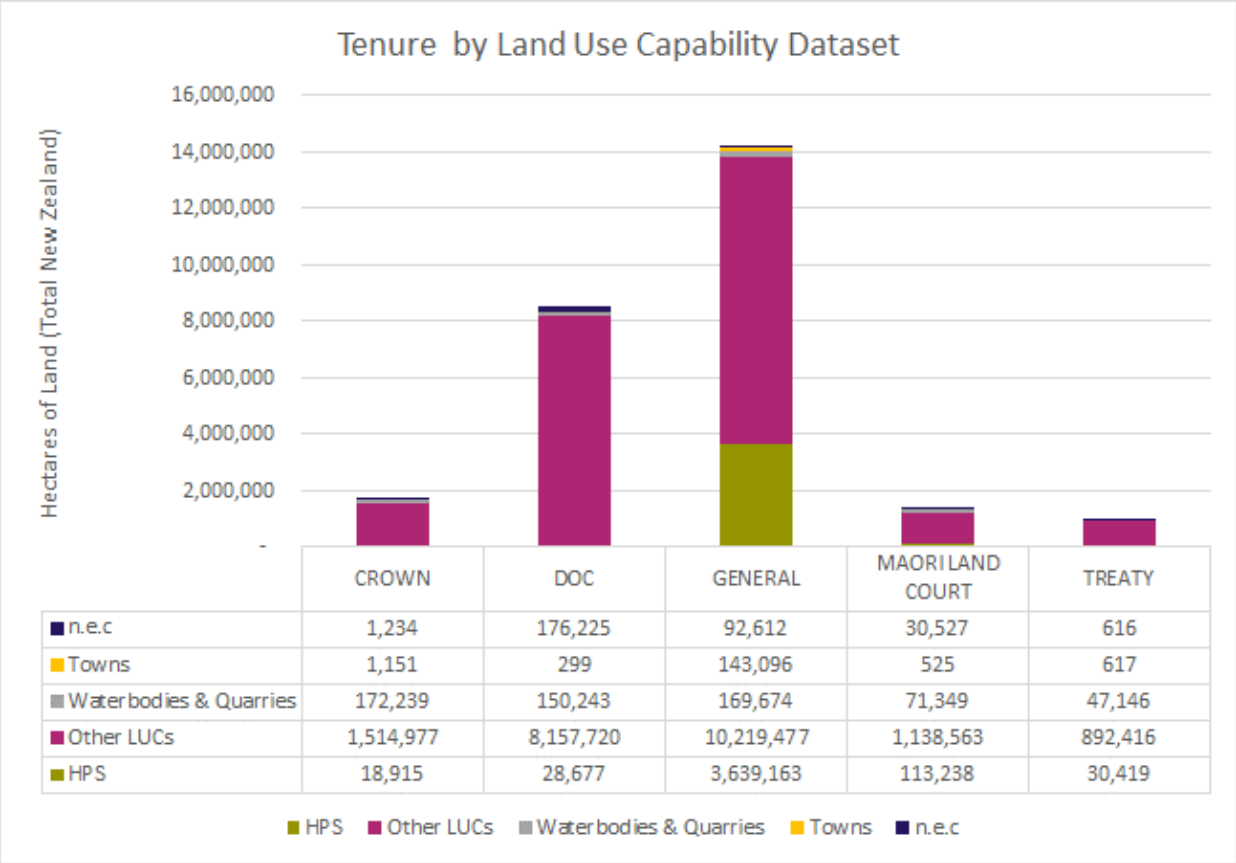
Figure 2.6 – Primary Production Employment Counts 2017 by Sector & Council Area

	Employment Count (MEC) - 2017					Primary Production MECs 2017 - Local Context			Primary Production MECs 2017 - National Context		
Territorial Authority	Horticulture and fruit growing	Sheep, beef cattle and grain farming	Dairy cattle farming	Poultry, deer and other livestock farming	Total Primary Production (Land) Excl Forestry	Primary Production as Share of Local Economy	Rank	Local Context Category	Total Primary Production as Share of National Total	Rank	National Context Category
n.e.c	-	-	-	-	-	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Area Outside Territorial Autl	8	-	-	2	9	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Ashburton District	212	1,446	2,051	170	3,879	20%	16	High	3.3%	6	Significant
Auckland	3,989	1,562	757	820	7,129	1%	60	Minimal	6.1%	2	Significant
Buller District	43	91	365	22	521	13%	35	Low	0.4%	52	Minimal
Carterton District	84	244	180	28	537	16%	30	Moderate	0.5%	51	Low
Central Hawke's Bay District	597	1,126	179	56	1,958	28%	5	Significant	1.7%	19	Moderate
Central Otago District	2,668	753	107	86	3,614	24%	10	High	3.1%	7	Significant
Chatham Islands Territory	-	62	-	1	63	12%	36	Low	0.1%	65	Minimal
Christchurch City	1,186	578	194	108	2,067	1%	59	Minimal	1.8%	17	Moderate
Clutha District	31	1,742	1,056	46	2,874	28%	6	Significant	2.5%	14	High
Dunedin City	88	535	281	203	1,106	2%	56	Minimal	0.9%	39	Low
Far North District	798	755	656	195	2,404	11%	38	Low	2.1%	16	High
Gisborne District	1,284	2,093	54	133	3,565	15%	33	Moderate	3.1%	8	Significant
Gore District	27	812	447	52	1,337	18%	23	Moderate	1.1%	35	Moderate
Grey District	9	60	255	37	361	5%	46	Low	0.3%	58	Minimal
Hamilton City	59	49	126	46	280	0%	65	Minimal	0.2%	59	Minimal
Hastings District	5,647	1,156	170	257	7,229	15%	32	Moderate	6.2%	1	Significant
Hauraki District	148	193	887	48	1,277	19%	19	Moderate	1.1%	36	Moderate
Horowhenua District	515	186	521	392	1,614	16%	29	Moderate	1.4%	30	Moderate
Hurunui District	211	920	517	128	1,775	30%	4	Significant	1.5%	24	Moderate
Invercargill City	119	237	215	35	606	2%	54	Minimal	0.5%	49	Low
Kaikoura District	9	111	89	20	230	12%	37	Low	0.2%	60	Minimal
Kaipara District	343	505	777	71	1,696	21%	13	High	1.5%	27	Moderate
Kapiti Coast District	186	81	64	47	377	2%	52	Minimal	0.3%	57	Minimal
Kawerau District	1	7	10	1	19	1%	61	Minimal	0.0%	67	Minimal
Lower Hutt City	13	17	-	32	62	0%	66	Minimal	0.1%	66	Minimal
Mackenzie District	-	296	108	43	446	17%	27	Moderate	0.4%	56	Minimal
Manawatu District	115	864	758	124	1,861	17%	25	Moderate	1.6%	22	Moderate
Marlborough District	1,653	630	160	105	2,548	10%	41	Low	2.2%	15	High
Masterton District	108	658	104	190	1,059	9%	43	Low	0.9%	41	Low
Matamata-Piako District	104	361	2,040	456	2,960	17%	24	Moderate	2.5%	13	High
Napier City	403	79	12	17	511	2%	55	Minimal	0.4%	53	Minimal
Nelson City	41	42	42	16	140	0%	63	Minimal	0.1%	62	Minimal
New Plymouth District	228	441	920	314	1,902	5%	48	Low	1.6%	21	Moderate
Opotiki District	316	105	218	38	678	19%	18	Moderate	0.6%	46	Low
Otorohanga District	21	369	937	50	1,378	30%	3	Significant	1.2%	34	Moderate
Palmerston North City	243	265	243	85	836	2%	57	Minimal	0.7%	45	Low
Porirua City	11	61	-	6	78	0%	64	Minimal	0.1%	63	Minimal
Queenstown-Lakes District	181	251	60	86	578	2%	53	Minimal	0.5%	50	Low
Rangitikei District	43	1,180	328	89	1,640	25%	9	Significant	1.4%	29	Moderate
Rotorua District	149	376	1,037	145	1,706	5%	47	Low	1.5%	26	Moderate
Ruapehu District	98	826	143	55	1,122	18%	22	Moderate	1.0%	38	Low
Selwyn District	645	1,318	1,189	357	3,509	17%	26	Moderate	3.0%	9	Significant
South Taranaki District	33	425	2,465	53	2,976	21%	14	High	2.6%	12	High
South Waikato District	11	154	1,205	182	1,551	16%	28	Moderate	1.3%	32	Moderate
South Wairarapa District	239	364	283	40	926	23%	11	High	0.8%	43	Low
Southland District	373	2,838	3,062	227	6,499	35%	2	Significant	5.6%	3	Significant
Stratford District	2	238	419	13	672	19%	20	Moderate	0.6%	47	Low
Tararua District	57	1,166	679	100	2,002	26%	7	Significant	1.7%	18	Moderate
Tasman District	3,513	739	460	251	4,964	21%	15	High	4.3%	4	Significant
Taupo District	120	356	864	50	1,389	8%	44	Low	1.2%	33	Moderate
Tauranga City	365	43	99	118	625	1%	58	Minimal	0.5%	48	Low
Thames-Coromandel Distric	87	180	204	36	506	4%	51	Minimal	0.4%	54	Minimal
Timaru District	225	790	821	118	1,954	8%	45	Low	1.7%	20	Moderate
Upper Hutt City	2	46	20	8	75	1%	62	Minimal	0.1%	64	Minimal
Waikato District	1,118	1,280	1,792	521	4,712	21%	12	High	4.0%	5	Significant
Waimakariri District	267	659	473	253	1,652	9%	42	Low	1.4%	28	Moderate
Waimate District	89	522	554	54	1,218	40%	1	Significant	1.0%	37	Moderate
Waipa District	821	632	1,477	303	3,232	15%	34	Moderate	2.8%	11	High
Wairoa District	35	804	47	38	923	26%	8	Significant	0.8%	44	Low
Waitaki District	212	712	769	81	1,774	15%	31	Moderate	1.5%	25	Moderate
Waitomo District	54	664	315	31	1,064	19%	17	Moderate	0.9%	40	Low
Wellington City	30	64	10	41	144	0%	67	Minimal	0.1%	61	Minimal
Western Bay of Plenty Distri	2,039	486	674	293	3,491	18%	21	Moderate	3.0%	10	Significant
Westland District	4	111	326	26	466	10%	40	Low	0.4%	55	Minimal
Whakatane District	423	236	815	116	1,591	11%	39	Low	1.4%	31	Moderate
Whanganui District	113	516	142	156	927	5%	49	Low	0.8%	42	Low
Whangarei District	383	532	737	173	1,824	5%	50	Low	1.6%	23	Moderate
Total New Zealand	33,246	37,996	36,963	8,489	116,694	5%			100%		

2.3 HPS Resource by Tenure and Territorial/Unitary Authority

Figure 2.7 provides a summary of land tenure of the HPS resource. It shows that the significant majority of LUC class 1-3 land is in general ownership (approximately 3,639,000ha or 95%).

Figure 2.7: National Summary of HPS Resource and Tenure



	CROWN	DOC	GENERAL	MAORI LAND COURT	TREATY
n.e.c	1,234	176,225	92,612	30,527	616
Towns	1,151	299	143,096	525	617
Waterbodies & Quarries	172,239	150,243	169,674	71,349	47,146
Other LUCs	1,514,977	8,157,720	10,219,477	1,138,563	892,416
HPS	18,915	28,677	3,639,163	113,238	30,419

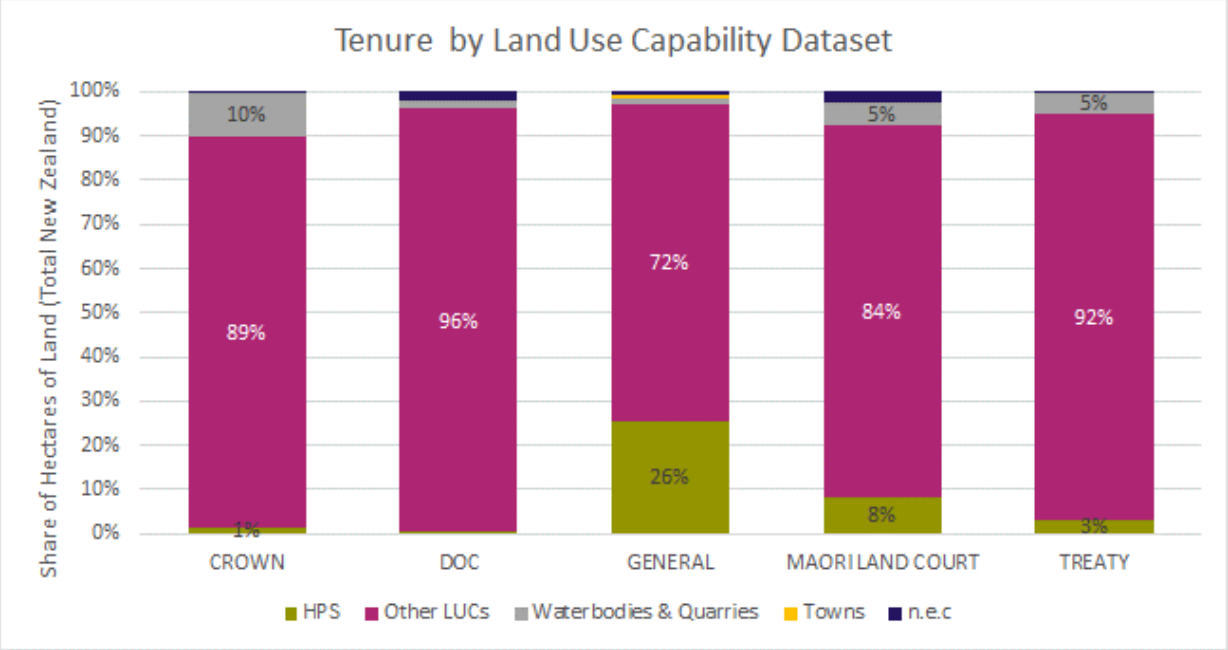


Figure 2.8: Land Use Capability and HPS Summary by Tenure and Territorial/Unitary Authority

	LUC Class 1-3 Summary (ha)						LUC Class 1-3 Summary (%)						
Territorial Authority	CROWN	DOC	GENERAL	MAORI LAND COURT	TREATY	TOTAL (incl. N.E.C)	CROWN	DOC	GENERAL	MAORI LAND COURT	TREATY	TOTAL (incl. N.E.C)	General % of NZ
n.e.c													
Area Outside Territorial Authority													
Ashburton District	153	309	227,317	171	-	227,950	0%	0%	100%	0%	0%	100%	6.2%
Auckland	74	906	120,792	1,231	707	123,717	0%	1%	98%	1%	1%	100%	3.3%
Buller District	180	433	9,958	129	2	10,701	2%	4%	93%	1%	0%	100%	0.3%
Carterton District	44	55	24,445	124	-	24,668	0%	0%	99%	1%	0%	100%	0.7%
Central Hawke's Bay District	56	89	80,309	2,268	268	82,989	0%	0%	97%	3%	0%	100%	2.2%
Central Otago District	1,702	699	76,562	-	39	79,002	2%	1%	97%	0%	0%	100%	2.1%
Chatham Islands Territory	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Christchurch City	58	63	16,628	44	16	16,809	0%	0%	99%	0%	0%	100%	0.5%
Clutha District	63	757	188,055	11	475	189,362	0%	0%	99%	0%	0%	100%	5.2%
Dunedin City	87	208	31,693	141	7	32,135	0%	1%	99%	0%	0%	100%	0.9%
Far North District	252	840	54,501	6,679	2,189	64,461	0%	1%	85%	10%	3%	100%	1.5%
Gisborne District	265	1,339	48,907	19,970	488	70,969	0%	2%	69%	28%	1%	100%	1.3%
Gore District	113	57	71,620	22	-	71,813	0%	0%	100%	0%	0%	100%	2.0%
Grey District	15	139	3,615	29	6	3,804	0%	4%	95%	1%	0%	100%	0.1%
Hamilton City	-	-	4,452	-	167	4,619	0%	0%	96%	0%	4%	100%	0.1%
Hastings District	51	127	64,689	3,019	598	68,485	0%	0%	94%	4%	1%	100%	1.8%
Hauraki District	569	601	54,739	1,036	-	56,945	1%	1%	96%	2%	0%	100%	1.5%
Horowhenua District	84	255	40,952	2,286	188	43,765	0%	1%	94%	5%	0%	100%	1.1%
Hurunui District	441	314	125,818	-	1,881	128,453	0%	0%	98%	0%	1%	100%	3.5%
Invercargill City	4	5	9,630	17	-	9,656	0%	0%	100%	0%	0%	100%	0.3%
Kaikoura District	206	43	6,995	28	24	7,295	3%	1%	96%	0%	0%	100%	0.2%
Kaipara District	10	103	32,161	956	1	33,232	0%	0%	97%	3%	0%	100%	0.9%
Kapiti Coast District	6	61	8,816	426	-	9,308	0%	1%	95%	5%	0%	100%	0.2%
Kawerau District	3	33	265	179	271	751	0%	4%	35%	24%	36%	100%	0.0%
Lower Hutt City	-	16	1,070	44	-	1,130	0%	1%	95%	4%	0%	100%	0.0%
Mackenzie District	4,364	53	28,403	-	6	32,826	13%	0%	87%	0%	0%	100%	0.8%
Manawatu District	27	346	100,650	1,518	15	102,556	0%	0%	98%	1%	0%	100%	2.8%
Marlborough District	60	894	60,647	224	294	62,119	0%	1%	98%	0%	0%	100%	1.7%
Masterton District	33	22	33,903	687	45	34,689	0%	0%	98%	2%	0%	100%	0.9%
Matamata-Piako District	169	375	112,763	1,346	10	114,663	0%	0%	98%	1%	0%	100%	3.1%
Napier City	23	415	5,484	8	1	5,931	0%	7%	92%	0%	0%	100%	0.2%
Nelson City	1	12	2,192	161	263	2,629	0%	0%	83%	6%	10%	100%	0.1%
New Plymouth District	124	238	35,870	923	57	37,214	0%	1%	96%	2%	0%	100%	1.0%
Opotiki District	21	251	12,227	5,813	-	18,314	0%	1%	67%	32%	0%	100%	0.3%
Otorohanga District	56	148	31,064	1,980	7	33,255	0%	0%	93%	6%	0%	100%	0.9%
Palmerston North City	3	3	18,199	-	4	18,209	0%	0%	100%	0%	0%	100%	0.5%
Porirua City	0	21	759	-	4	784	0%	3%	97%	0%	1%	100%	0.0%
Queenstown-Lakes District	1,244	697	18,535	13	319	20,808	6%	3%	89%	0%	2%	100%	0.5%
Rangitikei District	34	443	66,525	1,695	146	68,842	0%	1%	97%	2%	0%	100%	1.8%
Rotorua District	172	479	26,779	3,438	4,305	35,173	0%	1%	76%	10%	12%	100%	0.7%
Ruapehu District	1,776	3,234	37,027	7,062	-	49,099	4%	7%	75%	14%	0%	100%	1.0%
Selwyn District	237	328	139,720	105	94	140,484	0%	0%	99%	0%	0%	100%	3.8%
South Taranaki District	253	139	108,461	12,049	32	120,933	0%	0%	90%	10%	0%	100%	3.0%
South Waikato District	278	482	28,526	488	353	30,128	1%	2%	95%	2%	1%	100%	0.8%
South Wairarapa District	97	608	47,364	547	28	48,644	0%	1%	97%	1%	0%	100%	1.3%
Southland District	2,658	4,647	458,800	300	3,684	470,089	1%	1%	98%	0%	1%	100%	12.6%
Stratford District	414	129	27,627	245	1	28,416	1%	0%	97%	1%	0%	100%	0.8%
Tararua District	59	205	75,975	2,014	11	78,265	0%	0%	97%	3%	0%	100%	2.1%
Tasman District	185	776	54,599	74	488	56,123	0%	1%	97%	0%	1%	100%	1.5%
Taupo District	141	373	21,384	4,855	5,363	32,116	0%	1%	67%	15%	17%	100%	0.6%
Tauranga City	3	1	3,198	816	14	4,031	0%	0%	79%	20%	0%	100%	0.1%
Thames-Coromandel District	337	722	17,299	708	-	19,067	2%	4%	91%	4%	0%	100%	0.5%
Timaru District	89	458	87,323	212	120	88,203	0%	1%	99%	0%	0%	100%	2.4%
Upper Hutt City	-	0	2,889	-	-	2,890	0%	0%	100%	0%	0%	100%	0.1%
Waikato District	174	826	147,555	2,154	1,607	152,316	0%	1%	97%	1%	1%	100%	4.1%
Waimakariri District	277	237	90,424	690	183	91,810	0%	0%	98%	1%	0%	100%	2.5%
Waimate District	40	212	87,540	69	23	87,884	0%	0%	100%	0%	0%	100%	2.4%
Waipa District	310	272	75,891	912	77	77,461	0%	0%	98%	1%	0%	100%	2.1%
Wairoa District	57	83	18,670	5,087	410	24,308	0%	0%	77%	21%	2%	100%	0.5%
Waitaki District	128	837	87,105	14	6	88,090	0%	1%	99%	0%	0%	100%	2.4%
Waitomo District	230	826	30,112	4,721	291	36,180	1%	2%	83%	13%	1%	100%	0.8%
Wellington City	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	0.0%
Western Bay of Plenty District	70	604	38,967	4,411	210	44,263	0%	1%	88%	10%	0%	100%	1.1%
Westland District	-	3	137	0	-	139	0%	2%	98%	0%	0%	100%	0.0%
Whakatane District	62	563	39,188	7,336	4,505	51,654	0%	1%	76%	14%	9%	100%	1.1%
Whanganui District	7	85	26,530	1,166	118	27,906	0%	0%	95%	4%	0%	100%	0.7%
Whangarei District	265	179	28,864	584	-	29,893	1%	1%	97%	2%	0%	100%	0.8%
Total New Zealand	18,915	28,677	3,639,163	113,238	30,419	3,830,426	0%	1%	95%	3%	1%	100%	100%

Source: New Zealand Land Use Capability (LUC) Classification, Landcare Research New Zealand Ltd. MfE (Tenure Data 2018), M.E Consulting. N.E.C = not elsewhere classified.

In total 26% of general owned land is on HPS. This compares with Maori Land Court land where just 8% contains HPS, and this accounts for just 3% of the total HPS resource across New Zealand (approximately 113,240ha). The next largest tenure of the HPS resource is Treaty settlement land – estimated 1% share of the national HPS resource, with HPS land accounting for on average 3% of Treaty land area. DOC accounts for 28,680ha of HPS (1% of the national total), but HPS land makes up less than 1% of all DOC land. Last, Crown owned land includes 18,915ha of HPS (less than 1% of the total resource area) and just 1% of all Crown land is made up of HPS.

Figure 2.8 provides a breakdown by council. A few council areas stand out because they have either 100% or 99% of the HPS land area in general ownership. These include Waitaki District, Waimate District, Upper Hutt City, Timaru District, Selwyn District, Palmerston North City, Invercargill City, Gore District, Clutha District, Christchurch City, Carterton District and Ashburton District.

Several council areas stand out because an above average share of the HPS resource is on Maori Land Court land. These include Whakatane District (14%), Wairoa District (21%), Tauranga City (20%), Taupo District (15%), Ruapehu District (14%), Opotiki District (32%), Kawarau District (24%) and Gisborne District (28%). Even if a portion of this land was developed for non-primary production activity such as papakainga, marae or associated facilities, this would be only a minor loss of the resource in real terms.

Last, a few council areas stand out because of an above average share of the HPS resource is on Treaty settlement land. These include Taupo District (17%), Rotorua District (12%) and Kawarau District (36%).

3 Implementing the NPS – HPL

This section summarises the NPS - HPL objectives and policies and considers the tangible outcomes of implementing the policies for regional and district councils. These are the actions that are required and for which the NPS - HPL sets out implementation timeframes. These actions come with an associated cost to councils in the short-term but can also generate cost savings and other benefits over the longer term. They are therefore important to understand for the CBA, as distinct from the costs and benefits that flow indirectly from these actions.

3.1 Proposed NPS - HPL

There are three objectives of the NPS - HPL. These are broadly[21]:

1. Recognising the benefits of highly productive land for primary production. This requires a long-term perspective.
2. Maintaining the availability of highly productive land for primary production, with an emphasis on future generations.
3. Protection of highly productive land from inappropriate subdivision, development and use. This includes reverse sensitivity effects.

There are 7 policies that give effect to the objectives. Broadly these are:

1. Identification of highly productive land (in accordance with criteria stated in Appendix A of the NPS - HPL).
2. Maintaining highly productive land for primary production.
3. Restricting new urban development and growth on highly productive land.
4. Avoiding rural subdivision and productive lot fragmentation.
5. Reverse sensitivity.
6. Consideration of requests for plan changes.
7. Consideration of resource consent applications for subdivision and urban expansion on highly productive land.

Each of the policies is discussed in detail in the 'Discussion Document: Valuing Highly Productive Land (July 2019)' for public consultation.

[21] Full detail is provided in the NPS Discussion Document for public consultation.

3.2 Actions by Councils to Implement the Policies

Some of the NPS - HPL policies have a tangible output and some do not. The policies that do require short-term implementation actions have been bundled for the purpose of considering the way in which Council's may logically and efficiently complete these tasks. This section discusses briefly the key actions (processes and outputs) that *might* be required by regional and district councils to implement the NPS - HPL policies as currently drafted. This is relevant to get a better understanding of the costs for Councils (but also the benefits). Importantly, the necessity to undertake these actions (in full or in part) will depend strongly on what Councils already have in their Regional Policy Statement (RPS) and operative district plan, and what non-statutory strategies, including growth strategies, they have in place. This section is focussed on the full process only – that is, assuming that a Council has no growth strategy or would require a full re-work of their existing provisions to give effect to the NPS - HPL.

Currently, this section is based on M.E's understanding of what might be required and how the policies might be approached by Councils. It will be important to gather Council input on these costs. That input may require the following assumptions to be amended. This will be an area of focus for updating the CBA following public consultation. Finally, this section does not discuss the benefits arising from these actions for Councils (and others). These are however identified in a wider sense in the CBA in section 4.

3.2.1 Policy 1 Implementation

Policy 1.1 requires Regional Councils to "*identify areas of highly productive land using the criteria set out in Appendix A*" and map these areas and incorporate that map in the RPS. This means a regional level spatial evaluation exercise that will entail engagement with landowners and stakeholders, public consultation, and a notified hearing for a change to the RPS.

The criteria set out in Appendix A indicates that this exercise is not simply adoption of the LUC 1-3 data for their region, but a detailed spatial land evaluation that must (based on current wording) bring together the LUC 1-3 dataset, climate data and an evaluation of existing primary production activity – its size, location within the district and in relation to the HPS resource and climatic conditions, and the viability of primary production at different lot sizes so than appropriate extents of HPL can be identified. Councils will need to make an informed decision on which properties are in the HPL area and which are out. Given the implications that would flow from this for landowners (both benefits and costs), this needs to be handled with a degree of care. In many ways, it is not unlike the process a council might go through to identify significant natural areas (SNAs).

The NPS - HPL Appendix identifies other optional factors that Council's may wish to consider. It is expected that regional councils *would* need to consider these other biophysical and economic relationships to gain a proper understanding of what HPL needs to be protected and why. This is essential for developing effective objectives and policies for managing effects on the HPL (Policy 2).

Such evaluations are not straightforward. It is likely that a number of scenarios will need to be tested to find the optimal outcome for each region. The NPS - HPL adopts a default definition of HPL to apply in the interim while Policy 1.1 is being implemented. This applies two simple parameters to land parcels in the rural productive zones – 50% or more coverage of LUC 1-3 or 4ha or more of LUC 1-3. M.E has mapped this for the six case studies in section 6-11 to demonstrate the significance of the HPL relative to the total

land area (or otherwise) when defined in this way. Different districts will be more sensitive to these parameters than others depending on the geography of their LUC 1-3 soils.

Processes and work programmes will need to be set up to facilitate the evaluation of HPL and progress it through the various stages from evaluation and mapping to incorporating it in the RPS. GIS expertise will be a core requirement. Some Councils will be better resourced for managing a GIS exercise of this scale. Input from external experts is also likely to be relevant and an additional cost.

A key requirement for a robust process is quality data. This should be current and at an appropriate scale to ensure an appropriate level of accuracy and confidence from land owners. Collecting the appropriate data is an additional cost and can add to the time in which the evaluation can be completed (some initial information on this is included in Section 5). There may be some constraints on supplying that data if those suppliers are laden with requests from multiple Councils as the same time.

While many councils rely on the LUC dataset already, not all do. There are alternatives (i.e. S-Map or 'growOtago') and feedback on the requirement to use the LUC data will be important to consider. Does the goal of improved national consistency relate to the output of defining HPL or the inputs to that process? We suspect it is the former – i.e. benefits associated with every region mapping HPL as it applies most appropriately to the context of that region. This could be achieved using a range of data inputs.

Overall, providing regional level spatial analysis is a key function for regional councils and they are likely to have systems in place that can deliver the HPL mapping exercise relatively efficiently, drawing on past experience, existing datasets and mapping tools. It is not a new task *per se*, but potentially a new *topic* for some Councils. Even those Council's that have invested in detailed soil data in the past, are likely to have to build on that work to capture HPL (in a bio-physical, economic and social sense) as opposed to focussing just on the soil resource. The NPS – HPL currently proposes that this work is required to be completed within 3 years of the NPS - HPL being gazetted. M.E does not have sufficient information to understand if that is practical or not. Feedback is being sought on these timeframes.

3.2.2 Policy 1.2, Policy 2, Policy 4 and Policy 5 Implementation

These are all policies that relate to the development of objectives, policies, rules and methods (zoning) and then incorporating those via a plan change. They span a range of issues – protecting HPL for primary production, rural subdivision and reverse sensitivity. Policy 4 and 5 need to be actioned by district but not the regional councils. Policy 1.2 requires district councils to incorporate the mapped areas of HPL into their operative district plans.

Policy 2 requires councils to develop provisions in their plans that relate to those maps and give effect to NPS - HPL objectives (in the case of the RPS) and give effect to the RPS objectives and policies (in the case of district plans). This appears to M.E to mean that Regional Councils must develop their provisions under Policy 2 first. M.E presumes that for the sake of efficiency, the RPS plan change that gives effect to Policy 2 will form part of the same plan change that incorporates the maps. Therefore, the timing for Policy 1.2 (3 years) will also apply for Policy 2 for regional councils (although this is not explicit in the NPS - HPL timeframes).

District councils' will have a further 2 years following the RPS plan change to amend their plans to incorporate the HPL maps (Policy 1.2), and the provisions package that goes with it. It makes sense in terms

of effectiveness and efficiency that that provisions for Policy 2, 4 and 5 will be developed at the same time for a single plan change. This is generally how councils give effect to an NPS - HPL, unless the timing allows them to incorporate the changes in a plan change review process. With the regional council dealing with submissions on the HPS maps, it is expected that the district plan changes will be relatively less contentious (and less costly).

Developing provisions to manage resource management issues and give effect to national policy instruments is again an area where regional and district councils have considerable resources and experience. The *topic* may be relatively new for some and it will be important that local authorities increase their expertise relating to primary production and the broader issue of HPL.

Section 5 provides a high-level analysis of indicative average plan change costs that might be applicable for implementing Policies 2, 4 and 5.

3.2.3 Policy 3 Implementation

Policy 3 implies a number of potential actions for councils.

Clause (a) suggests that Council need to comprehensively assess (in accordance with the guidelines of the NPS - UDC) residential demand and plan enabled and feasible development capacity. The output of this is an understanding of the sufficiency of existing urban operative district plan zones to cater for urban growth. These studies require detailed modelling and collation of a range of spatial datasets and other cost/market price inputs. A lot of the data is already collected/managed by Council (i.e. rating database, zones, consent activity), but in our experience, is not always easy to access or extract in a readily useable format. Sophisticated GIS models have proven beneficial to analyse large urban areas more efficiently.

The High and Medium growth councils have already completed these assessments as required by the NPS - UDC. Some were completed by external consultants in collaboration with Councils and some were managed in-house. However, this is a small group of councils relative to the total but does at least cover the districts most likely to face pressures for urban expansion into the rural fringe. For other districts expecting slower urban growth, a simple process might suffice.

A key lesson learnt from high growth councils that have completed their Housing and Business Development Capacity Assessments, is that uptake of vacant capacity moves fast. It is relevant that the NPS - UDC requires an update every three years or sooner. In places like Queenstown for example, the Council's own growth projections have been updated in very short intervals, meaning that assessments of demand based on those projections become quickly out of date. This is relevant for understanding ongoing costs.

Overall, it seems appropriate that Councils should lead this work. It would not be appropriate for developers to be left with having to demonstrate a shortfall of zone capacity. However, care is needed as to whether these costs should be attributed to the NPS – HPL at all. Providing for growth in the operative district plan is a fundamental role of Councils and would need to happen in any case (i.e. under the status quo). The NPS – UDC has further reinforced that. The NPS – HPL is more focussed on what comes after the assessment of capacity – which is the need to identify land for urban expansion (where that should be located relative to HPL). This is the purpose of clause (b) of Policy 3.

Clause (b) suggests that when there is a demonstrated need for urban expansion, that comprehensive evaluation of options and alternatives is carried out that gives greater weight to HPL than has potentially

been given to re-zoning exercises in the past. The task itself if not new for councils (providing areas for future growth) but under this policy, the s32 evaluation is expected to show a more informed understanding costs and benefits associated with the irreversible loss of HPL for primary production.

Council may approach this task pro-actively by identifying new locations that are considered appropriate (via structure plans or zone changes). This could be applied for a single urban area, or, a wider assessment across multiple urban areas might be justified. This would take the form of 'growth strategy'. Cost-wise, there is significant variation between a small-scale structure plan and a collaborative/joint growth strategy such as the Future Development Strategies currently required by the NPS - UDC or large projects like Future Proof or SmartGrowth. In the time available, M.E has not managed to collect cost data in these sorts of processes. It appears too early to gauge the costs of the FDS work for the council's we have contacted. This is however an area where better data should be collected once Councils are further through the process.

Again, care is needed as to what net additional costs the NPS – HPL places on that process, particularly when the identification of HPL would be a readily available input to add to the 'constraints' of different locations. What may be more relevant is the cost for those Councils that have completed growth strategies or structure plan exercises that now no longer seem appropriate relative to a better understanding of the long-term benefits of protecting highly productive land for primary production. I.e. they would have made a different decision on where to locate future growth. Many future urban or deferred zones are still in rural land use so in theory, Councils could consider re-evaluating those (i.e. it is not too late). The NPS - HPL is however clear that already zoned urban land, including future urban land, is excluded from consideration of HPL, so it seems unlikely that Council's would want to reconsider those zones.

3.2.4 Policy 6 and Policy 7

Policies 6 and 7 take effect immediately after the NPS - HPL is gazetted and are designed to help make sure decision making has regard for the overall objectives of the NPS - HPL, particularly until policies 1-5 are implemented by Councils. This is not a tangible action required by Councils (i.e. a physical output) but rather a focus on best practice for processes that already take place.

When Councils have implemented plan changes that give effect to policies 1-5 and private plan change requests and consent applications start coming in under that new regulatory framework, Policies 6 and 7 will be redundant. Council's will have developed all the relevant understanding needed to evaluate the cost and benefits of applications that may compromise the use of HPL for primary production (and those 'costs' are captured by implementing the other policies of the NPS - HPL).

With that in mind, M.E does not consider that there are any additional financial costs associated with giving 'regard' to HPL in decision making. Further staff training may however be relevant here and a financial cost for that could be quantified (but is not captured in this indicative CBA).

4 Wider Costs and Benefits

This section identifies wider costs and benefits anticipated to arise under the status quo scenario (that is with no NPS - HPL) and with a NPS for highly productive land based on the proposed objectives and policies as currently drafted.

The CBA draws on the Treasury guidance for CBA[22], notably social CBA[23]. The social perspective is important because of the ubiquitous nature of HPL in many districts, and the wide range of economic, social, cultural and environmental matters likely to be affected by the NPS - HPL.

> *Cost benefit analysis is first and foremost an organising principle. It is a way of organising information in a consistent and systematic way. It is about making best use of whatever information is available.*
>
> *It is about evidence-based policy development.*
>
> *This guide is called 'social' cost benefit analysis because at its most basic, a cost benefit analysis that the Government is interested in must identify all the economic (including social and environmental) impacts of decisions on people, whether or not they can be quantified.* [24]

The key point is that there is clear guidance available on cost benefit approaches, and the comparison and evaluation of options, which is relevant to the NPS - HPL.

The social CBA guideline identifies specific steps.

1. Define policy and counterfactual.
2. Identify who gains and who loses.
3. Identify the costs and benefits - including negative costs and 'dis-benefits', externalities, induced behaviour, and the deadweight cost of taxation.
4. Value the costs and benefits - including willingness to pay, opportunity cost, market and non-market values, revealed and stated preference, sunk costs, option values, taxes and subsidies, optimism bias, evaluation period, and nominal vs real.
5. Discount and compare costs and benefits – including present values, discounting and discount rate, and calculation of present value (PV) and benefit cost ratio (BCR).

To help identify relevant costs and benefits, M.E has considered the draft discussion document (MPI), a summary of stakeholder consultation feedback (November 2018, 4Sight Consulting Ltd), other relevant documents supplied by MPI or sourced by M.E and initial information gathered from interviews with soil/soil mapping experts. Following public consultation, additional information will be incorporated, and amendments may be needed to address changes to the NPS - HPL provisions as drafted. As such, this

[22] https://treasury.govt.nz/information-and-services/state-sector-leadership/investment-management/plan-investment-choices/cost-benefit-analysis-including-public-sector-discount-rates

[23] https://treasury.govt.nz/publications/guide/guide-social-cost-benefit-analysis

[24] Treasury Guide to Social Cost Benefit Analysis

indicative CBA should be viewed as a living document that will be subject to further changes and refinement.

Some high-level assumptions made regarding indicative costs and benefits:

- The costs and benefits below are worded to reflect aggregate outcomes for total New Zealand. Subsequent analysis of selected costs and benefits is limited to specified case study areas and not the national total, unless otherwise stated.
- We assume labour resource costs to Councils are net additional to their business as usual operation (i.e. assumes there is no spare capacity in Councils that could be more efficiently utilised). Those additional costs may be in the form of consultant fees, longer hours for existing staff, higher pay to reflect a more demanding role, or addition of new staff.
- Costs to councils are ultimately borne by rate payers.
- Costs to central government are ultimately borne by taxpayers.
- Some costs and benefits are borne/received by the community as a whole – and may be intergenerational with costs borne now while benefits are received in the future. The costs and benefits tables below are not time specific but talk about the future in more general terms.
- In some instances, an effect can result in both a cost and a benefit (usually to different stakeholders).
- Costs and benefits take account of direct and consequent effects.
- The scale of each cost and benefit is not explicitly identified, although in identifying who bears a cost or benefit, it infers the group that is affected (i.e. regional councils, district councils, landowners in certain locations, consent or plan change applicants, the total community). This gives a sense of scale in relative terms.
- The significance of each cost and benefit is estimated where possible. These should be considered in a relative sense.
- Not all costs and benefits can be quantified, and fewer can practicably be monetised. M.E has focussed its efforts on quantifying/monetising selected costs and benefits where data and time has allowed.
- While care has been given to identify all key and relevant costs and benefits, the tables below are unlikely to capture all potential costs and benefits.
- HPS refers to highly productive soils (i.e. LUC 1-3), while HPL refers to a broader definition of highly productive land as defined by the NPS - HPL (although equates to LUC class 1-3 land as an interim default definition).

Many costs associated with the status quo scenario are benefits in the 'with NPS - HPL' scenario (avoidance of costs). Similarly, many benefits associated with the status quo are costs in the 'with NPS - HPL' scenario (benefits lost). However, there are costs and benefits that are not conversely linked and are unique to the 'with NPS - HPL' scenario in particular. Further the scale of conversely linked costs and benefits are not

necessarily equivalent in each scenario, as they may impact on different groups/stakeholders in different ways and over different time scales. Hence the importance given in CBA to estimating net costs and benefits.

4.1 Costs and Benefits of the Status Quo

The following table identifies key costs and benefits anticipated under the status quo. In summary the status quo scenario benefits range from opportunities provided to the lifestyle block market and those landowners able to sell them as well as those landowners who may not wish to subdivide but use their productive land for other purposes and having less constraints for doing this. Rural communities would continue to expand in popular areas, and this can bring improved infrastructure for current and future households in those communities.

There are limited benefits of the status quo for the primary production sector as a whole in this future, although it is acknowledged that some district councils manage effects on primary production activity better than others. Council's would save on implementation costs and may still achieve the objectives in part at a time that is efficient for them do so (but there would be no imposed urgency on this) given that strategic growth planning is established best practice. The effectiveness of these outcomes is however uncertain without national direction and the costs of inconsistent management will prevail. This includes continued reductions in the availability of HPL for primary production activities over time, exacerbated by decision making that continues to assess proposals on a site by site basis without a full understanding of the values of HPL (or not at all).

An indicative assessment of the significance of each cost and benefit (not to individuals but overall in terms of wellbeing) is included (using low, moderate and high). Costs and benefits that are estimated to be of high significance are shown in bold.

Figure 4.1 – Identification of Costs and Benefits Without the NPS – HPL (Status Quo)

Issue	Costs	Benefits
Biophysical		
Urban expansion	Continued decline of HPS availability through urban expansion (sealing the soil resource). Loss of a finite resource and impacts on soil ecosystem services. *Significance uncertain.*	Potential for improved water quality where intensive farming practices are not able to be expanded. *Significance uncertain.*
Rural fragmentation	Increased changes to habitats in rural areas. *Significance uncertain.*	
	Potential flow on effects of land fragmentation of significant natural areas on rural properties, unless otherwise managed through plan provisions. *Significance uncertain.*	Where provided for in plan provisions, potential for increased protection of indigenous biodiversity on private property through conservation lots/covenants created through subdivision. *Significance uncertain.*

Issue	Costs	Benefits
Economic		
Urban expansion	Urban expansion may continue to occupy highly productive land in those council areas where this resource is not explicitly factored into decision making and highly productive land adjoins the urban fringe. *High significance.*	
	Urban expansion is likely to continue to occupy highly productive land on the fringe of urban areas where there is no alternative (i.e. the urban area is surrounded by highly productive land. *High significance.*	
	For districts where expansion of urban areas on the fringes is not strategically managed and is market led, intensive forms of residential development may not be encouraged. Increased inefficiencies in urban form and associated servicing of growth. *High significance.*	
Rural fragmentation	Lifestyle block subdivision will continue to occur on highly productive land where this resource is not explicitly factored into decision making and specific zones are not identified to meet demand for this land use. Increased fragmentation reduces or limits the opportunity for future primary production activity. *High significance.*	Lifestyle blocks are located in areas considered most optimal by the market. *Low significance.*
		Landowners in areas with potential to develop land for rural lifestyle uses are able to make economic profits through subdivision – private economic gain, even if the land has existing primary production activities or productive potential. *Moderate significance.*
	Increased need for infrastructure and community service provision to cater for rural population growth. *Moderate significance.*	Ability to subdivide may bring more households into the area – helping to sustain the economies of towns in some districts. *Low significance.*
	Reduced authenticity for those regions who use primary production as a marketing and branding tool. *Low significance.*	
Primary production	Economies of scale in primary production are lost through the fragmentation of the rural property estate. *Low significance.*	Carving off commercially viable productive lots allows more growers in the market and increased competition. *Low significance.*

Issue	Costs	Benefits
	Continued rise of reverse sensitivity issues and land use conflicts, particularly in those areas where the planning framework gives little weight to highly productive land or primary production activities. Associated costs to producers. *Low significance.*	
	Loss of food supply (output) and greater reliance on food imports. Domestic food supply continues to be poorly considered in planning and decision making. *High significance.*	
	Upstream and downstream supply chain impacts associated with a potentially contracting primary production sector. Reduced demand for inputs and reduced supply of outputs for intermediate and final demand. *High significance.*	
	The ability of the primary production sector to expand is increasingly reduced. Lost opportunity cost of future growth and associated direct, indirect and induced economic and social benefits. *High significance.*	
	Rising land values for primary producers make it harder to be economically sustainable for primary production, forcing growers to do more with less. *Moderate significance.*	Encourages research and development to address a need for increased productivity. *Low significance.*
	Primary production activity is not encouraged to develop in consolidated areas. Dispersal of primary production land use activities. Forgone agglomeration benefits. *Low significance.*	
	Reduced efficiencies for post-harvest processing. Shifting patterns of productive activity where displaced to new areas. Greater transport costs to move products from land to processing plants, else greater pressure to relocate processing activities. *Low significance.*	
Resource management	Decision making on plan changes and consents that occupy highly productive land will continue to vary across local authorities. This is likely to give little or inappropriate weight to the benefits of protecting HPL for primary production. *High significance.*	

Issue	Costs	Benefits
	The management of highly productive land will continue to vary across local authorities. This variation may be contributing to the cost of environmental management systems and compliance (inefficiencies). *Low significance.*	The status quo imposes no additional costs on Councils. It is anticipated that managing the loss of HPS may be increasingly reflected in regional and district plans as they are reviewed irrespective of the NPS - HPL due to greater recognition of this issue (best practice). *Moderate significance.*
	Continued variation in management of highly productive land maintains current inefficiencies for producers operating in multiple jurisdictions. No reduction in advocacy costs. *Low significance.*	
Social		
Rural fragmentation	Adverse effects on rural character through increased fragmentation and development. *Moderate significance.*	Growth of rural communities and increased viability of rural infrastructure and services. *Low significance.*
Primary production	**Loss of (primary production and processing) jobs in rural areas. *High significance.***	Farming families, with aging farmers and no successors willing to work the farm, can maximise returns from land through subdivision – and retire. This is especially the case for horticultural holdings. These are often close to urban areas, and have good climates so are attractive to the market. *Low significance.*
	Increasing reverse sensitivity can impact negatively on rural livelihoods. *Low significance.*	
Resource management	Inconsistent rules between different jurisdictions – between and within regions. Social justice issues. *Low significance.*	
Cultural		
Rural fragmentation	Potential loss of cultural identify if key primary production activities are diminished. *Low significance.*	
	Potential loss of mauri – essential lifeforce of an area following loss of productive capacity. *Significance uncertain.*	Maori owned land that is also highly productive land can develop for non-primary production activities in accordance with existing provision. Potential for housing / papakainga and commercial development is not hindered by rules protecting highly productive land for primary production. *Low significance.*

4.2 Costs and Benefits with the NPS - HPL

There are two aspects to be examined. One is the costs and benefits of achieving the objectives of the NPS - HPL. The closely related aspect is the costs and benefits of achieving those objectives by applying a NPS - HPL as a planning tool. Below we touch first on the former, the costs and benefits of achieving the NPS - HPL objectives. This is followed by a more detailed table of anticipated costs and benefits associated with implementing the policies of the NPS - HPL as currently drafted.

These objectives of the NPS - HPL (section 3.1) have a number of benefits:

1. Highly productive land is an important resource for food production. Maintaining its availability means that this resource would not be lost (through urban development of land for example where feasible) so that the resource would remain and be able to be utilised into the long term by future generations;

2. Maintaining its availability also means that the resource is able to be used, such that the benefits from primary production (mainly domestic and export food supply) are available to the community;

3. The nature of primary production commonly means that such activity will be more cost efficient when on HPL, especially through higher productivity from the high quality and versatile soils. Greater efficiency is generally associated with improved sustainability;

4. The requirement is nationally consistent, so that the existing HPL resource is maintained – which is a substantial resource distributed across all regions of New Zealand. There are consequent strategic benefits from its availability in a number of different locations (particularly in light of climate change), in places generally accessible to areas of population, which is a relatively efficient pattern;

5. The requirement is long-term (future generations) so there is a benefit from the security of retaining the HPL resource into the future;

6. The objectives establish a direct link between the HPL resource and its utilisation for primary production activity, which means a level of prioritisation for primary production;

7. There is an indirect benefit implied from the security of protecting or managing HPL to enable viable but less productive land uses to occur on less productive land, without pre-emption of that land for higher producing activities.

The objectives may also have a number of potential costs.

1. Achieving the NPS - HPL objectives would, by implication restrict the land on which the HPL resource exists to a single generic use – primary production (albeit that this comprises a number of sub-sectors). There may be opportunity costs when the HPL may have alternative uses (i.e. urban land uses, tourism activities, cultural activities, infrastructure development, forestry or restoration of indigenous biodiversity) which deliver benefits other than those from primary production, and which may at a site level, or at the aggregate level, outweigh the benefits of primary production;

2. The objectives will affect the location of economic and social activity, both directly in terms of identifying where a component of primary production activity will locate and indirectly in terms of activities other than primary production being required to find alternative locations when their first choice may be land within the HPL resource. The benefits of that preferred location may have no relation to the existence of the HPL resource. This could mean a less efficient / more costly development pattern for the activity re-directed in order to protect the HPL resource.

Figure 4.2 below identifies the anticipated costs and benefits directly and consequently arising from the draft NPS - HPL policies. In summary the benefits are generally focussed on the wider community and economy. The availability of highly productive land is protected for current and future generations and the primary production sector is better supported and has a more sustainable future. This has flow on benefits in terms of supply chain employment, food supply and rural communities/environments. This is achieved through more strategic growth planning and the greater consistency of this across New Zealand.

The main costs arising from the NPS - HPL are implementation ones for Councils and Central Government – these are not unique to this NPS - HPL and are mainly short-term costs required to achieve long-term social and economic benefits. There will be opportunity costs for landowners within areas of HPL and greater facilitation of intensive primary production may place additional pressures on water quality and soil health, which Councils are also obligated to manage under other national instruments.

Figure 4.2 – Identification of Costs and Benefits with the NPS – HPL

Issue	Costs	Benefits
Biophysical		
Urban expansion		**The loss/locking up of highly productive soils is reduced over the long-term through greater consideration of where urban expansion occurs. *High significance.***
Rural fragmentation		**The productive capacity of highly productive soils is maintained through avoidance of land fragmentation for rural lifestyle properties and potential provision of appropriately located rural lifestyle zones. *High significance.***
		Ecosystem services provided by highly productive rural land are retained (notwithstanding potential impacts on soil health). These include provision of food, wood and fibre; provision of raw materials; flood mitigation; filtering of nutrients and contaminants; carbon storage and greenhouse gases regulation, detoxification and the recycling of wastes[25]. *Significance uncertain.*

[25] Source: https://www.Manaaki-Whenuaresearch.co.nz/__data/assets/pdf_file/0008/77039/1_11_Dominati.pdf (Table 1).

Issue	Costs	Benefits
	Potential losses of some HPS if the identification of highly productive land is not sufficiently accurate (data accuracy issues) or Councils choose not to protect all areas of the resource. *Low significance.*	
Primary production		By its nature highly productive soils produce more output than less productive soils. In the long run this may mean less land required to generate the same output. Potentially leading to lower impacts on the biosphere. *Significance uncertain.*
Economic		
Urban expansion	District Councils may need to undertake a strategic spatial planning process (growth strategies) if not completed already, inclusive of stakeholder engagement and consultation, to provide for urban expansion in a way that takes account of highly productive land. This may require additional resources in Council, and potentially outsourced expertise. This requirement may complement work already underway (such as under the NPS – UDC) or may require a new workstream to be established. Costs borne by rate payers. *Low significance on the basis that this is an existing core function of councils, so not all costs should be attributed to the NPS - HPL.*	Urban expansion will be directed to fringe locations that are not identified as highly productive land where there are options to do so and the long-term benefits of doing-so outweigh the long-term costs. Reduced loss of highly productive land in urban fringes. *High significance.*
		Urban growth occurs in a more coordinated and strategic way as a result of required strategic planning processes. Efficiency gains for urban form and infrastructure cost savings. *High significance.*
		Greater certainty for community where urban growth will occur. *Low significance.*
Rural fragmentation	Additional resourcing costs for Regional Council's to develop objectives and policies to manage effects on highly productive land, with an associated plan change to incorporate the provisions and maps in the RPS. The plan change may be stand-alone or integrated as part of another plan change/plan review. Costs borne by rate payers unless there are opportunities for central government *funding. Moderate significance*.	Greater consistency of how highly productive land is managed across New Zealand is achieved in the short-medium term. *Low significance.*

Issue	Costs	Benefits
	Additional resourcing costs for District Council's to develop objectives and policies to manage effects on highly productive land, with an associated plan change to incorporate the provisions and maps in the operative district plan. The plan change may be stand-alone or integrated as part of another plan change/plan review. Costs borne by rate payers unless there are opportunities for central government funding. *Moderate significance*.	Jobs sustained or created in a range of areas of expertise which will be in demand by Regional and District Councils, particularly if inhouse capacity is limited. *Low significance.*
		Consistency for growers operating in multiple regions. *Low significance.*
	Current landowners cannot free up capital by subdividing/selling redundant rural land in areas identified as highly productive land. Opportunity costs for landowners in areas of highly productive land, including through changed activity status of some activities. *Moderate significance.*	Current landowners in areas where lifestyle block demand is deflected can free up capital by subdividing/selling redundant rural land that is not identified as highly productive. Increased opportunities. M*oderate significance.*
		The productive capacity of land is protected for future generations. This may include a greater area of productive land for those council's currently focussed on LUC 1 and 2 only. *High significance.*
	Risk is that piecemeal identification of HPL may not prevent reverse sensitivity effects (alleviated if larger areas of cohesive HPL can be protected to lessen perimeter: area ratios). *Low significance.*	
	Opportunity costs for landowners adjacent to areas identified as highly productive land where buffers/setbacks or activity rules are used to manage reverse sensitivity effects. *Low significance.*	Incidences of reverse sensitivity effects on primary production activities are reduced through better managing the location or lifestyle block development and other activities in areas of HPL, including through the use of buffers. Less constraints on primary production activities. *Low significance.*
	Non-primary production activities that would have developed in rural areas will be subject to more stringent assessment requirements and may be limited to areas that are not identified as highly productive land. Opportunity costs associated with non-complying activities or less efficient locations. *Low significance.*	

Issue	Costs	Benefits
Primary production		Greater opportunities for economies of scale in primary production activities through the avoidance of fragmentation of highly productive land and any incentives put in place to facilitate amalgamation of land titles. *Low significance.*
		Potential increase in agglomeration benefits in the primary production sector if they are encouraged to locate/develop in cohesive areas of protected highly productive land. Shared resources, labour efficiencies, technology transfer. *Low significance.*
		The mix and quantum of employment (by sector) sustained directly and indirectly (upstream and downstream supply chains) from primary production activity on highly productive land will be less likely to be impacted from the pressures of land use change. *High significance.*
		The mix and quantum of output (by sector) sustained directly and indirectly (upstream and downstream supply chains) from activity on highly productive land will be less likely to be impacted from the pressures of land use change. GDP benefits. *High significance.*
		New Zealand maintains its position as a major food exporter. New Zealand maintains its position as a major food exporter. Security of food supply for export markets. *High significance.*
		Security of food supply for local markets as well. Local production of food helps keep local prices of fresh food down. This benefits local communities. *High significance.*
		Existing infrastructure supporting primary production will be sustained in its current location. Potential for increased output and greater efficiency. *Low significance.*

Issue	Costs	Benefits
Resource management	Regional Councils will potentially need to invest in better data to enable to them to identify highly productive land. This could include (but is not limited to) accurate soil data (at an appropriate scale), accurate irrigation and water resource data, climate data, land use data, land fragmentation trends, employment data, economic data. Costs borne by rate payers unless there are opportunities for central government funding. *Moderate significance.*	Greater understanding of land resources (soil), primary production activity and viability, labour, land use patterns, water availability, economic impacts of primary production and alternate land uses, and climate through the collection and collation of new or improved spatial and economic data. The datasets required to identify highly productive land are likely to have utility for other regional and district level planning and regulation. Return on investment. *Moderate significance.*
		Greater understanding of the values and long-term benefits of using highly productive land for primary production. *Low significance.*
	Additional resourcing costs for Regional Council's to complete the identification, engagement, and mapping of highly productive land, including outsourced expertise. Costs borne by rate payers unless there are opportunities for central government funding. *Moderate significance.*	Jobs sustained or created in a range of areas of expertise which will be in demand by Regional Councils, particularly if inhouse capacity is limited. *Low significance.*
		Benefits associated with collaboration between Councils, and potential to share resources through consideration of inter-regional and district/regional issues. *Low significance.*
	Risk of non-compliance cost if Regional Councils cannot meet the implementation timeframes for identifying highly productive land. Timing may be constrained by a lack of internal or external capacity (skilled workforce capacity) or the practical timeframes needed to develop data of a desired level of accuracy across multiple regions at the same/similar time. *Low significance.*	
	Additional costs to those councils where the imposed timeframes preclude the opportunity to incorporate plan changes more cost effectively with other comprehensive plan changes/plan reviews. *Low significance.*	

Issue	Costs	Benefits
		Better quality and more efficient decision making on plan changes and consents (in and outside of highly productive land) as a result of clear policy direction and an improved evidence base, including that required from applicants. *Low significance.*
		Reduced litigation costs for councils and communities. *Low significance.*
		Decisions making on plan changes and consents will better consider aggregate costs and benefits and cumulative effects. *Low significance.*
	NPS - HPL may undermine established community/ stakeholder goodwill toward Councils if policies require a different approach to rural subdivision, use and development, particularly if only recently agreed. *Low significance.*	Greater certainty for primary production sectors in managing growth and investment, including reduced time spent monitoring and responding to planning decisions that may impact on primary production activities. Advocacy savings. *Low significance.*
	Costs to upskill resource management practitioners (including Council staff) on new policy. *Low significance.*	
	Additional resources required for central government to provide technical assistance and ongoing guidance to Regional Councils and District Councils. Future costs to review and monitor the effectiveness of the NPS - HPL. Costs are borne by taxpayers. *Low significance.*	Benefits arising from greater collaboration between Councils and central government agencies. *Low significance.*
	Landowners wishing to develop or subdivide highly productive land will need to provide site specific LUC assessments as part of consents and plan changes. *Low significance.*	Potential for Council data on LUC to be enhanced iteratively by incorporating site specific assessments supplied during consents and plan changes. *Low significance.*
Social		
Urban expansion	Increased costs associated with potentially greater weight being given to intensification of urban areas to avoid expansion on to productive rural land. *Low significance.*	Increased benefits associated with potentially greater weight being given to intensification of urban areas to avoid expansion on to productive rural land. *Low significance.*
Rural fragmentation		Primary production employment opportunities in rural areas are maintained (and potentially increase). *High significance.*
	Existing rural communities may not grow if rural population growth is redirected to other areas outside HPL. Rural population may be spread (diluted) over a wider area. *Low significance.*	

Issue	Costs	Benefits
	Lifestyle blocks may be directed to less optimal locations from a market perspective. *Low significance.*	
		Intrinsic value of rural environments is retained in those areas protected from inappropriate development and subdivision. *Significance uncertain.*
		The character of areas of highly productive land are maintained by reducing the opportunities for land fragmentation and the development of dwellings. *Significance uncertain.*
Resource management	Conflict may arise with other NPS - HPL. May create conflict and tension for Councils. *Low significance.*	Potential for improved relationships between Council and community through engagement processes. *Low significance.*
		Consistent nationally applied approach is more transparent and level of assessment likely to be improved over status quo. Better information provided to communities. *Low significance.*
Cultural		
	Development of Maori owned land may be constrained if located within highly production land unless otherwise provided for by Councils. *Low significance given that the proportion of Maori owned land containing HPS is not high and Councils may factor Maori owned land into the definition of HPL or include policies to help manage this adverse effect.*	Areas and sites of significance to Maori are further protected from changing land use and fragmentation of highly productive land. *Low significance.*
		Potential loss of mauri – essential lifeforce of an area associated with productive capacity is avoided. *Significance uncertain.*

5 Analysis of Costs and Benefits

This section examines selected costs and benefits identified in Section 4 (and discussed in Section 3) in order to provide some indication of the order of magnitude of those effects. This is important to understand both scale and significance and where these effects may be felt on the ground, or by different stakeholder groups under a range of potential scenarios without and with the NPS – HPL. A consistent spatial analysis is applied for each of the case study councils. This includes modelling to inform selected costs and benefits. The approach and assumptions of that analysis are discussed here, with the case studies following in sections 6-11.

The following are preliminary estimates of monetised costs (where available). They are not generated specifically from the case study councils but are average costs that may apply to those case studies. Data sources for this section include discussions with Manaaki-Whenua[26] and LandSystems[27], and data from the National Monitoring System. Following public consultation, this section will be refined to capture any new information as well as feedback from Councils.

5.1 Council Implementation Costs

5.1.1 Costs of Spatial Analysis of Highly Productive Land

Section 3 of this report discusses the requirement for regional councils to identify and map highly productive land in order to implement the NPS – HPL. The following summarises what is known about that potential cost.

- **Applicability for regional councils of six case study areas:** All – it is M.E's understanding that all four respective regional councils within which the districts are located (Ashburton and Selwyn both fall within Canterbury Region) and Auckland Council as a unitary authority would need to carry out this task as we are not aware of any existing work that fully meets the requirement to identify and map highly productive land in the manner prescribed by the NPS - HPL (although several[28] have done extensive work in mapping soils).

- **Process Costs:** unknown, more data required. However, as a key capability for this task will be GIS, it is relevant to consider the capacity of regional councils to manage region wide spatial analyses in-house. M.E understands[29] that Auckland, Waikato, Wellington and Canterbury region have significant GIS resources to draw upon. Northland, Bay of Plenty, Hawke's Bay, Taranaki, Manawatu-Wanganui, Otago, Southland and Marlborough have moderate GIS resources to draw upon (and may require some additional expertise/capacity including from external suppliers). Gisborne, West Coast, Tasman and Nelson Region are understood to have

[26] Phone interview with Sam Carrick.

[27] Phone interview with Dr Reece Hill.

[28] Waikato Region, Bay of Plenty Region, Canterbury Region – extensive coverage of LUC 1-3 in S-Map.

[29] Data on GIS capability indicative only. Supplied by Reece Hill for the purpose of this CBA only.

limited in-house GIS capacity and would presumably be more reliant on purchasing input from external suppliers. These capabilities may influence costs. Following public consultation, these assumptions on Council GIS capabilities and capacity will be updated.

- Data Costs: unknown and may be variable depending on Council approach. This is discussed further below.

The LUC data is identified as a key input to the HPL mapping process in the NPS – HPL, although is one of several datasets that should be evaluated in order to identify HPL. It is M.E's understanding that one of the limitations of using LUC dataset is its accuracy for regional and district level spatial analysis. Regional Council's *may* choose to invest in more accurate land use capability data, although this is not explicitly required by the NPS – HPL. Further feedback from Council's is expected to confirm current access to relevant datasets and their preferred base standard for soil mapping.

There are two critical datasets needed to map LUC 1-3 areas more accurately according to information provided by Manaaki-Whenua; (1) a high-resolution digital elevation model (i.e. derived from LIDAR) and (2) improved resolution soil mapping.

M.E does not currently have any information on LIDAR costs or the extent to which regional Councils already have this data. S-Map is an existing soil spatial dataset developed and maintained by Manaaki-Whenua that currently provides partial coverage of New Zealand at a 1:50,000 scale and offers a number of benefits over the NZLRI dataset (including greater accuracy and utility for a range of other land-use modelling applications). Some Councils have already invested heavily in S-Map for their region and it is therefore reasonable to assume that S-map might be considered an optimal base standard for council planning[30].

Figure 5.1 summarises current estimates from Manaaki-Whenua on S-Map coverage of LUC class 1-3 land to date. Some councils have no coverage, while others have close to 100% coverage. The indicative cost to complete S-Map coverage of just LUC 1-3 land is based on a per hectare basis. The indicative costs of $3/ha to $5/ha (average) are based on a 2015 business case (by Manaaki-Whenua), and budget bid in 2016. Current estimates put the actual cost closer to the $5/ha value, or higher. M.E has therefore included a slightly higher cost for the purpose of this CBA ($8/ha).

The increase in costs (since 2015/2016 estimates) reflects both the increase in labour costs, but also the loss of efficiency of mapping patchy portions of each region (spatially discontinuous areas of potential high productivity) relative to mapping the whole landscape. Further, completing coverage of LUC class 1-3 land will justify more intensive mapping effort, than hilly to steep low productivity/pressure land. The costings in Figure 5.1 are really a national average of more costly lowlands and less costly hill to steep lands. Actual costings would require more detailed analysis at some point. For example, these costings are based on 1:50,000 scale data and in some areas much finer resolution may be justified (1:10,000 to 1:25,000 scale, previously estimated by others in the range of $10 - $40/ha).

[30] M.E has no specific views on the weight that should be given to S-Map.

Figure 5.1 – Indicative Costs to Complete S-Map for LUC1-3 Areas by Region (April 2019)

Region	Hectares			Percent			Cost to Complete S-Map Coverage of LUC1-3 ($000)		
	LUC1-3 Area Not Already in S-Map	LUC1-3 Area Already in S-Map	Total LUC 1-3 Area	% Share of National LUC1-3 resource	% Share of LUC 1-3 Not Already in S-Map	% Share of LUC 1-3 Already in S-Map	Lower ($3/ha)	Mid (previously upper) ($5/ha)	Upper (current) ($8/ha) *
Auckland Region	61,922	60,885	122,807	3.21%	50.4%	49.6%	$ 186	$ 310	$ 495
Bay of Plenty Region	3,066	127,955	131,020	3.42%	2.3%	97.7%	$ 9	$ 15	$ 25
Canterbury Region	31,510	806,193	837,703	21.87%	3.8%	96.2%	$ 95	$ 158	$ 252
Gisborne Region	36,834	33,449	70,284	1.84%	52.4%	47.6%	$ 111	$ 184	$ 295
Hawke's Bay Region	2,739	179,036	181,775	4.75%	1.5%	98.5%	$ 8	$ 14	$ 22
Manawatu-Wanganui Region	289,910	101,475	391,385	10.22%	74.1%	25.9%	$ 870	$ 1,450	$ 2,319
Marlborough Region	30,476	32,773	63,249	1.65%	48.2%	51.8%	$ 91	$ 152	$ 244
Nelson Region	2,602	-	2,602	0.07%	100.0%	0.0%	$ 8	$ 13	$ 21
Northland Region	126,282	1,424	127,706	3.33%	98.9%	1.1%	$ 379	$ 631	$ 1,010
Otago Region	68,994	324,527	393,522	10.27%	17.5%	82.5%	$ 207	$ 345	$ 552
Southland Region	80,206	471,441	551,648	14.40%	14.5%	85.5%	$ 241	$ 401	$ 642
Taranaki Region	185,394	-	185,394	4.84%	100.0%	0.0%	$ 556	$ 927	$ 1,483
Tasman Region	48,493	7,604	56,097	1.46%	86.4%	13.6%	$ 145	$ 242	$ 388
Waikato Region	121,986	452,734	574,720	15.01%	21.2%	78.8%	$ 366	$ 610	$ 976
Wellington Region	39,442	83,154	122,595	3.20%	32.2%	67.8%	$ 118	$ 197	$ 316
West Coast Region	7,554	7,133	14,686	0.38%	51.4%	48.6%	$ 23	$ 38	$ 60
Total Area LUC 1, 2 and 3	1,137,410	2,689,783	3,827,193		29.7%	70.3%	$ 3,412	$ 5,687	$ 9,099

*Estimates supplied by Manaaki-Whenua (10th April 2019) for purpose of CBA only. * Revised upper estimate by M.E only based on comments provided.*

Completing S-Map for all LUC class 1-3 land in New Zealand is therefore estimated at around $6-9m (1:50,000) but this is not spread evenly across the regional councils. M.E understands that current S-Map coverage has been carried out over a 10-year period. A relevant issue is the resources that would be needed to complete the LUC 1-3 coverage in the timeframes required by the NPS – HPL, should most Councils decide to take the S-Map path to identifying HPL. The relevance of S-Map costs to the CBA of the NPS – HPL is a topic that requires stakeholder feedback. It is currently excluded from the monetised CBA summary.

5.1.2 Costs of Plan Change for Managing Highly Productive Land

Section 3 of this report discusses the requirement for regional and district councils to develop provisions to manage effects on HPL and adopt these through a plan change in order to implement the NPS – HPL. The following summarises what is known about that potential cost.

- **Applicability for councils of six case study areas:** All four regional councils and all 5 district councils and Auckland as a unitary authority would need to carry out this task in order to include the maps of HPL and develop new (or modify existing) provisions to manage highly productive land for primary production.

- **Process Costs:** The local significance of the plan change really depends on the marginal change from operative provisions and whether the plan change can be incorporated (more cost effectively) as part of an upcoming district plan review. Feedback from case study councils is needed to provide an indication of what the cost might be for them. In the interim, M.E has summarised some data from the National Monitoring System (MfE) on plan change costs to implement a national policy instrument. The data is not consistently recorded by councils and covers a range of plan change types/situations (including giving effect to a total NPS/NES or just part of it, or standalone plan changes or ones that are part of a wider plan review). M.E has

cleaned the data to leave what appears to be the most complete or reliable data points[31], but the samples (generally covering the period 2014/15 to 2017/2018 financial years) are relatively small, so care is needed as to the representativeness of this data to inform potential plan change costs under the NPS – HPL.

Figure 5.2 indicates that the average cost for a plan change to a Regional Policy Statement or Regional Plan[32] is $1.86m but the range is from $0.5m to 4.8m. The breakdown of costs by plan change stage is based on a slightly smaller sample (where this data was also provided). The stage where provisions are developed and notified has a large range in costs, from a minimum of approximately $30,000 through to $1.26m. The average is however $0.59m. The stage between notification and the decision is the costliest (an average of $1.15m). The stage from decision to operative has an average cost of $0.46m.

Figure 5.2 – High Level Analysis of Costs to Change Regional Policy Statement or Plan

Plan Change Cost	Generally Total Cost Stated	Council Costs – pre-notification	Council Costs – notification to decisions	Council Costs – decisions to operative
max	$4,804,000	$ 1,257,000	$ 2,902,000	$ 644,000
min	$ 501,000	$ 28,000	$ 131,000	$ 342,000
average	$1,861,000	$ 594,000	$ 1,153,000	$ 462,000

Source: NMS (data filtered on giving effect to national instruments), MPI, M.E

n=6, although breakdown costs based on smaller samples.

Figure 5.3 indicates that the average cost for a plan change to an operative district plan is $1.69m but the range is from $16,000 to $6.76m. The breakdown of costs by plan change stage is based on a slightly smaller sample (where this data was also provided). The stage where provisions are developed and notified has a large range in costs, from a minimum of approximately $5,000 through to $2.75m. The average is however $1.44m. The stage between notification and the decision is the least costly (an average of $0.84m). The stage from decision to operative has an average cost of $0.89m.

[31] Records were excluded where they did not contain enough completed fields to understand the relevance of the record, or if they were missing the final or partial costs.

[32] While the NPS – HPL does not require any changes to be made to Regional Plans, the analysis of average plan change costs for regional or unitary councils to a regional statutory document included both RPS and Regional Plans in order to generate a larger sample size.

Figure 5.3 – High Level Analysis of Costs to Change a District Plan

Plan Change Cost	Generally Total Cost Stated	Council Costs – pre-notification	Council Costs – notification to decisions	Council Costs – decisions to operative
max	$ 6,760,000	$ 2,750,000	$ 2,445,000	$ 2,171,000
min	$ 16,000	$ 5,000	$ 16,000	$ 6,000
average	$ 1,694,000	$ 1,446,000	$ 837,000	$ 887,000

Source: NMS (data filtered on giving effect to national instruments), MPI, M.E

n=24, although breakdown costs based on smaller samples.

Figure 5.4 shows the indicative present value (PV) of plan change costs per regional council and per district/unitary authority based on the average costs from Figures 5.2 and 5.3. We have split those costs over two years and allocated them in keeping with the implementation timeframes of the NPS - HPL. The total PV plan change cost for each regional council is indicatively $1.5m (or a total of $7.68m for the regional councils related to the case study areas). This is assumed to exclude the cost of identifying HPL discussed above. The total PV plan change cost for each council is indicatively $1.2m (or a total of $7.19m for the six case study areas). We emphasise that these costs are indicative only and may be subject to change when better data is available. Actual costs are expected to range significantly between councils depending on a range of factors (including but not limited to the degree of change from operative provisions, the relative importance of the primary production sector, the relative demand for rural lifestyle development, the size each district/population and the process used to achieve the plan change).

Figure 5.4 – Indicative Plan Changes Costs to Implement the NPS – HPL – Case Study Areas

	Year 1	Year 2	Year 3	Year 4	Year 5	PV (8% Discount Rate)	Indicative Cost for Total Case Study Areas (PV)
Identifying HPL				0	0		
Change to RPS *	0	$ 930,500	$ 930,500	0	0	$1,536,000	$7,680,000
Change to DP *	0	0	0	$ 847,000	$847,000	$1,199,000	$7,194,000

** Based on Average Total Plan Change Cost, split indicatively over 2 years.*

5.1.3 Costs of Strategic Growth Planning

Section 3 of this report discusses the requirement for district councils (and unitary authorities) to include consideration of the costs and benefits of HPL as part of strategic growth planning to comprehensively manage urban growth and future expansion (as well as appropriate locations for rural residential or rural lifestyle zones). The following summarises what is known about that potential cost.

- **Applicability for councils of six case study areas:** Five of the case study councils (Auckland, Horowhenua, WBoP, Waipa and Selwyn) have all recently undertaken district-wide strategic

growth planning exercises that have resulted in the identification of growth zones and/or changes to the operative district plan to accommodate future growth. It is therefore reasonable to assume that these five councils would not need to address this aspect of the NPS – HPL in the life of their current operative district plans. Ashburton has developed outline development plans for its urban settlements. Similarly, this aspect of the NPS – HPL may not require any additional work for Ashburton District Council in the short-medium term.

- **Process Costs:** unknown, more data required to the extent this may apply to other councils or to the case study councils at some time in the future (i.e. growth strategy updates). Care is however needed as to whether this cost would be attributable to the NPS – HPL or is just current best practice (or driven by other planning instruments/requirements such as the NPS - UDC).

5.2 Costs to Landowners Seeking to Develop HPL

The NPS – HPL requires that any consent application for subdivision and urban expansion on HPL must include a site-specific land use capability assessment prepared by a suitably qualified expert[33]. This cost is not assumed to apply to landowners at present when they are proposing a subdivision or urban development (under the status quo scenario). Therefore, these are net costs attributable to the NPS - HPL.

Further data is needed to test the cost of site-specific LUC assessments. In the interim, an indicative cost has been sourced which indicates a cost between $200-$300/ha (plus GST).[34] I.e. a mid-point of $250/ha attributed to landowners.

It is not certain how many landowners would apply for a consent given the combined effect of strategic spatial planning which should identify zones suitable for future growth plus the deterrence created by new provisions under the NPS - HPL to avoid HPL where practicable.

We have therefore resorted to the estimated number that would have applied for subdivision to create lifestyle lots under the status quo scenario on HPL (according to the default NPS - HPL definition), projected over a 30-year time period. The modelling of projected status quo subdivision to satisfy long-term demand for lifestyle properties is discussed further below and in the case study sections. This count is considered an upper limit (with no effective deterrence due to the HPL status which is unlikely), so over-represents likely costs associated with lifestyle-based subdivision. The number of consents associated with expansion on the urban fringe has not been estimated but we do not expect the addition of these consents to exceed the upper limit adopted in the figures below (once a degree of deterrence is factored in).

Figure 5.5 shows that under the status quo scenario, the projected maximum number of consent applications that *might* be lodged with an accompanying site-specific LUC assessment is 4,578. This is the total across all six case study areas. The total estimated cost to landowners is $5.97m over 30 years (PV $2.24m) based on the estimated hectares of lots created.

[33] Once HPL is mapped in the operative district plan, this may no longer be required by Councils.

[34] Source: Landsystems Ltd, 2019. Indicative only for the purpose of this CBA. Original estimate was based on a rough cost for a 50ha site.

These costs do not include consent fees to landowners (or processing fees for Council) as these are assumed to stay the same under each scenario. Particularly as it is the location of consents that will generally change under the NPS - HPL, not the number of consents.

Figure 5.5 – Indicative LUC Assessment Costs Required with Subdivision Consents on HPL

	Projected count of parcels subdivided to meet lifestyle demand on LUC1-3 land	Hectares of LUC1-3 land affected by subdivision (new lot area)	Mid-Point Cost ($250/ha)	Average Cost per Application (Mid-Point)	Total PV (Discount Rate 8.0%) *
Status Quo Scenario - Projected Demand for Lifestyle Subdivision					
Asbhurton 2048 Status Quo	343	5,690	$ 1,138,000	$ 3,318	$ 427,000
Selwyn 2048 Status Quo	1,260	7,640	$ 1,528,000	$ 1,213	$ 573,000
Auckland 2048 Status Quo	2,390	6,340	$ 1,268,000	$ 531	$ 476,000
WBoP 2048 Status Quo	246	836	$ 167,200	$ 680	$ 63,000
Horowhenua 2048 Status Quo	106	66	$ 13,200	$ 125	$ 5,000
Waipa 2048 Status Quo	233	9,281	$ 1,856,200	$ 7,967	$ 697,000
Total Case Study Areas	4,578	29,853	$ 5,970,600	$ 1,304	$ 2,241,000

*Source: M.E Lifestyle Parcel Model 2019. * assumes equal spread of subdivision over 30 year time period and no inflation in assessment costs per hectare from 2019.*
Costs only apply to the subdivided parcel and not an evaluation of the total parent parcel. Refer Section 5 analysis (long term) for source figures.

5.3 Costs and Benefits to Communities

The case study analysis shows that the portion of the community that lives on HPL in rural areas is not insignificant, and in some cases, accounts for the majority of the rural community. For example, in Ashburton District, 31% of households live in the rural area and of that, 62% are located in meshblocks with greater than 75% coverage of HPS. Similarly, in Selwyn District, 46% of households live in the rural environment and of that, 55% are located in meshblocks with greater than 75% coverage of HPS. This means that the NPS - HPL is expected to have both positive and negative effects on the rural community, but also the community overall. The key costs and benefits to the community are discussed below.

By redirecting demand for rural lifestyle development away from HPL in rural production zones, the existing communities on HPL can expect limited or no additional growth depending on how strict Councils are in avoiding this form of development. With growth, these communities may have experienced greater viability of rural services and improved rural infrastructure. For example, rural schools serving HPL catchments might have experienced increasing roles, which might have facilitated greater funding and resources with flow on benefits for school pupils and rural families generally. These benefits will not be realised (or will be reduced) under the NPS - HPL. Conversely, additional growth may have put greater pressure on rural services and infrastructure. This may have reduced the efficiency and effectiveness of those services and infrastructure, impacting on existing and new rural households. Overall, infrastructure and service provision in rural areas is generally limited (with the key focus on urban services and infrastructure and the expectation that these also meet the needs of the rural surrounds). As such, these effects of the NPS - HPL are considered to have a low level of significance.

In rural locations where rural lifestyle development may be redirected, these communities may experience growth. The same costs and benefits apply, although from a lower base given that these areas account for

only small shares of rural households at present. Again, any costs and benefits relating to access to rural services and infrastructure are considered only minor in the wider context of the NPS - HPL.

As the NPS - HPL requires greater consideration of the costs of encroaching on HPL for urban expansion, it is likely that greater emphasis will be given to using urban land more efficiently through greater intensification. There are both costs and benefits of greater intensification which flow through to the wellbeing of households and communities. When managed effectively, intensification is generally considered to result in a more efficient urban form which can reduce costs for services (like public transport and infrastructure) and reduce dependence on private vehicles and increase housing affordability. It is not known to what extent the NPS – HPL alone could contribute to these outcomes, as there are other planning instruments that seek to achieve the same outcomes. As such, these costs and benefits are considered to have only low significance in this CBA.

Of greater relevance, the NPS - HPL protects HPL from inappropriate use, subdivision and development and in doing so protects the local primary production economy. This includes direct effects on rural employment opportunities which benefit both rural and urban workforces. Those primary production incomes have flow on effects to the wider economy through personal and household spending. Similarly, the owners of primary production businesses can retain their earning potential and spending by these businesses and households flows through the wider economy, helping to sustain both urban and rural businesses. These benefits are therefore a mix of economic and social effects. Having places to work and being part of the workforce contributes to social wellbeing. The primary production sector plays a key role in many districts (as discussed in Section 2) and therefore helps sustain communities and the social connections, cultural identify, earning potential etc that comes with that. These benefits arising from the NPS - HPL, while unquantified, are considered to be significant.

5.4 Other Costs and Benefits Not Quantified

This CBA has not attempted to quantify (or monetise) all costs and benefits. Time and practical challenges have not allowed for the following specific effects to be quantified and/or analysed in detail. Some (but not all) of these effects may be practicable to investigate further following public consultation. Some discussion is provided below:

- The value of sub-dividable land (relevant to opportunity costs to landowners in HPL areas under the NPS - HPL) and also the influence of lifestyle development on the value of primary production land values:

  Where the NPS - HPL can redirect all rural lifestyle demand growth to non-HPL (as is the case in Selwyn, WBoP, and Horowhenua over the long term and in Auckland up to 2028), there is no net opportunity cost for landowners at a district level. This is because there is expected to be as many landowners that can't subdivide on HPL that may have wanted to (under a strict avoid response), as there are other landowners that can subdivide on non-HPL that may not have thought that this was a viable opportunity in the absence of the NPS - HPL (i.e. demand would otherwise have been focussed elsewhere). Obviously, these are two different sets of landowners, but one broadly offsets the other.

Where the NPS - HPL does potentially constrain rural lifestyle demand growth (as is the case in Ashburton up to 2028) or exacerbates a shortfall of capacity that would also have been apparent under the status quo (as is the case in Ashburton and Auckland in the long-term and in Waipa in both 2028 and 2048), then the opportunity cost to landowners on HPL is not offset by opportunities gained in the rest of the district. I.e. the NPS - HPL results in a net opportunity cost to landowners over and above the status quo. However, this outcome *only* applies if councils don't remedy or mitigate any projected shortfall of capacity by changing minimum lot sizes outside of HPL or creating new zones for rural lifestyle development away from HPL – this is considered the likely response.

Notwithstanding the potential for offsets at a district level, (and the likelihood that Council's will respond to ensure that growth is not constrained) we have mapped all the rural land parcels that would no longer be able to subdivide on HPL (under a strict avoid response) and the gross count of parcels (although not necessarily discrete landowners) facing opportunity costs is discussed for each case study. We have also quantified the number of parcels that may have been likely to subdivide for lifestyle demand purposes only on HPL (under a strict avoid and a more moderated response to the NPS - HPL), that may no longer be able to over the next 30 years. Again, these counts are discussed in the case studies (sections 6-11). These analyses give an indication of the scale of opportunity costs specifically tied to subdivision of HPL. They do not take account of opportunity costs associated with provisions that limit the sorts of *activities* that can occur on HPL.

We have not estimated the opportunity cost for subdivision on HPL in monetary terms. There are a number of difficulties in doing this. The market value of the subdivided lot less the costs to do the subdivision will vary by council and the location, size and complexity of the subdivision. Any land value data would also be in current prices, so there are difficulties in projecting these prices over 30-years with any certainty.

- Infrastructure costs associated with serving rural growth (or conversely associated with consolidation of growth to urban areas or providing for urban growth on non-HPL):

  We have not examined the costs of providing infrastructure in rural areas. While often lifestyle properties do not place demand on three-waters infrastructure (i.e. they manage these onsite), they do place demand on roading and power. Other infrastructure includes rural services such as schooling, or perhaps more likely rural school bus services where the rural community is expected to utilise urban schools (and other facilities). If existing areas of concentrated lifestyle properties are allowed to increase incrementally (as would be likely under the Status Quo scenario), then additional households have a marginal impact on the capacity of existing infrastructure. However, if under the NPS - HPL lifestyle property demand is deflected away from HPL – which may include concentrations of existing lifestyle blocks – then the rural population is likely to be spread over a greater area. This is expected to increase the costs of supplying and maintaining infrastructure relative to the status quo (through greater real costs and reduced efficiencies).

  It is also problematic to estimate the potential costs of expanding urban areas on non-HPL (where this is a practicable option). On the one hand, on-site development and servicing costs

for a 50ha site (say) would be expected to be very similar irrespective of what location on the fringe this occurs on assuming a similar contour of land, a similar level of physical constraints and a similar land value. On the other hand, not all locations offer the same "off-site" efficiency. Certain locations on the fringe might be closer to existing shops, services and facilities meaning that they offer better travel efficiency outcomes. Some locations might offer greater spare capacity for growth in terms of sewage and water connections, while others might be at capacity and any new growth would trigger additional capital investment. Some locations might fall within school catchments that can cater for role growth, while others might exceed the planned limits of those schools (requiring either changes to enrolment zone boundaries or investment in new capacity or new schools). These are all matters which the NPS – UDC requires Council's to consider when providing plan enabled capacity as the ability to provide network and other infrastructure is a key factor in what capacity is feasible to develop. Such assessments are very site specific and form part of the options assessment Council's would be expected to go through when evaluating potential sites for urban expansion.

- The export value of primary produce (or processed products)
- Food price impacts associated with potential loss of primary production output.
- Total (indirect and induced) economic impacts (downstream) arising from the direct impact on primary production gross output through rural fragmentation associated with lifestyle block demand. Note, the analysis of avoided loss of primary production output in each of the case studies considers only the direct impact over a 30-year time period (and accounts for upstream impacts).
- Advocacy costs.
- Litigation costs under the status quo or 'with NPS – HPL' scenarios.
- Costs to central government for providing support and guidance on the NPS – HPL.
- Benefits of greater consistency in resource management practice (cost savings through greater efficiency).
- Benefits of greater certainty for landowners and communities on the location of HPL and the management of effects on that land.

5.5 Structure of Case Study Baseline Analysis

The structure of the baseline assessment of each case study in sections 6-11 is straightforward. We provide first summary information about the HPS resource, covering the nature and scale of the resource, and its geographic distribution. This uses GIS-based spatial analysis to identify the scale and pattern of the HPS resource, and its relative geographic concentration within each study area.

It is complemented by coarser analysis based on meshblock areas, to show the distribution of HPS, and their spatial relationship with the horticultural and farming sector. This is to better understand the extent to which each sector in total and each sub-sector is directly linked to the HPS resource. While the mesh-

block level data is relatively coarse, it nevertheless provides a sound basis for establishing that spatial relationship.

It is important also to understand the distribution of the HPS resource in relation to population and households, particularly urban populations. This is because residential development on land containing the HPS resource means that the soil's potential for primary production is no longer available. One key indicator is the projected growth in population over the next two decades, to understand the potential for HPS to be overtaken by residential expansion and subdivision (although the capacity of existing zones to cater for all or some of that urban growth has not been estimated).

The same issue applies to other urban activities, where industry and commerce requires built structures, such that the HPS is lost to primary production.

In similar vein, the incidence of lifestyle properties has a major effect on the productive potential of the HPS resource. This is because the uptake of rural land for lifestyle purposes generally means the productive capacity of the land, including the HPS resource, is substantially reduced. Accordingly, the subdivision and sale of land for lifestyle properties is a key influence on the productive capacity of the HPS resource, even though the resource itself generally remains in place and is not built over for housing.

On this basis, the key indicators applied for the summary parameters relating to the HPS resource are:

1. The geography of each case study area, to differentiate among places defined as Major Urban areas (the metropolitans) which have generally the strongest growth prospects and largest demand for more urban land; the Large Urban areas, also with strong growth potential generally; the Medium Urban areas, with smaller scale and lesser growth prospects; the Small Urban areas which are relevant especially in relation to potential expansion into rural areas, and potential concentration of lifestyle blocks near to towns; the Rural Settlement category, essentially smaller villages, and the Rural Other (non-urban) category, which makes up most of the land area in each district but with relatively few areas of settlement. This geography is based on the Statistics NZ 2018 urban-rural boundaries and classifications.
2. The meshblock geography, which is used to summarise the distribution of soils, and to identify the co-incidence of population and business activity with the soil resource. This data is based on 2013 meshblock boundaries which have been matched as closely as possible to the 2018 urban-rural boundaries.
3. The operative district plan zone geography, which is used to summarise the distribution of soils, and to identify the co-incidence of broad land use types. The key focus is on those zones that fall broadly into the rural environment or currently have a rural character even if identified for future urban uses. M.E has examined the operative district plan zones in each case study area and determined which zones cover the combined and current urban footprint of the district (covering residential, commercial, industrial and other urban activities) and which zones therefore fall within currently or predominantly rural locations. This includes rural residential/rural lifestyle/countryside living type zones and, in some cases, deferred growth zones[35].

[35] M.E's determination of 'rural environment' zones may differ from Council's own categorisation of land use zones.

4. The cadastral geography (latest parcel boundaries), which is used to summarise the distribution of soils by parcel size and to identify the relationship between HPS and tenure.
5. The incidence of population and households, by meshblock to show the inter-relationship of HPS and other soils and residential activity at the meshblock level.
6. Projected household growth, to show the potential uptake of HPS land for residential (urban and rural) use. Note that this is at meshblock level only, so is indicative. For the purpose of this study, we have adopted StatisticsNZ Medium growth projections unless otherwise stated.
7. Horticulture activity, showing the numbers of horticulture units (businesses) and employment (MECs[36]) at the 2013 meshblock level, to understand the current co-incidence.
8. Pastoral Farming activity, also at the 2013 meshblock level, to understand the current co-incidence of pasture farming with the HPS resource.
9. Total business activity across all sectors. This is taken as a general indication of the amount of land occupied by business activity, and the existing co-incidence of businesses and employment relative to the HPS resource.
10. Counts and areas of rural properties by type and land use, including lifestyle properties 2019, and lifestyle property growth 1993 to 2015 and the incidence of lifestyle blocks with the HPS resource (CoreLogic).
11. The incidence of Maori Owned land (but excluding treaty settlement land) by parcel to understand the potential significance of the NPS - HPL on this tenure group relative to all other tenures.
12. Land cover data from the Land Cover Database (LCDB) to show the incidence of different land covers with the HPS resource.

These indicators have been applied to each of the case study areas.

5.6 NPS - HPL Implementation Modelling Scenarios

It is not possible for M.E to predict what planning provisions, including rules, district councils might develop to give effect to the NPS - HPL. They are likely to be highly variable to reflect local issues and will be based on an evaluation of operative provisions and how effective they have been or will be to achieve the objectives of the NPS - HPL.

With that in mind, M.E has developed two 'with NPS - HPL' scenarios of how Council's *might* 'deter' subdivision of HPL. These are indicative only, and simple in nature to enable consistent modelling across the six case studies. They should not be used as a guide to Councils, they are focussed on demonstrating the order of magnitude of costs and benefits only.

The scope of the analysis scenarios (and associated modelling) is limited to rural lifestyle subdivision outcomes. While managing the effects of urban expansion on HPL is a key policy direction of the NPS - HPL, modelling these outcomes is problematic for several reasons:

[36] Employment is based on the StatisticsNZ employee count, modified to include estimates of working proprietors in each industry. This is M.E's Modified Employment Count (MEC).

1. Timing: all of the case study areas demonstrated evidence of recent strategic growth planning which has resulted in urban zoning (including deferred urban zones) designed to cater for a portion of anticipated future growth. This was in the form of structure plans or comprehensive growth strategies.

2. Sufficiency: understanding the sufficiency of those zones to cater for projected urban demand for the next 30 years (the time period adopted for the purpose of quantifying costs and benefits) is a complex and data intensive exercise. It requires all options for residential supply to be considered (i.e. the rate of infill development relative to greenfield development). It is also complicated by issues associated with land banking and the provision/timing of infrastructure. These are the issues required to be examined, for example, under the NPS – UDC. Such analysis (over six different councils) was not practical within the scope of this CBA. It is therefore not possible to predict the timing of when additional urban expansion might be required over and above current zoning in each location.

The implications of not modelling or quantifying the effects of urban expansion (on or avoiding HPL) on the results of the CBA are considered only moderate. They are not expected to materially change the *conclusions* of this report (but would moderately increase total net benefits) for the following reason:

1. The loss of HPS in existing urban zones, including those zoned for future urban growth is a sunk cost under the NPS - HPL.

2. The existing zones provided for in the case study areas are expected to provide for some or all of projected long-term urban growth (although this has not been measured). This means that within a 30-year period potentially one additional increment of urban expansion may be required in each council area (if at all)[37].

3. The higher density of urban development means that land can be developed intensively (relative to rural residential or rural lifestyle development). This reduces the scale of land required in each increment of expansion to cater for growth. The potential losses of HPL (if impracticable to avoid) are therefore small relative to the total scale of the HPS resource in most cases and are infrequent.

On the contrary, rural lifestyle subdivision demand has proven to have a relatively steady rate of (continuous) growth (based on trends monitored since 1995). The density of dwellings is very low (i.e. between 5 and 0.125 per hectare based on a range of 2,000-8ha lots). The cumulative losses of HPL can therefore be measured year on year and are significant relative to the losses associated with urban expansion over the same time period. It is for this reason that the CBA case study analysis has focussed on the outcomes for rural lifestyle subdivision without and with the NPS - HPL.

M.E has defined the scenarios for modelling rural lifestyle subdivision as follows:

[37] Note, that under the NPS – UDC medium and high growth councils are required to zone future urban capacity for the medium-term future (10 year outlook) and identify feasible capacity for the long term future (30 year outlook).

5.6.1 Current situation

The obvious base point is the current HPL resource, in relation to the patterns of economic activity, population and current parcels in each rural zone. This provides the platform for comparing future outcomes in each scenario.

5.6.2 Status Quo future

This is the no-NPS - HPL future, which is based on recent trends and the growth outlook. This takes account of the likely outcomes in terms the future incidence of subdivision to enable lifestyle living holdings. The approach has been to model the **supply** of rural subdivision based on operative minimum lot sizes in each case study area – or a simple version of these. No regard has been given to the current activity status of subdivision in each rural zone (i.e. permitted, controlled, restricted discretionary, discretionary or non-complying) as this added a layer of complexity to the model and would have required detailed information on approval rates in each zone and each TA.

It has not been possible for all methods (pathways) of subdivision supply to be modelled (in any scenario) as this presents difficulties for prioritising one outcome over another. This means that the analysis does not take account of subdivision mechanisms such as transferable development rights, balance lots (although we have been able to capture this in some cases), conservation lots, covenant lots etc (even though many of these may have a better outcome for protecting HPL for primary production).

In keeping with the simplified approach required for modelling, the status quo scenario assumes no constraints to subdivision – physical or policy wise. For example, the model does not capture the effect that an ONL might have on subdivision potential, or the presence of hazards like flooding, access issues, or tenure (including Maori owned land).

In both instances above, we have overstated potential **supply** of rural subdivision at the aggregate level. This is not however a significant issue in the modelling as supply of subdivision is moderated by projected **demand** for subdivision. In those council areas where demand is considerably less that theoretical supply of subdivided lots (for lifestyle purposes), only a very small share of potentially subdivided sites are taken up in the model to satisfy demand over the long-term, and they have concentrated in areas where the major share of lifestyle blocks have occurred in the past (and by inference, have been approved). This mitigates the effect of the assumption that all sites that can be subdivided could be irrespective of the status of subdivision activities, as not all would be. If the sites that we have simulated uptake of subdivision would not get approval, by probability, another site might meet the assessment criteria. We therefore consider the approach to be sound for the purpose of modelling a status quo outcome for rural subdivision for lifestyle purposes.

This rationale does have some limitations where demand exceeds theoretical subdivision capacity, as the uptake in the model would utilise every possible subdivision site, and this may overstate the reality of those being approved. Where this applies, the analysis provides a discussion of this limitation.

5.6.3 High regulatory response 'with NPS - HPL'

Under this scenario, we assume the operative district plan provisions would be toward comprehensive protection and management of the HPL resource for primary production by allowing strong constraint (strict avoidance) on subdivision for rural lifestyle development on land identified as HPL.

M.E has used the default definition of HPL specified in the proposed NPS – HPL (i.e. LUC 1-3 until council identify HPL in accordance with the NPS - HPL) to identify the land parcels that may be identified by each regional council. While this default definition applies in the short-term (prior to each regional council completing that task under Policy 1), we have also applied it in the medium-long term to represent our 'with NPS - HPL' scenarios. Regional councils may identify more or less land parcels based on a comprehensive evaluation of the NPS - HPL Criteria for Policy 1. Our analysis of HPL is therefore indicative.

The aim of this scenario is to deflect all subdivision of lifestyle demand to other parts of the rural area that are not identified as HPL (where there is suitable subdivision potential to do so over the long-term). We have deliberately not sought to identify the mechanism through which this outcome might be achieved in planning terms (i.e. an activity status for subdivision), rather the focus is on the outcome of that mechanism – that all applications for rural lifestyle subdivision on HPL are deterred. This in effect maximises the level of economic impact on the development community. Any actual impacts will be less than this maximum. Outside of HPL, we assume the status quo status for subdivision still applies (including operative minimum lot sizes) and the approach applied for modelling the status quo scenario is adopted.

5.6.4 Low-Medium regulatory response 'with NPS - HPL'

Under this scenario, we assume the operative district plan provisions would be toward less comprehensive protection and management of the HPL resource for primary production by allowing lesser constraint on subdivision for rural lifestyle development on land identified as HPL relative to the High regulatory response.

The aim of this scenario is to deter a large portion of potential subdivision applications on HPL, but not all. Again, we have deliberately not sought to identify the mechanism through which this outcome might be achieved in planning terms (i.e. an activity status for subdivision), rather the focus is on the outcome of that mechanism – that 70% of subdivision of lifestyle demand is deflected to other parts of the rural area (where there is suitable subdivision potential to do so). Outside of HPL, we assume the status quo status for subdivision still applies (including operative minimum lot sizes) and the approach applied for modelling the status quo scenario is adopted. We note that deflected subdivision in this scenario may still occupy HPS where those parcels did not quality as HPL (under the adopted default NPS - HPL approach).

5.6.5 Sensitivity and Flexibility

It is possible to model a range of different assumptions in M.E's models of rural subdivision for lifestyle demand than those chosen. We do however consider that these scenarios represent a useful range of potential outcomes for the purpose of the CBA. Testing alternative settings is something that can be explored with MPI later and following feedback from Councils and other stakeholders.

We note that we have opted not to set different/new minimum lots sizes for subdivision in HPL (rather we have adopted the operative minimum lot sizes in each rural zone). This would be difficult to apply

consistently across the case study areas where in one case the operative minimum lot size is 4ha (Selwyn District Inner Plains Zone) and elsewhere, the operative minimum lot size is 40ha (Waipa Rural Zone). Any lot size that we may have come up with was likely to undermine the existing restraints on subdivision or be set so high that it would be impractical in the local context.

5.6.6 Key Assumptions and Approach Applicable to All Case Studies

The following explanations apply to the modelling of lifestyle property subdivision outcomes in all case studies in sections 6-11 (where not already discussed above). They are outlined here for brevity:

- Where there are a range of operative minimum lot sizes across the rural zones, the allocation of lifestyle demand is weighted towards the smallest available lot size, with smaller shares if demand defaulting to each larger lot size as needed to provide sufficient capacity for projected demand in each time period (unless constrained). For the most part, this results in a distribution of lifestyle lots that falls within the NPS - HPL definition of rural lifestyle blocks (2,000sqm-8ha). A small portion of demand is allocated to larger lot sizes, but these are the exception rather than the norm.

- The model allocates demand for future lifestyle subdivision to potentially subdivided lots on the ground pro-rata the current concentrations of lifestyle properties (as defined by CoreLogic). That is, greater weight is given to subdivision potential in areas with existing high concentrations of lifestyle development and vice versa. This geography reflects locations where lifestyle development is enabled and/or preferred by the market (i.e. reveals location preferences). This is because some parts of a district are more popular for lifestyle properties, and this pattern can be expected to persist, other things being equal

- Where analysis refers to the CoreLogic definition of lifestyle properties, this definition is not limited to the definition provided in the NPS – HPL (i.e. may include a broader range of property sizes at the upper end). CoreLogic define lifestyle properties as those 'that are larger than those than found in urban areas but are smaller than productive rural properties and are easily managed by a single household. They provide residential living in a semi-rural environment'.

- The modelling is based on lifestyle lots (parcels) and not lifestyle properties per se. The count of parcels within the extent of lifestyle property boundaries is slightly larger than the property count, meaning that some properties contain more than one parcel. In general terms, each parcel can sustain a dwelling and so the count of parcels is considered the appropriate basis for modelling rural fragmentation for the purpose of lifestyle development[38].

- In instances where the NPS - HPL scenarios potentially constrain projected demand for rural lifestyle development in the model, or indeed the status quo scenario does the same, we have not estimated where that shortfall would be directed (i.e., elsewhere within the district (such as urban zones - a no net loss of household growth outcome) or outside the district – a net loss of household growth for that particular council area).

[38] It is acknowledged that some subdivision rules allow for lots to be created that do not qualify for additional dwellings. These are expected to count for a small share of the total parcels.

- The effects on primary production output draws on information from the M.E Economic Futures Model for each region, which identifies gross output per person engaged in each primary production sector ($\$_{2016}$), together with estimates of the primary production employment associated with each area of HPS and other land classes.
- The estimated loss of productive land is expressed in terms of foregone productive output on new lots created via subdivision (calculated according to the size and number of subdivided lots and the area of HPS resource affected), factored according to the structure of gross output for each primary production sector within each local territorial authority area.
- This output represents the opportunity cost of utilising land for lifestyle properties, as it would for the most part no longer be generated if the land is used as lifestyle properties (worst case outcome). This is consistent with the problem statement for the NPS - HPL and aligns with the model results where the major share of projected rural lifestyle lots are within the typical range of lifestyle properties (2,000sqm-8ha), although Waipa District is the exception with a single modelled minimum lot size of 40ha in the rural zone. The foregone output would be greatest on a per ha basis for properties on HPL, because that land is generally higher producing than the rural land as a whole. The greater the proportion of lifestyle properties created on other land, then the lower the opportunity cost in terms of foregone primary production.

6 Ashburton District Analysis

This section contains the spatial analysis completed for Ashburton District. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative Ashburton District Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

Ashburton District is immediately to the South of Selwyn and shares many of the same geographical characteristics. It is broadly the same shape and size and covers the same range of geographical typologies. It is bordered to the West by the Great Divide and it stretches east from the Divide down across the Canterbury Plains to the Pacific Ocean. In total it covers around 6,190km^2, its main centre is Ashburton (a Medium Urban area as defined by StatisticsNZ) and has only a couple of other Small Urban areas (Rakaia and Methven) and Rural Settlements (Lake Hood, Hinds and Mt Somers).

The productive alluvial Canterbury Plains dominate the district's geography and drive much of the economic activity that occurs there – either directly or indirectly.

6.1 HPS Resource

Ashburton has a very large amount of HPS. In total the district has over 227,390ha of HPS land – 37% of all land in the district (Figure 6.1). There is just over 6,830ha of LUC class 1 land, 58,680ha of LUC class 2 land and just over 162,420ha of LUC class 3 land.

Figure 6.1: Summary of Land Use Capability in Ashburton District (ha)

	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total District
Area of LUC Class (Ha)	6,831	58,682	162,421	78,715	2,644	68,058	74,467	137,120	29,973	166	619,078
Share of TA Area	1%	9%	26%	13%	0%	11%	12%	22%	5%	0%	100%
Sub-Total LUC 1-3 (Ha)			227,934								
Sub-Total LUC 1-3 (%)			37%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

Figure 6.2: Ashburton District HPS Coverage and Rural Environment District Plan Zones

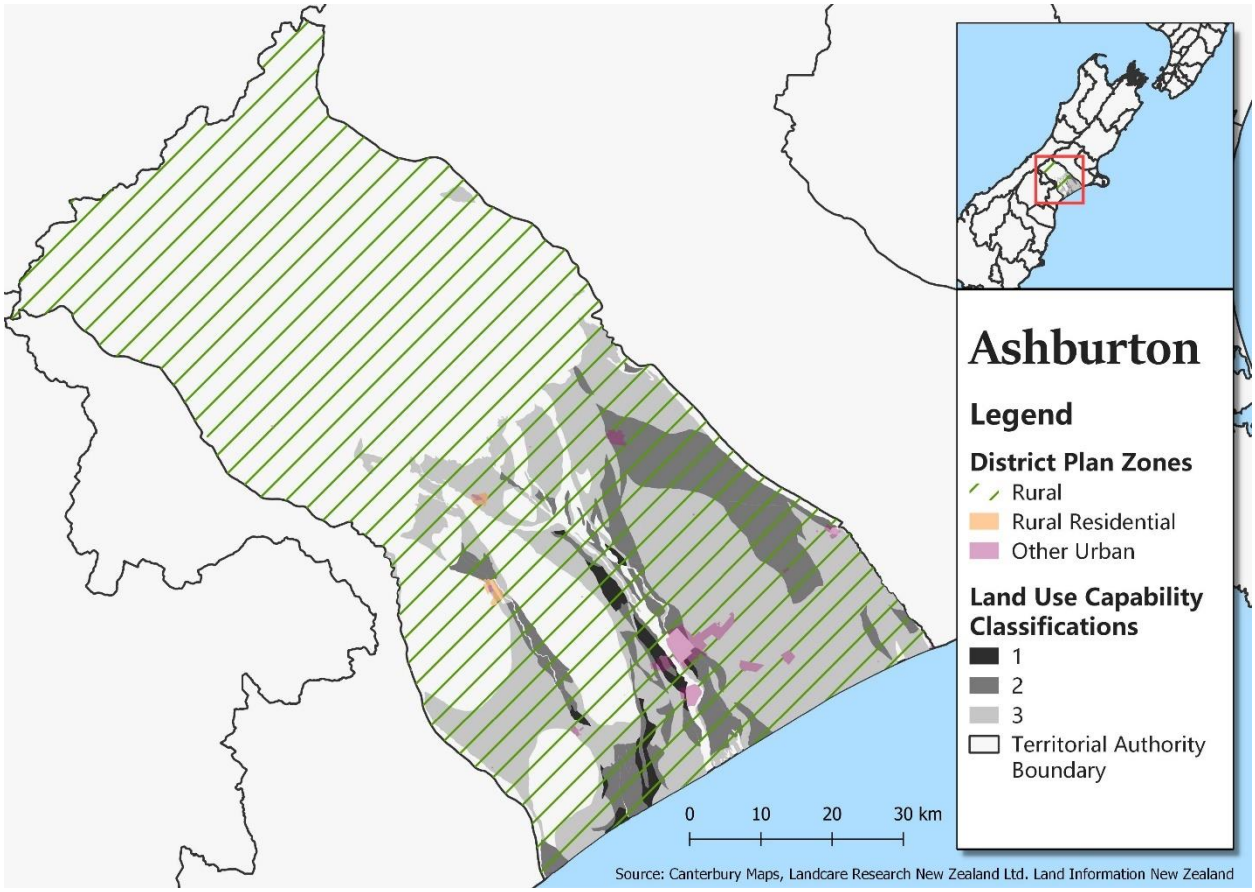


Figure 6.2 shows the location of the HPS resource relative to the urban land use zones (shown in pink). The most significant concentration of HPS is in the plains area east of the Hakatere (Ashburton) River. West of the river, there is a large concentration around Hinds and Lowcliffe, to the coast. There is another large pocket north west of Geraldine.

When the HPS resource is intersected with StatisticsNZ meshblock (2013) and urban area (2018) boundaries (there are 382 meshblocks that make up Ashburton District), some 176 have 75% or more of their area classified as HPS, a further 42 have between 25% and 50% HPS land. The geographic concentration of the HPS is significant, with a total of 173,684ha in areas where HPS are the dominant soil, out of 227,390ha in total (76%) (Figure 6.3)

The HPS areas, as expected, are predominantly in the rural parts of Ashburton – mainly because the majority of Ashburton District is Rural Other in the latest rural-urban classifications by StatisticsNZ. Of the total 227,390ha of HPS, some 223,845ha is in Rural Other (non-urban) areas (98%). Of this rural resource, some 170,619ha is in meshblocks areas where the HPS is the dominant resource accounting for 75% or more of the land area.

This geographic concentration is important for land use and other potential policies for the NPS - HPL, because it allows the policy settings to be quite focussed geographically.

6.2 Baseline Analysis

6.2.1 Population and Households

Ashburton district is currently home to 14,000 households and 34,480 residents (Figure 6.3). The majority live in Ashburton town itself (59%) with substantial numbers in the Rural Other areas (31%) and smaller amounts in the Small Urban areas (10% in total). The population is mostly located in meshblocks with low shares of HPS land (50% are in the lowest category which <25% LUC 1-3 coverage). While this suggests a good outcome in terms of locating urban areas, in reality this reflects that large areas of Ashburton are excluded from the LUC dataset (and are already coded as 'town'). Around 38% of the district population lives in meshblocks with 75% of more of land classified as HPS.

Within the Rural Other areas around 62% of households are in meshblocks with 75% or more HPS land. These will mostly be farming households. This gives an indication of the relative significance of the community that will be impacted (positively and negatively) by the NPS – HPL.

6.2.2 Household Growth

Ashburton District is not expected to grow rapidly – unlike Selwyn to the north (Figure 6.3). Over the next 20 years to 2038 an additional 2,680 households are anticipated. This represents around 19% growth in total (compared to 27% in Selwyn). Around 44% of this growth is expected in meshblocks with the highest concentrations of HPS and 38% in meshblocks with the lowest concentrations.

The major share of the growth will be in and adjacent to Ashburton town itself, 45% of additional households, while over 45% of growth will be focused in the currently Rural other areas. Overall, more than half of the growth will be focussed on or adjacent to urban zones which implies pressure for urban expansion, although the quantum of growth is only small so that much really depends on current remaining capacity. Within the rural areas, around 56% of growth is in meshblocks with 75% or more land classified as HPS. This may not reduce output much as the district is mostly pastoral farming. Still, it will result in further rural fragmentation.

6.2.3 Horticulture

Ashburton District is not really a horticultural centre. In total there are only 43 horticultural farming businesses in the district (2017). They employ around 183 workers or fewer than 1% of the total workforce. The horticultural businesses are heavily concentrated around productive soils with 79% in total in meshblocks with 75% or more HPS land (Figure 6.3). A further 13% are in meshblocks with between 25% and 75% HPS land. The horticultural farming businesses are mostly rural (72%) with a very few in the Ashburton town (8 in total).

6.2.4 Pastoral farming

Ashburton *is* a pastoral farming district. There are over 1,510 farming businesses in the district employing over 2,660 workers or 14% of the district's employment total (2017). 81% of the pastoral farms are located in meshblocks with more than 25% of land classified as HPS, and almost 60% are in meshblocks with over 75% HPS land (Figure 6.3). The pastoral farms are mostly rurally located (89%) with a few around the

fringes of Ashburton town (128). In the Rural Other areas, they are even more concentrated in meshblocks with more than 75% of land HPS than in total (61% vs 58%). There is a clear association between Ashburton's farming sector and HPS, and therefore a clear rationale to help protect this productive output.

In Ashburton's case, it is the pastoral farms that benefit from the HPS. However, the lack of substantial growth pressures and the very large district resource means that the need for stricter regulations (over and above the status quo) under the NPS - HPL will need to be weighed up.

6.2.5 Other economic activity

Other economic activity covers everything non rural within the economy. The majority of this activity occurs in Ashburton township (66%) with 27% occurring in the Rural Other areas (this is often linked to home-based businesses). Because of this distribution, the other economic activity occurs mostly in meshblocks with low levels of HPS land (58% in the lowest category of <25% HPS). Approximately 35% occurs in meshblocks with the highest HPS concentrations – mostly in the Rural Other areas (Figure 6.33). This activity could very easily be highly related to pastoral farming or rural industry as key suppliers so is likely to contribute to the efficient operation of the rural economy.

6.2.6 Total economic activity

Total economic activity follows closely the profile of the Other economic activity (above) given that horticultural and pastoral farming only account for 15% of total employment in Ashburton in 2017. The district employs 19,222 workers, of which 10,981 are in Ashburton township. The Rural Other (non-urban) areas employ 6,937 workers with 1,234 in Small Urban areas and only 69 in the Rural Settlements (Figure 6.3).

With respect to HPS land, 52% of total employment is in meshblocks with low shares of HPS land, 38% in meshblocks with high shares of HPS land and 9% in meshblocks with between 25% and 75% of land classified as HPS.

Figure 6.3: Ashburton Urban-Rural HPS Summary with Socio-Economic Activity Relationship[39]

Ashburton District	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Medium urban area	**190**	**2,226**	**3,509**	**50%**	**19,580**	**8,200**	**59%**	**1,050**	**39%**	**8**	**14**	**8%**	**128**	**167**	**6%**	**10,800**	**66%**	**10,981**	**57%**
HPS > than 75% of MB Area	51	2,153	2,165	13%	4,450	1,810	13%	210	8%	4	4	2%	34	12	0%	1,771	11%	1,788	9%
HPS between 50% and 75% of MB Area	2	14	28	1%	390	160	1%	20	1%	-	-	0%	-	-	0%	15	0%	15	0%
HPS between 25% and 50% of MB Area	4	31	80	1%	200	80	1%	20	1%	-	-	0%	1	-	0%	23	0%	23	0%
Other LUC Category (4-8/Water/Settlement)	133	27	1,237	35%	14,550	6,150	44%	800	30%	4	10	5%	93	155	6%	8,991	55%	9,156	48%
Small urban area	**32**	**1,143**	**1,549**	**8%**	**3,310**	**1,390**	**10%**	**190**	**7%**	**4**	**22**	**12%**	**31**	**57**	**2%**	**1,156**	**7%**	**1,234**	**6%**
HPS > than 75% of MB Area	25	736	826	7%	1,960	800	6%	120	4%	3	10	5%	20	53	2%	744	5%	806	4%
HPS between 50% and 75% of MB Area	3	354	505	1%	590	250	2%	30	1%	1	12	7%	9	2	0%	313	2%	327	2%
HPS between 25% and 50% of MB Area	1	33	76	0%	320	140	1%	10	0%	-	-	0%	1	2	0%	48	0%	49	0%
Other LUC Category (4-8/Water/Settlement)	3	21	142	1%	440	200	1%	20	1%	-	-	0%	1	1	0%	52	0%	52	0%
Rural settlement	**1**	**177**	**177**	**0%**	**130**	**50**	**0%**	**20**	**1%**	**-**	**-**	**0%**	**1**	**1**	**0%**	**69**	**0%**	**69**	**0%**
HPS > than 75% of MB Area	1	177	177	0%	130	50	0%	20	1%	-	-	0%	1	1	0%	69	0%	69	0%
HPS between 50% and 75% of MB Area	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
HPS between 25% and 50% of MB Area	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
Other LUC Category (4-8/Water/Settlement)	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
Rural other	**159**	**223,845**	**611,672**	**42%**	**11,460**	**4,360**	**31%**	**1,420**	**53%**	**31**	**147**	**80%**	**1,350**	**2,439**	**92%**	**4,351**	**27%**	**6,937**	**36%**
HPS > than 75% of MB Area	99	170,619	178,635	26%	7,040	2,690	19%	820	31%	27	138	75%	827	1,403	53%	3,189	19%	4,729	25%
HPS between 50% and 75% of MB Area	16	24,831	39,063	4%	1,210	460	3%	160	6%	2	9	5%	153	293	11%	357	2%	658	3%
HPS between 25% and 50% of MB Area	16	16,749	48,068	4%	1,520	570	4%	210	8%	1	1	0%	178	318	12%	424	3%	743	4%
Other LUC Category (4-8/Water/Settlement)	28	11,646	345,905	7%	1,700	640	5%	220	8%	1	1	0%	193	426	16%	381	2%	807	4%
TOTAL	**382**	**227,391**	**616,906**	**100%**	**34,480**	**14,000**	**100%**	**2,680**	**100%**	**43**	**183**	**100%**	**1,510**	**2,664**	**100%**	**16,375**	**100%**	**19,222**	**100%**
HPS > than 75% of MB Area	176	173,684	181,802	46%	13,580	5,350	38%	1,170	44%	34	151	83%	881	1,469	55%	5,772	35%	7,392	38%
HPS between 50% and 75% of MB Area	21	25,199	39,596	5%	2,190	870	6%	210	8%	3	21	11%	162	295	11%	685	4%	1,000	5%
HPS between 25% and 50% of MB Area	21	16,813	48,224	5%	2,040	790	6%	240	9%	1	1	0%	181	319	12%	494	3%	815	4%
Other LUC Category (4-8/Water/Settlement)	164	11,694	347,284	43%	16,690	6,990	50%	1,040	39%	5	10	6%	287	581	22%	9,424	58%	10,015	52%

Source: Statistics NZ, Landcare, M.E

[39] Abbreviations used in this table (and repeated for each case study) include: MB = meshblock, MEC = modified employment count (workers), Geo = geographic unit (this is a single business unit).

6.2.7 Maori Owned Land

Figure 6.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in Ashburton in combined rural zones. We have not shown any Maori owned land in urban zones. In total there is an estimated 2ha of General Land Owned by Maori in the rural environment and 100% of this contains HPS. This is found in the Rural B Zone. There is a further 169ha of Maori Freehold Land and 100% of this contains HPS, again this is located in the Rural B Zone. Overall, 100% of Maori land contains HPS – this is a higher incidence that for all other tenures (37%), however other tenures account for the majority of HPS land in quantum terms (99.9%).

Compared to many other districts, Ashburton has a very small amount of Maori Land. While difficult to see at a district scale, Figure 6.5 shows the location of Maori Land relative to the HPS resource (in the south eastern corner of the district).

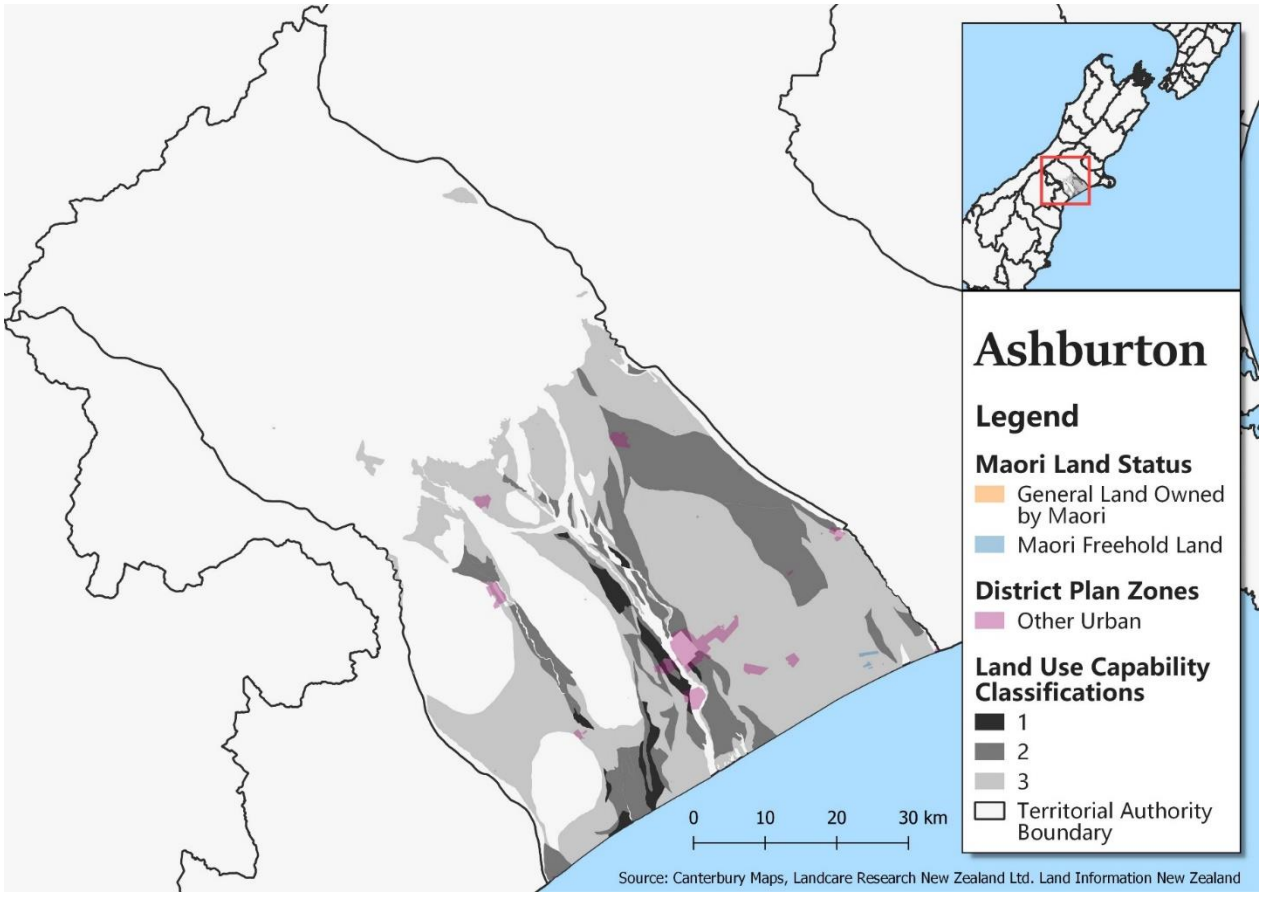
Figure 6.4 – Ashburton HPS by Maori Land and Other Tenure in Rural Zone Area (ha)

Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
Rural Residential Zone	465	284	7	757	61%	0.2%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	-	-	-	-	0%	0.0%
Other (Non-Maori Land Court) Land	465	284	7	757	61%	0.2%
Rural Zone	223,435	359,816	28,843	612,095	37%	99.8%
General Land Owned by Maori	2	-	-	2	100%	0.0%
Maori Freehold Land	169	-	-	169	100%	0.1%
Other (Non-Maori Land Court) Land	223,264	359,816	28,843	611,924	36%	99.7%
Total Rural Zones *	223,900	360,101	28,851	612,852	37%	100.0%
General Land Owned by Maori	2	-	-	2	100%	0.0%
Maori Freehold Land	169	-	-	169	100%	0.1%
Other (Non-Maori Land Court) Land	223,729	360,101	28,851	612,681	37%	99.9%

Source: Ashburton Distict Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Figure 6.5: Ashburton District HPS Coverage and Land Tenure



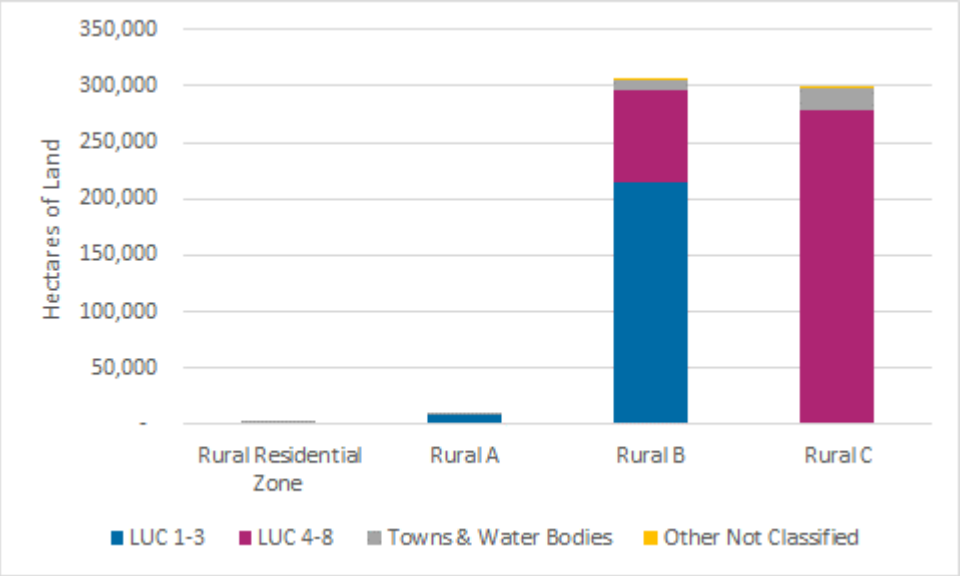
6.2.8 District Plan Zoning

The Ashburton rural zones identified for this analysis include the Rural Residential Zone (a subset of the Rural A zone) which is approximately 757ha, the Rural A Zone (approximately 9,209ha excluding Rural Residential), the Rural B Zone (304,928ha) and the Rural C Zone (297,958ha) – being the productive rural zone (Figure 6.6). Figure 6.12 provides a map of these rural zones relative to the HPS resource.

While the Rural Residential zone is only small, 61% of this land is made up of HPS (465ha). However, the HPS in this zone makes up just 0.2% of what is in the district, so is a small loss once fully occupied by rural residential properties (if not already). This highlights the importance of understanding this loss in context (at an aggregate level) as it is relevant for determining the trade-off of zoning land for urban or rural residential zones.

The relatively small Rural A Zone contains 8,145ha of HPS. This accounts for 88% of the zone area but again only 4% of the HPS total. The extensive Rural B Zone contains 213,766ha of HPS – this makes up an average of 70% of the zone and accounts for 95% of the total HPS resource in the rural environment. This means that targeting the Rural B Zone when defining HPL under the NPS - HPL will be an appropriate approach, In the context of Ashburton. Finally, the Rural C zone is just as extensive as Rural B, but only 1% of it contains HPS (1,524ha). This makes up 1% of the total rural HPS resource.

Figure 6.6 – Land Capability by Rural Zone – Ashburton District



6.2.9 Land Cover

Figure 6.7 contains an analysis of the Land Cover Database as it relates to the location of HPS. Based on the categories of land cover in that dataset, the top two land covers occupying HPS are as follows:

1. High Producing Exotic Grassland – this land cover includes 124,017ha of HPS. The HPS resource makes up 59% of all land with this land cover in Ashburton, meaning that 41% is located on other soils. The presence of HPS appears to play only a moderate significant role in the location of this activity (all else being equal). This land cover is also significant as it makes up 55% of the total HPS resource in the combined rural area of the district.

2. Short Rotation Cropland - this land cover includes 92,915ha of HPS. The HPS resource makes up 95% of all land with this land cover in Ashburton, meaning that only a very minor share is located on other soils. The presence of HPS plays a very significant role in the location of this activity (all else being equal). That is, highly productive Short Rotation Cropland businesses require highly productive land. This land cover is also significant as it makes up 41% of the total HPS resource in the combined rural area of the district.

Other land covers account for only very minor shares of the HPS resource. Exotic Forest for example makes up just 2,280ha of HPS (1.0% of the total). This is moderately concentrated on HPS land (41%) suggested a no clear dependency on that resource (or at least no significant advantages in terms of location decisions).

Figure 6.7 – Ashburton Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	124,017	59%	55.4%
Short-rotation Cropland	92,815	95%	41.5%
Exotic Forest	2,280	41%	1.0%
Deciduous Hardwoods	1,546	38%	0.7%
Gorse and/or Broom	968	18%	0.4%
Orchard, Vineyard or Other Perennial Crop	349	91%	0.2%
Lake or Pond	335	17%	0.1%
Low Producing Grassland	278	1%	0.1%
Gravel or Rock	267	0%	0.1%
Urban Parkland/Open Space	227	99%	0.1%
Built-up Area (settlement)	187	90%	0.1%
Forest - Harvested	183	37%	0.1%
River	182	9%	0.1%
Sand or Gravel	77	62%	0.0%
Indigenous Forest	65	1%	0.0%
Surface Mine or Dump	46	46%	0.0%
Mixed Exotic Shrubland	34	14%	0.0%
Matagouri or Grey Scrub	15	0%	0.0%
Herbaceous Freshwater Vegetation	12	1%	0.0%
Broadleaved Indigenous Hardwoods	7	1%	0.0%
Flaxland	4	79%	0.0%
Tall Tussock Grassland	4	0%	0.0%
Transport Infrastructure	2	52%	0.0%
Manuka and/or Kanuka	1	0%	0.0%
Alpine Grass/Herbfield	-	0%	0.0%
Depleted Grassland	-	0%	0.0%
Fernland	-	0%	0.0%
Landslide	-	0%	0.0%
Permanent Snow and Ice	-	0%	0.0%
Sub Alpine Shrubland	-	0%	0.0%
n.e.c	-	0%	0.0%
Total HPS Area Within Rural Zones * (ha)	223,900	37%	100.0%

Source: Ashburton Distict Council (Zones), LCDB, LUCB - Landcare.

** As defined by M.E for the purpose of the study.*

6.2.10 Land Use (Rural Environment)

The following analysis (Figure 6.8**Error! Not a valid bookmark self-reference.**) relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types. This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 6.4. The data also contains a breakdown of property types for rural properties (other than lifestyle). This helps form a profile of the rural property estate in Ashburton.

Figure 6.8 – Count and Structure of Total Ashburton Rural and Lifestyle Properties (2019)

Property Type Category	Total Count	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Bare	6	0%	0%
Lifestyle - Improved	1,306	34%	77%
Lifestyle - Vacant	379	10%	22%
Sub-Total Lifestyle	1,691	45%	100%
Arable - Irrigated	485	13%	25%
Arable - Not irrigated	202	5%	11%
Dairying - Milk	465	12%	24%
Horticulture - Berry fruit	1	0%	0%
Horticulture - Flowers	2	0%	0%
Horticulture - Glasshouse	2	0%	0%
Horticulture - Market garden	1	0%	0%
Horticulture - Mixed/Other	3	0%	0%
Horticulture - Pip fruit	1	0%	0%
Pastoral - Finishing	633	17%	33%
Pastoral - Grazing	96	3%	5%
Pastoral - High country runs	12	0%	1%
Sub-Total Horticulture & Farming	1,903	50%	100%
Forestry - Exotic	114	3%	97%
Forestry - Indigenous	2	0%	2%
Forestry - Vacant	1	0%	1%
Sub-Total Forestry	117	3%	100%
Mining - Limestone quarries	2	0%	2%
Mining - Rock/shingle/sand	86	2%	98%
Sub-Total Mining	88	2%	100%
Total Rural & Lifestyle Properties	3,799	100%	

Source: Core Logic 2019, MPI

In total, the CoreLogic data identifies 3,799 lifestyle or rural properties. Lifestyle defined properties account for 45% of the total (1,691 current estimate). An estimated 379 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 22% of total lifestyle properties and 10% of all lifestyle and rural properties.

In terms of Horticultural and Farming properties – there are an estimated 1,903 of these – and they make up 50% of all properties in the dataset. Pastoral Finishing properties dominate this group (33% or 633). This is followed by Arable Irrigated (25% or 485), Dairy farms (24% or 465), Arable Not Irrigated properties (11% or 202) and Pastoral Grazing farms (5% or 96). There are an estimated 117 forestry properties, and these are almost exclusively exotic forests (97%). Last, there are 88 mining related properties.

6.2.11 Lifestyle Properties

The CoreLogic data also contains a description of dominant land use for each property type. There is generally a strong correlation between both type and land use, but Lifestyle blocks in particular have diverse uses, including productive use at a lifestyle property scale. Figure 6.9 provides a matrix of Ashburton lifestyle properties from that dataset. It shows that the land use of 77% of lifestyle properties is primarily for a single residential dwelling. A further 22% have been coded as multi-use lifestyle blocks which we

understand means both a place of residence and another use (mostly some form of primary production). Approximately 17 lifestyle blocks are primarily farming lots with some improvements but potentially no dwelling. This data provides some evidence of the loss of productive capacity when rural land is subdivided for lifestyle blocks.

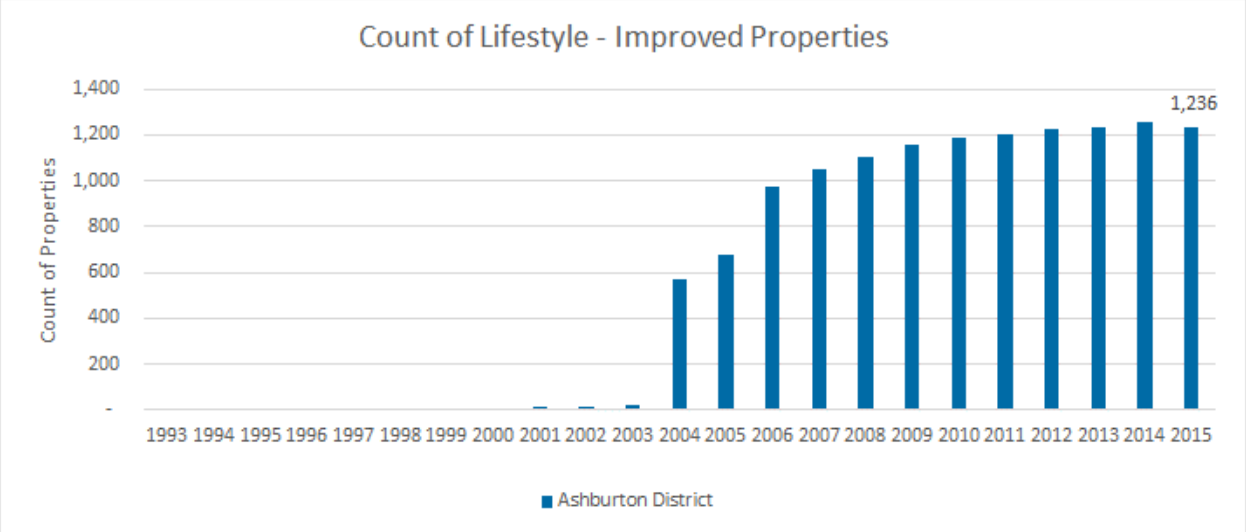
Figure 6.9 – Count and Land Use of Total Ashburton District Lifestyle Properties (2019)

Land Use Category (Corelogic)	Lifestyle - Bare	Lifestyle - Improved	Lifestyle - Vacant	Sub-Total Lifestyle	Share of Total by Land Use
Residential, Single Unit, Bach	3	1,289	8	1,300	77%
Lifestyle, Multi Use Lifestyle	3	9	359	371	22%
Horticulture & Farming	-	7	10	17	1%
Forestry	-	-	1	1	0%
Commercial	-	1	-	1	0%
Other	-	-	1	1	0%
Total Count	6	1,306	379	1,691	100%
Share of Total by Type	0%	77%	22%	100%	

Source: Core Logic 2019, MPI

Figure 6.10 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for Ashburton district[40]. It shows a sudden increase in 2004 and steep growth to 2006. The rate of growth then slowed down. Growth since 2010 has been more minor. By 2015, the count had reached 1,236. Our latest data shows a count of 1,306 improved lifestyle blocks, so there has been an estimated increase of 70 lifestyle properties between 2015 and 2019.

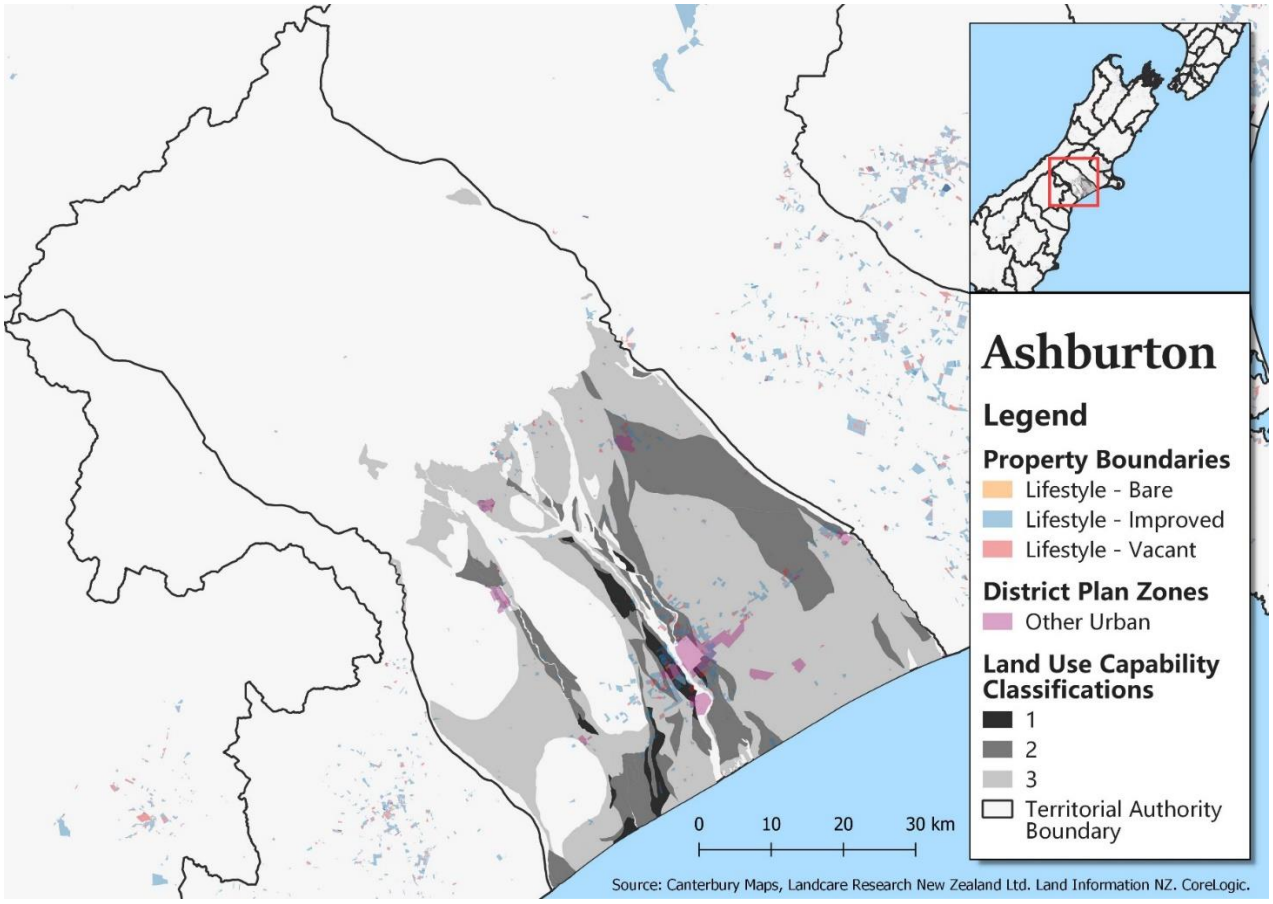
Figure 6.10 – Growth of Lifestyle Properties in Ashburton 1993-2015



[40] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

Figure 6.11 provides a map of current lifestyle properties according to CoreLogic. It shows that they have concentrated east and west of Ashburton town along State Highway 1, and also north of Ashburton on State Highway 77.

Figure 6.11: Ashburton District HPS Coverage and Rural Lifestyle Property Patterns (2019)



6.3 Planning Approach Relevant to HPL

The Ashburton operative district plan highlights the importance of the primary production sector for the social and economic wellbeing of the current and future community. This activity is primary concentrated in the Rural Plains zone which includes significant water resources and irrigation infrastructure that supports primary production.

The DP also recognises that much of the land that surrounds Ashburton and Methven urban areas consist of highly productive soils and that further subdivision of that land to accommodate residential growth makes their "*long term productive use most unlikely*", and prevents them being able to meet the needs of future generations for primary production. However, it acknowledges "*that not all new growth will be able to be accommodated within the existing settlements*" and "*the needs of residents are wide ranging and changing*".

The DP states that "*the Council has balanced this loss against the sustainable management of other natural and physical resources, such as energy and the existing servicing infrastructure*". Consolidating urban

growth (in areas that are not prone to flooding) is recognised as the most efficient use of the land. To that end, the Council rezoned what was rural residential land to medium density housing and provided for lifestyle properties through the rezoning of Rural A land. This rural residential zone is located on the fringe of existing settlement areas. An area of business zone has also been created to provide for foreseeable growth of business/industrial activities.

"*The rezoning of a considerable area of land around the settlements of the District is intended to diminish the need for further rezoning of rural land during the life of the Plan, providing sufficient areas for residential growth, as well as a choice of living environments. It is also the Council's intention to maintain clear distinctions between the urban and rural areas, in order to assist in protecting the character of the surrounding rural environment, as well as its versatile soils and significance as a productive, working environment important for the general wellbeing of the District*".

In considering various options for expansion, the Council has had regard to matters such as flood risk, versatility of soils and efficient use of public services. Avoidance of highly productive and versatile land is a key criterion for Council when considering urban expansion, "*unless this is outweighed by the protection of other resource*". This suggest a cost-benefit approach has been applied to their decision making to date. Further, the approach appears reasonably aligned with concerns identified in the proposed NPS – HPL regarding urban expansion.

Operative Provisions relating to Urban Expansion

The discussion contained within the operative district plan (August 2014) indicates that in the short-medium term (i.e. life of the plan) that the need for any further rezoning of rural land for urban expansion is unlikely. Nonetheless, that statement will date, and the following are the key objectives and policies that seek to manage the effects of urban growth into the rural area, which may be relevant when considering a longer-term growth outlook.

- *Objective 4.2: Residential Growth. To provide areas of growth and expansion of different forms of residential development, in a range of areas around the District that meet the needs of the community and promote the efficient use of energy and services, whilst also protecting the productive potential of the rural area.*
- *Policy 4.2A: Provide for some growth of residential areas, whilst continuing a policy of consolidation to avoid sprawl and unnecessary extension of urban areas.*
- *Policy 4.2B: Provide a compact urban form focussed around commercial activities and employment opportunities to promote accessibility and the efficient use of energy and infrastructural services.*
- *Policy 4.2C: Avoid urban growth in areas where there would be significant adverse effects on infrastructure services, that cannot be avoided, remedied or mitigated.*

Operative Provisions relating to Rural Primary Production in the Rural Zone

The following provisions indicate the weight currently given to primary production activity in the operative district plan. Again, these provisions demonstrate a lot of overlap with the issues that the NPS – HPL is trying to address.

- *Objective 3.1: Rural Primary Production - To enable primary production to function efficiently and effectively in the Rural A and B Zones, through the protection and use of highly versatile and/or productive soils and the management of potential adverse effects.*

- *Policy 3.1A: Provide for the continued productive use through farming activities and protection of highly productive and/or versatile soils, and their associated irrigation resources, by ensuring that such land is not developed for intensive residential activity and/or non-rural activities and the extent of coverage by structures or hard surfaces is limited.*

- *Policy 3.1C: Avoid the establishment or expansion of intensive farming or other rural activities in close proximity to settlement boundaries and residential activities; to manage any adverse effects created by such activities for example noise, odour and dust.*

- *Policy 3.1D: Avoid the establishment of residential activities or the expansion of urban boundaries in close proximity to intensive farming or other rural activities, to manage reverse sensitivity effects that can be created by such activities i.e. noise, odour and dust.*

- *Policy 3.1E: Protect highly productive and/or versatile soils by discouraging activities such as earthworks and extractive processes that significantly deplete the topsoil or the subsoil.*

The residential density for the Rural Zones has been set (zone standard) at a level which is consistent with the prevailing rural character. It is intended to retain a sense of spaciousness, rural outlook, privacy on properties and ample opportunities for planting and a variety of rural activities, albeit small-scale on the smallest sites. The character of the Plains, in particular the Rural B Zone, partly arises from the density of development and patchwork of fields. It is intended to ensure this character is maintained whilst providing some opportunity for development. Residential activity in the Rural Zone(s) is a permitted activity as long as it satisfies the zone and site standards.

- *3.10.1 Residential Density: minimum area of 8ha in Rural A per residential unit and 50ha in Rural B and C. Except that any existing lots at time of adopting plan, minimum of 2ha per residential unit.*

Only when this standard is breached would Assessment Criteria 3.11.1 (b) apply: The degree to which residential density or building coverage shall compromise the productivity of Land Capability Classes I and II (New Zealand Land Resource Inventory) in the Rural A and B Zones. This indicates that decisions on new lots less than 8ha and 50ha respectively in the Rural A and B zone would give consideration to LUC 1 and 2 soils. Under the NPS - HPL – this particular assessment will need to be expanded to capture LUC 1-3 (notwithstanding other changes that the NPS - HPL might require).

Operative Provisions Relating to Subdivision

The following objectives and policies guide subdivision in the Rural Zones.

- *Objective 9.1: Effects of Subdivision and Development - To ensure that subdivision and associated development maintains and enhances amenity, character, and natural and visual qualities of the environment, while enabling the effective and efficient use of land.*

- *Policy 9.1D: Set a minimum allotment size in Rural A and B Zones to: protect the rural resource and productive activities by requiring:*

- *sufficient distance between existing and potential residential unit sites and rural activities, and vice versa,*
- *a low density of development.*

The subdivision rules that give effect to those provisions are summarised below. Specific recognition of productive capacity is included.

- *9.6.6 Allotment Sizes and Boundary Adjustments: In the rural areas, the minimum lots sizes have been set to protect the productive use of the land, and to ensure development can be located sufficiently distant from farming activities to minimise reverse sensitivity effects. The size of the allotments also reduces the probability of a new settlement or clusters of housing being developed thus protecting the productive soils of the District for future agricultural activities. The Council, as discussed in the Rural Section, consider that the primary purpose of the rural area is to provide for agricultural activities and seek to protect the soils from unsuitable development.*
- *No form of subdivision is a permitted activity. Subdivision in the Rural A and B zones is restricted discretionary if meets general standards. Subdivision in the Rural C zone is discretionary. Any subdivision that does not meet the following minimum lot sizes is non-complying.*
- *Rural A – 8ha minimum*
- *Rural B and C – 50ha minimum*

Ultimately, the effectiveness of these provisions to protect HPS and productive capacity depends on how appropriate the minimum lot sizes are in conjunction with boundaries identifying where these lot sizes apply (zone boundaries) relative to the location of HPS or HPL. Analysis in section 6.4 below provides some insight on that. Generally though, the key concern is the appropriateness of the operative provisions in Rural A and B zones – given that this is where HPS is concentrated.

6.4 Modelling of Rural Lifestyle Development Outcomes

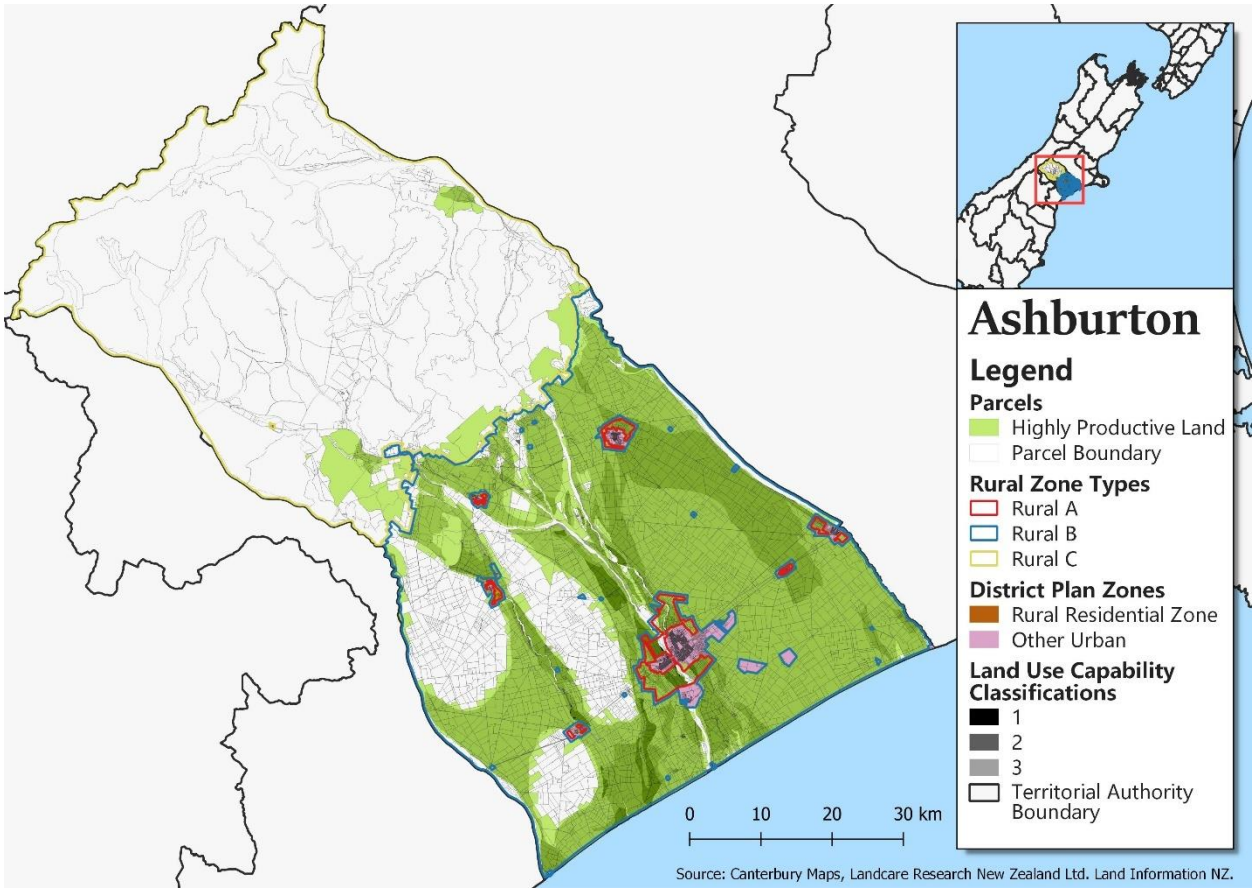
This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in Ashburton's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

6.4.1 Definition of Highly Productive Land under the NPS – HPL

Figure 6.12 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or greater coverage of LUC 1-3 or 4ha or greater of LUC 1-3). The HPL is generally limited to the Rural A and Rural B zones as this is the geography of the LUC 1-3 resource, with the Rural C zone containing Ashburton's hill country.

In total, this HPL area captures 7,000 parcels of rural zoned land, predominantly on the Plains areas. Of these, 810 parcels are able to be subdivided under current operative provisions (based on minimum lot sizes and assuming no policy or physical constraints). These parcels total 133,678ha, and include 104,004ha of LUC class 1-3 land. This area represents 47% the total HPS area of 221,929ha in the district and 48% of the HPS in the rural zones.

Figure 6.12 – Map of Indicative HPL (Default Definition) Ashburton District



6.4.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

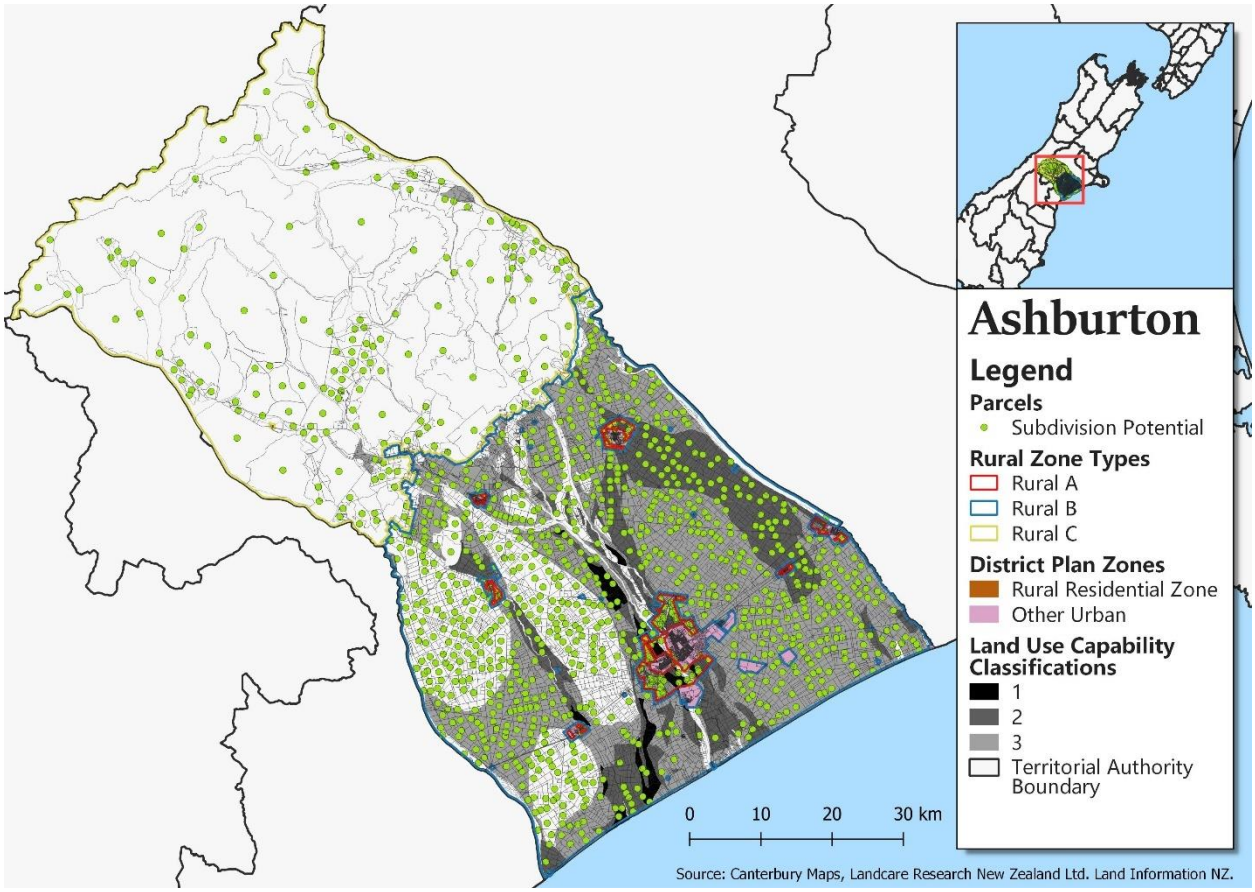
M.E has examined the land parcels in Ashburton's rural area that could be further subdivided under the operative minimum lot size provisions. The focus is just on subdivision potential in the productive rural zones (Rural A, Rural B and Rural C zones). Figure 6.13 summarises the operative minimum lot sizes we have adopted for this analysis.

Figure 6.13 – Simple Operative Minimum Lot Size Assumptions by Rural Zone – Ashburton

District	Relevant Rural Zones	Min Lot Size (Subdivision) (ha)	Notes
Ashburton	Rural A Rural Residential	8	Restricted Discretionary
	Rural A	8	Restricted Discretionary
	Rural B	50	Restricted Discretionary
	Rural C	50	Discretionary

Figure 6.14 identifies the geographic location of existing parcels that may be able to be subdivided to create one or more additional lot under the status quo (it does not reveal the yield of additional lots explicitly). Figure 6.14 highlights that there is significant indicative potential for further land fragmentation (based on application of minimum lots sizes) in areas with HPS (LUC class 1-3). Equally, there are large areas where subdivision can occur that do not contain HPS.

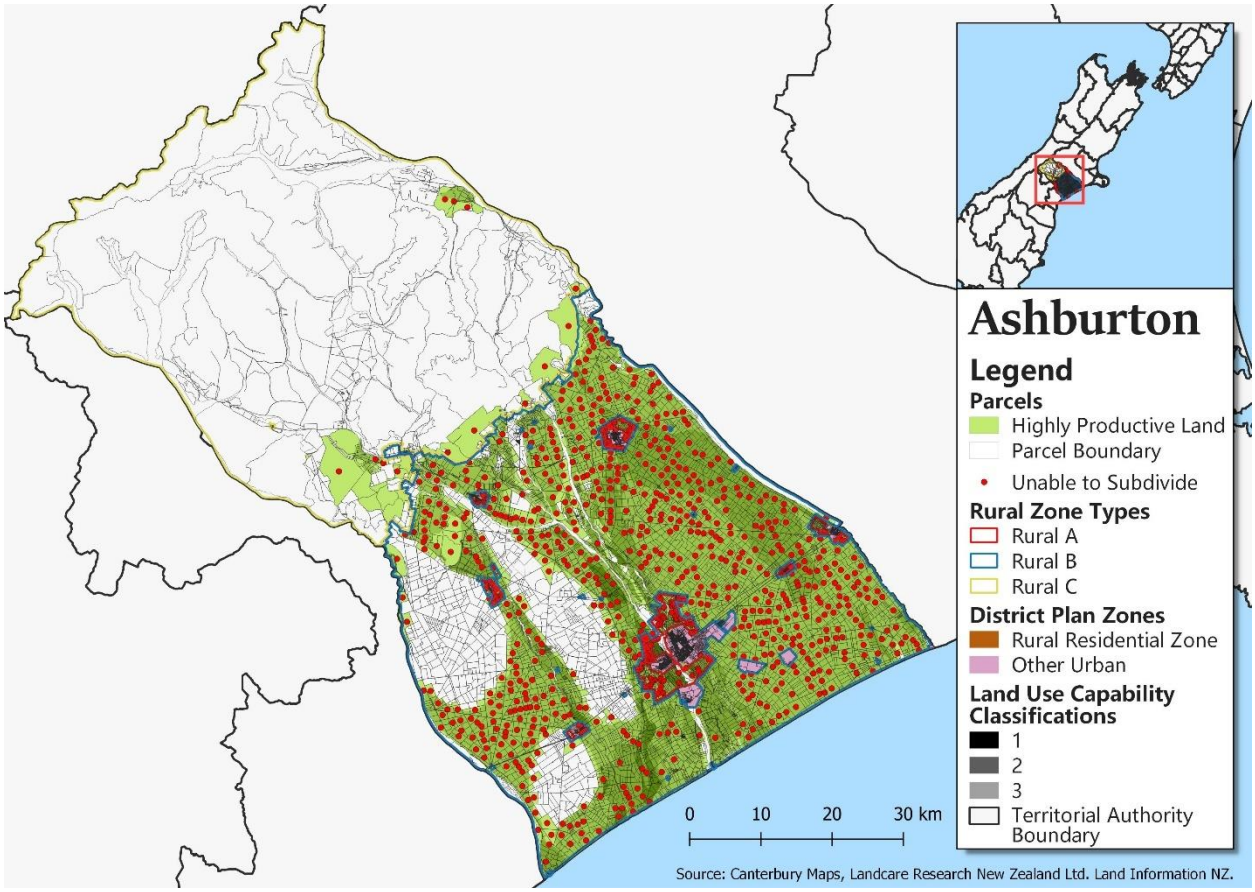
Figure 6.14 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – Ashburton



While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. **Error! Not a valid bookmark self-reference.**15 identifies those parcels within the defined HPL area that would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 6.12 and Figure 6.14) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

Figure 6.15 – HPL Parcels Unable to Subdivide Under NPS - HPL High Scenario – Ashburton



6.4.3 Projected Growth

Ashburton's medium growth outlook (StatisticsNZ) is for a 10% increase in household numbers by 2028, from the current 14,100 to 15,400, with further increases to 2038 (16,800 households) and 2048 (18,300 households). These are shown in Figure 6.16. Over the next three decades, the district as a whole can expect between 2,100 (low growth outlook) to 6,600 (high growth outlook) additional households.

Figure 6.16 – Ashburton Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	14,400	16,300	18,500	21,000	1,900	4,100	6,600
Medium	14,100	15,400	16,800	18,300	1,300	2,700	4,200
Low	13,800	14,500	15,200	15,900	700	1,400	2,100
Growth Rate (%pa)					***Lifestyle Parcels***		
High		1.2%	1.3%	1.3%	270	590	940
Medium		0.9%	0.9%	0.9%	200	410	630
Low		0.5%	0.5%	0.5%	100	210	310

Source: SNZ 2018; ME 2019

6.4.4 Lifestyle Demand

In Ashburton, there are currently some 2,058 parcels within (1,691) lifestyle properties based on data from CoreLogic, including 1,630 parcels within (1,306) lifestyle properties listed as having improvements (generally a dwelling) and 428 parcels on properties without improvements. Of these, some 1,393 parcels are in the Rural A, B or C zones as well as the Rural Residential Zone[41], where they occupy an estimated 7,785ha of land. Mean parcel size is 5.6ha. These lifestyle parcels are predominantly on HPL (see Figure 6.11), where 1,225 lifestyle parcels occupy 6,813 ha of HPL. This represents 3.1% of the total HPL resource in Ashburton District (as defined here), so is relatively minimal in this context.

Figure 6.16 further shows the projected increase in demand for lifestyle lots. This has been estimated on a direct pro rata basis, assuming that the number lifestyle parcels remain more or less constant with the current share of total households (an implied 11.6%).

The underlying household projections indicate an additional 200 lifestyle parcels would be demanded by 2028 in the medium growth future (low 100, high 270), with 410 by 2038, and 630 by 2048 (Low 310, High 940).

6.4.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based on the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation of HPL. The base case outlook is the medium growth projection, with 200 more by 2028, 420 by 2038 and 650 by 2048 (Figure 6.16).

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle parcels is driven by existing rules for subdivision (minimum lot sizes) in the Rural A, B and C zones and including the Rural Residential Zone within Rural A. Up to and including 2028, the yield of potential subdivisions is greater than the projected demand, so new parcels have been estimated according to the number of potential parcels, projected demand in that period, and the current geography of the lifestyle blocks. As the yield of potential subdivision for lifestyle parcels is less than projected demand to 2048, new parcels have been allocated in the same manner, until broadly suitable potential parcels are exhausted.

The core output for each scenario from this process is an estimated number of lifestyle properties (newly subdivided parcels) in each rural location (meshblock) within Ashburton District for 2028 and 2048.

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

6.4.6 Lifestyle Subdivision

Land Fragmentation

a. Under the High Regulatory future, the outcome would be different, as the more rigorous application of NPS – HPL based provisions (100% of lifestyle development avoided on HPL) would see almost no new lifestyle properties on the HPS resource. A slightly higher share of lifestyle

[41] This zone is a sub-set of the Rural A zone in the data provided by Ashburton District Council.

demand would instead be directed out to the Rural C zone (although relatively few in quantum) as a large share of the parcels with subdivision potential within the Rural A and B zones qualify as HPL. Given that 50ha lots in Rural C will be undesirable for most households wanting a rural lifestyle property, significantly less lifestyle blocks will be created (70 in total compared to 216 under the status quo). This means that a significant amount of lifestyle property demand by 2048 would be constrained (and deflected to other living arrangements in Ashburton District or potentially directed to other districts).

Figure 6.17 summarises the subdivision and land use outcomes to accommodate Ashburton's projected lifestyle parcel demand to 2028, for the without-NPS - HPL and with-NPS - HPL futures. The total area of rural land taken up would be more or less the same in each future, with the difference being the extent of the HPS resource occupied, and the location of the new lifestyle parcels.

Key medium-term outcomes for land use are (2028):

b. Demand for lifestyle parcels would see between 70 and just over 200 additional parcels by 2028, taking up between 2,240 and 2,630ha of Rural A, B or C land. Note that the Rural A land includes Rural Residential parcels.

c. Under the Status Quo future, the 2016 additional parcels would be distributed with 186 (63%) on HPS parcels, and the balance (30) on land without significant HPS resource[42]. The additional parcels would take up a total area of 2,480ha, including 1,933ha of HPS resource. These additional parcels are primarily (66%) in the Rural A zone.

d. Under the Low-Medium Regulatory future, a different pattern is evident. The constraints imposed by the NPS - HPL provisions would reduce the number of new parcels on the HPS resource by a third, to about 125. However, the unsatisfied demand for lifestyle parcels is not automatically transferred to other zones or locations. This is because demand is influenced by land characteristics and location, and especially by minimum subdivision rules. Market preferences for lifestyle properties commonly focus on small to medium parcels. However, if the minimum parcel size is 40ha, as it is in the Rural B and C zones, that larger size is likely to discourage a significant number of potential lifestyle purchasers, and see their demand directed elsewhere – to other living options within the District (including the Residential D zone), or to other locations. This means that one likely effect of provisions to protect the HPL resource is that some demand for lifestyle properties is not met within Ashburton District or is redirected elsewhere.

   This makes the scenario comparisons more challenging, because the scenarios end up with different numbers of new lifestyle parcels created. However, the need for the scenarios to be plausible means that simply assuming all lifestyle demand (N of properties) affected by NPS - HPL provisions will be met elsewhere in the district may be invalid in the case of Ashburton District.

   In the final analysis, to develop plausible alternative outcomes for the scenarios M.E have applied judgement calls which take into account the base demand in the Status Quo future and the implied outcomes under the other scenarios (N of new properties, location, zone and parcel size). This

[42] Note that the modelling estimates the number of additional properties created according to the characteristics of each candidate parcel, locational attributes and overall drivers. This means that the number modelled may not exactly match the projected demand, because there may be several candidate properties which are very similar and adjusting the inputs may see subdivision "occur" on all or none of those, rather than just some of them – in this case, the projected demand is 200 parcels, whereas the modelling output shows 216.

allows for some attrition where there may be fewer subdivisions for new lifestyle parcels in the Low-Medium and High Regulatory futures.

In Ashburton, the Status Quo future would see 186 new parcels in the HPS resource, and 30 on other land classes (216). Under the Low-Medium Regulatory Scenario, allowance is made for the total of 165 new lifestyle parcels in total, or 50 fewer than the Status Quo. There would still be a substantial number created on the LUC class 1-3 land. This scenario shows around 75% of the new lots indicatively occurring on the HPS resource, with 125 lots taking up some 1,425ha of HPS land (noting that not all of the HPS resource equates to HPL as it does not meet the coverage and size thresholds). Nearly all of these properties are still within the Rural A zone.

e. Under the High Regulatory future, the outcome would be different, as the more rigorous application of NPS – HPL based provisions (100% of lifestyle development avoided on HPL) would see almost no new lifestyle properties on the HPS resource. A slightly higher share of lifestyle demand would instead be directed out to the Rural C zone (although relatively few in quantum) as a large share of the parcels with subdivision potential within the Rural A and B zones qualify as HPL. Given that 50ha lots in Rural C will be undesirable for most households wanting a rural lifestyle property, significantly less lifestyle blocks will be created (70 in total compared to 216 under the status quo). This means that a significant amount of lifestyle property demand by 2048 would be constrained (and deflected to other living arrangements in Ashburton District or potentially directed to other districts).

Figure 6.17 – Ashburton Lifestyle Subdivision and Land Outcomes to 2028 (Medium Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	15	119	4	28	-	1
2	82	775	39	325	-	1
3	89	1,039	82	1,067	1	10
4	24	246	30	332	45	1,394
5	-	3	-	4	-	9
6	3	127	2	91	3	155
7	1	54	2	110	6	311
8	2	122	6	279	15	746
TOTAL	216	2,480	165	2,240	70	2,630
HPL Total	**186**	**1,933**	**125**	**1,420**	**1**	**11**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

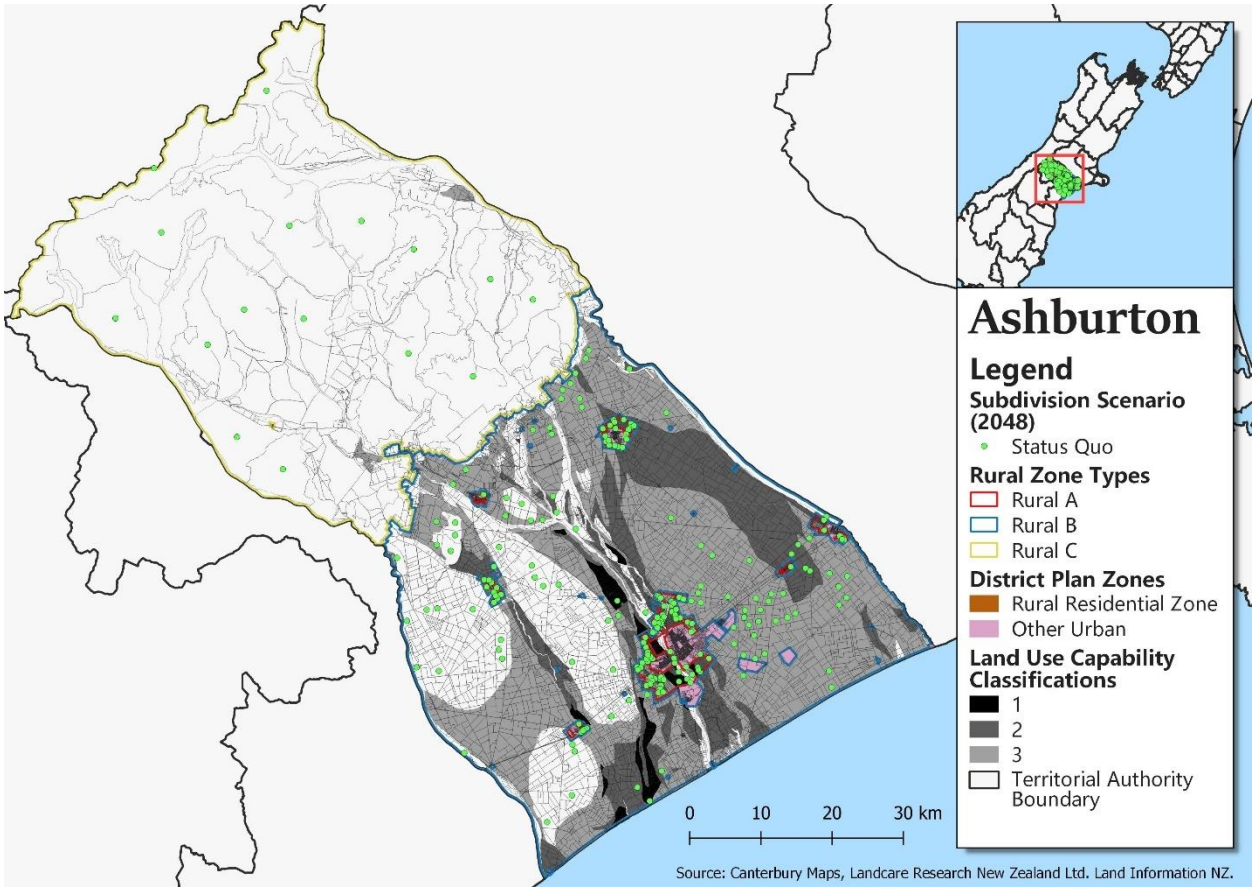
f. The effect of applying the NPS - HPL provisions would constrain lifestyle growth but also reduce the loss of HPS land. Under the two regulatory futures, there would be 61-185 fewer lifestyle parcels on HPS land than would otherwise be the case, and 513 to 1,921ha of HPS resource would be retained for primary production by diverting rural lifestyle subdivision elsewhere.

In the longer term (2048), similar effects are expected:

a. Demand for lifestyle parcels would see between 440 and 215 additional lifestyle parcels by 2048, taking up between 8,700 and 9,660ha of Rural A, B or C land (Figure 6.20).

b. Under the Status Quo future, the 439 additional parcels would be distributed with 343 (78%) on HPS parcels, and the balance (96) on land without significant HPS resource. The additional parcels would take up a total area of 8,700ha, including 5,690ha of HPS resource (Figure 6.18 and Figure 6.20).

Figure 6.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



c. Under the Low-Medium Regulatory future, the projected demand is further constrained (supply of 334 additional parcels compared to 439 under the status quo and relative to total long-term demand of 630). Around two-thirds (65%) of the additional parcels would be distributed across the HPS resource, with about one-third on land without significant HPS resource. The 216 lots on the HPS land would take up some 5,034ha of HPS land. As in the medium term, a higher share (8%) of these additional parcels are now within the Rural C zone as capacity is used up within the Rural A and B zones (Figure 6.20).

d. Under the High Regulatory future, the outcome would be different. The projected demand is further constrained (supply of 215 additional parcels compared to 439 under the status quo and relative to total long-term demand of 630). There would be almost no lots established on HPS, and 213 additional parcels all distributed on land without significant HPS resource. The additional parcels would in total take up an area of 9,660ha (Figure 6.19 and Figure 6.20).

e. The effect of applying the NPS - HPL provisions would constrain long-term lifestyle growth, although only exacerbating a shortfall projected under the status quo. It also reduces the loss of HPS land over the period to 2048. The High regulatory NPS - HPL future would see 341 fewer lifestyle parcels on HPS land than would otherwise be the case in the Status Quo, and 5,673ha of HPS resource retained for primary production. The Low-Medium regulatory future would see some 127 fewer parcels created on the HPS resource, and 656 fewer ha of HPS land taken up.

Figure 6.19 –Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory

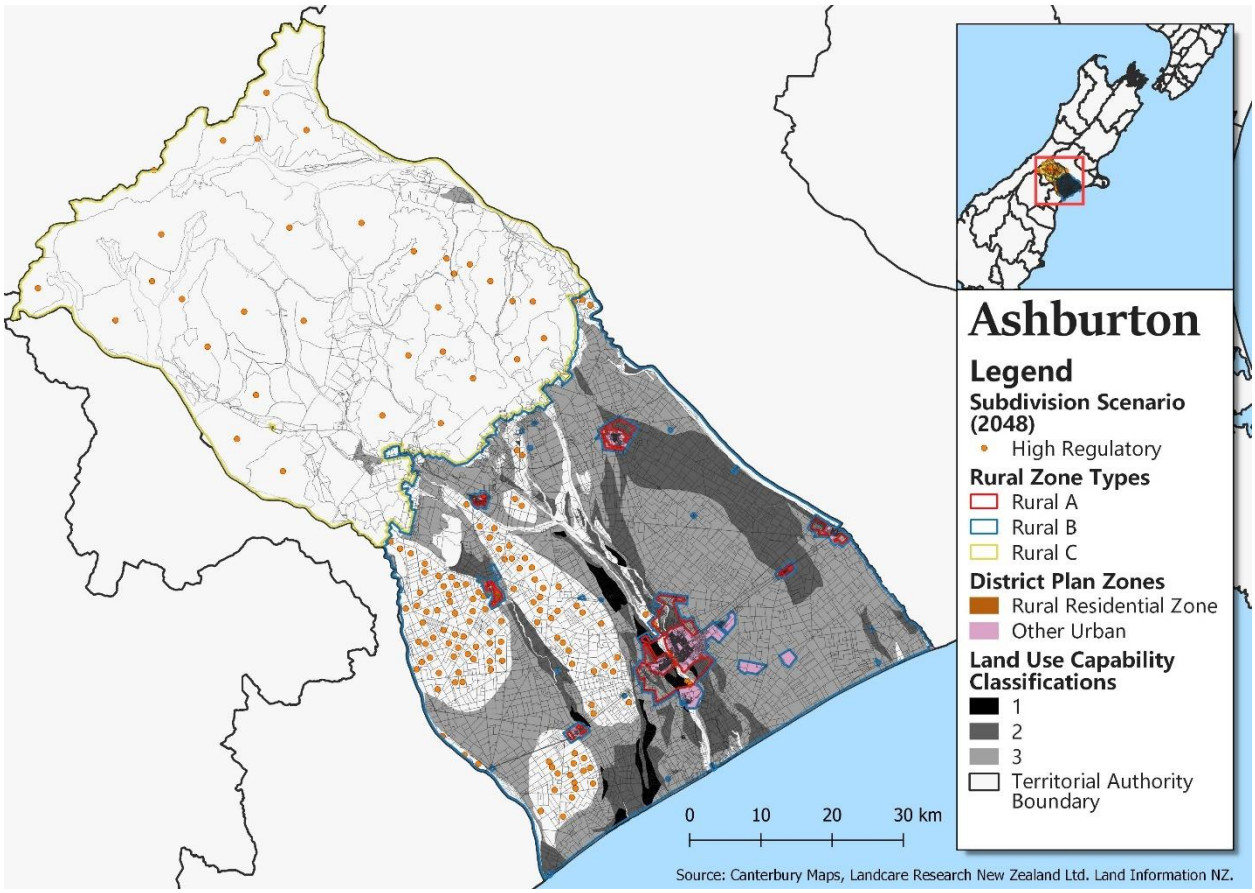


Figure 6.20 – Ashburton Lifestyle Subdivision and Land Outcomes to 2048 (Medium Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	30	318	5	94	-	1
2	128	1,421	59	1,005	-	1
3	185	3,951	152	3,935	2	15
4	71	1,804	88	2,773	151	6,537
5	-	9	-	12	-	22
6	9	428	6	317	11	559
7	5	237	7	372	16	786
8	11	536	17	850	35	1,737
TOTAL	439	8,700	334	9,360	215	9,660
HPL Total	**343**	**5,690**	**216**	**5,034**	**2**	**17**

Source: ME Lifestyle Parcel Model 2019

Primary Production Gross Output

Demand for lifestyle parcels has direct effects on primary production, as many lifestyle properties do not remain in full primary production, especially when a dwelling is added. Key outcomes for primary production gross output are as follows (Figure 6.21).

a. Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $6.2m annually in 2028, $13.2m in 2038 and $19.5m annually in 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $291.0m (undiscounted) including $254.3m on HPS land, and $36.7m on other land.

c. In present value (PV) terms, the reduced output from HPS land would be $63.3m and the reduced output on all land would be $71.5m[43].

d. In the Low-Medium NPS - HPL scenario, a smaller share of the subdivision would occur on the HPS land. The total opportunity cost (foregone primary production) would be $265.2m (undiscounted) and $62.7m (discounted) over 30 years to 2048.

e. The opportunity cost on the HPS land would be $13m less than in the Status Quo future, however the foregone production on the other land would be some $4m more. In net terms, the foregone production would be $9m less in gross output terms in the Low-Medium future. This includes an estimated $6.7m of labour and resource costs (inputs to production).

f. In the High NPS - HPL scenario, with no subdivision occurring on the HPS land. The total opportunity cost (foregone primary production) would be $124.3m (undiscounted) and $29.7m (discounted) to 2048.

g. The opportunity cost on the HPS land would be $63m less than in the Status Quo future, however the foregone production on the other land would be some $21m more. In net terms, the foregone production would be $42m less in gross output terms in the High NPS - HPL scenario. This includes an estimated $31.2m of labour and resource costs (inputs to production).

h. This represents a positive economic effect from protecting the HPS resource. It is important to note that part of the difference in effect of lost production from applying these regulatory futures in Ashburton District occurs through an overall reduction in the additional number of lifestyle properties formed through the constraints on subdivision from the Low-Medium and High Regulatory futures in the long-term. Constraining demand growth is a dis-benefit, but this may be mitigated if those households that may have sought a lifestyle property in the rural zones opt instead for an alternative property type within Ashburton (this may include the large lot Residential D or equivalent locations).

[43] Over 30 years, discounted at 8% pa.

Figure 6.21 – Ashburton Long-Term Primary Production Outcomes to 2048 (Medium Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
	($m)								
2028	$ 5.7	$ 0.5	$ 6.2	$ 4.2	$ 0.8	$ 4.9	$ 0.0	$ 2.4	$ 2.5
2038	$ 11.4	$ 1.8	$ 13.2	$ 9.3	$ 2.9	$ 12.2	$ 0.0	$ 5.4	$ 5.5
2048	$ 16.7	$ 2.8	$ 19.5	$ 14.8	$ 4.0	$ 18.8	$ 0.1	$ 8.9	$ 9.0
2018-48	$ 254.3	$ 36.7	$ 291.0	$ 208.8	$ 56.3	$ 265.2	$ 1.1	$ 123.3	$ 124.3
Difference v SQ				-$ 46	$ 20	-$ 26	-$ 253	$ 87	-$ 167
PV (2018-48)	$ 63.3	$ 8.1	$ 71.5	$ 50.2	$ 12.6	$ 62.7	$ 0.3	$ 29.4	$ 29.7
Difference v SQ				-$ 13	$ 4	-$ 9	-$ 63	$ 21	-$ 42

Source: ME Lifestyle Parcel Model 2019

7 Selwyn District Analysis

This section contains the spatial analysis completed for Selwyn District. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative Selwyn District Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

The geography of Selwyn is highly varied. The District stretches from the Alpine divide in the west, eastwards down across the Canterbury plains to Lake Ellesmere and the Pacific Ocean in the east. The District covers around 6,552 km^2. Physically, the land gets drier the further east from the mountains you travel. The mostly alluvial soils of the Canterbury Plains are highly fertile, generating large volumes of agricultural output following irrigation (in particular).

Rolleston is the largest centre in Selwyn, but its proximity to Christchurch means that most of the higher order goods and services are purchased there. In addition, higher order jobs in Christchurch attract workers from Selwyn. Rolleston is a medium urban area (based on the StatisticsNZ 2018 rural-urban boundaries) and is supported by small urban areas of Lincoln, Darfield, West Melton and Prebbleton on the edge of Christchurch.

7.1 HPS Resource

The HPS resource makes up around 21% of total area within Selwyn (approximately 140,560ha). There is an estimated 6,530ha of LUC class 1 land, just under 46,220ha of LUC class 2 land and just under 87,910ha of LUC class 3 land (Figure 7.1).

Figure 7.1: Summary of Land Use Capability in Selwyn District (ha)

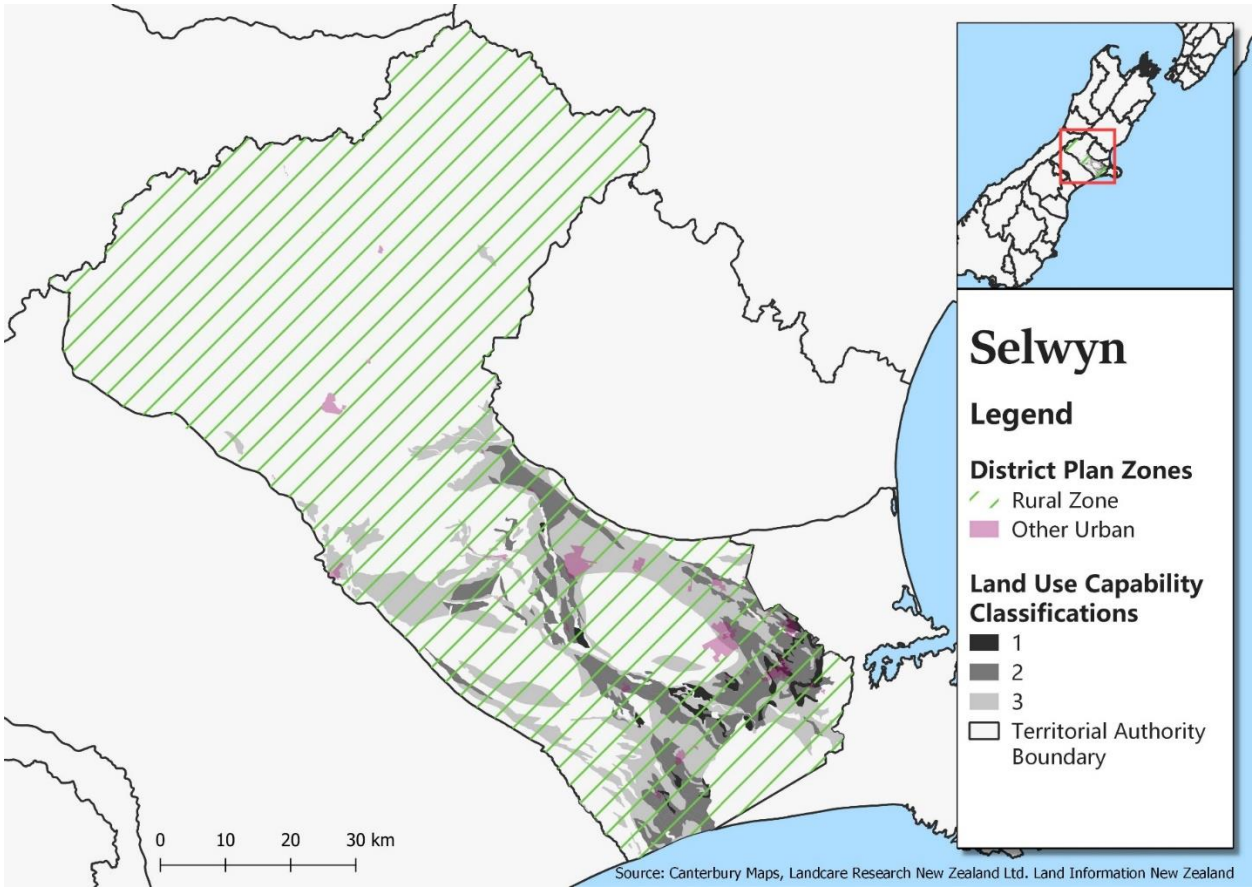
	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total District
Area of LUC Class (Ha)	6,530	46,119	87,908	96,370	1,237	93,744	59,452	214,795	49,134	520	655,808
Share of TA Area	1%	7%	13%	15%	0%	14%	9%	33%	7%	0%	100%
Sub-Total LUC 1-3 (Ha)			140,556								
Sub-Total LUC 1-3 (%)			21%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

Figure 7.2 shows the location of the HPS resource relative to the urban land use zones (shown in pink). The most significant concentration of HPS is south of Rolleston, extending to the coast or Lake Ellesmere. Prebbleton, Lincoln, and Leeston are surrounded by the resource although the south and west of Rolleston

does not have HPS at the urban fringe. There is also a large area of HPS extending from Kirwee and Darfield up past Sheffield and Springfield.

Figure 7.2: Selwyn District HPS Coverage and Rural Environment District Plan Zones



When the HPS resource is intersected with StatisticsNZ meshblock (2013) and urban area (2018) boundaries (there are 423 meshblocks that make up Selwyn district), 338 meshblocks contain HPS in concentrations greater than 25% of land area, equating to 80% of all meshblocks in the district (Figure 7.3). Of these, 271 meshblocks have 75% or more of their total area in HPS, with a further 67 meshblocks having between 25% and 75% of their land area in HPS. The geographic concentration of the HPS is significant, with a total of 72,386ha in areas where HPS are the dominant soil, out of nearly 140,000ha in total (87%).

The HPS areas, as expected, are predominantly in the rural parts of Selwyn. Of the total nearly 140,000ha of HPS, some 134,845ha is in Rural Other (non-urban) area (96%). This excludes rural settlements. Within the Rural Other area, some 66,764ha or 50% of HPS is in meshblock areas where the LUC classes 1-3 are the dominant resource accounting for 75% or more of the land area.

This geographic concentration is important for land use and other potential policies for the NPS - HPL, because a policy setting that is highly focussed on non-urban areas will capture the major share of the HPS

resource in the case of Selwyn. The areas of HPS resource in Medium Urban Areas (1,489ha)[44], Small Urban Areas (3,420ha) and Rural Settlements (729ha) would not be addressed and may be considered 'lost'. This assumes there is a strong correlation between urban-rural boundaries and urban-rural zoning.

7.2 Baseline Analysis

7.2.1 Population and Households

Selwyn is currently home to an estimated 20,100 households and 61,900 residents (Figure 7.3). The biggest number live in the Rural Other areas as defined by StatisticsNZ (9,200 or 46%), while 5,020 or 25% live in the Medium Urban area of Rolleston. In the rural area around 55% of households reside in meshblocks with high levels of HPS land (75% or more HPS coverage), while in Rolleston around 48% do[45]. We note, that about half of Rolleston's defined urban area is classed as 'town' in the LRI dataset, but there are extensive areas where the LUC class has been mapped.

In total there is a substantial overlap between the HPS resource and the population patterns. Across the district, approximately 64% of the households reside in meshblocks with very high concentrations of HPS land. A further 15% reside in meshblocks with between 25% and 50% of land area classified as HPS, leaving 20% or 4,270 households in meshblocks with low levels of HPS land (including 'town' areas included in the LRI). This means that there is a large rural community that may be impacted by the NPS - HPL.

7.2.2 Household Growth

Over the next 20 years to 2038 Selwyn is expected to grow by 52%, an additional 10,500 households based on StatisticsNZ medium projections[46] (Figure 7.3). The largest share of these (54%) is projected to be in the Rural Other areas (StatisticsNZ), predominantly around the fringes of Rolleston town, as well the rural fringe around Christchurch. Over 60% of this rural growth (3,340 households out of 5,330 total) is likely to occur in meshblocks with high proportions of HPS land. This is obviously a key issue in terms of the objectives of the NPS - HPL.

A moderate share of future growth will be directed to the Small Urban areas. It is expected that these will grow by 1,880 households over 20 years and the majority of this growth is expected to occur in meshblocks with high shares of HPS land (98%). The balance of growth is split evenly between Rolleston (Medium Urban area) and the Rural Settlements – 9% of the growth each.

In summary future growth in Selwyn is strongly focused in meshblocks with high shares of HPS land: 6,890 of the 10,510 additional households over the next 20 years are in the highest concentration meshblocks. As noted, the initial meshblock-level analysis offers an approximation. Nevertheless, *a priori* it does indicate that demand rural lifestyle development in reasonable proximity to Christchurch will have material effect on the HPS resource over the next two decades in Selwyn district (under the status quo future).

[44] M.E's analysis relies on 2013 meshblocks in order to use the Business Directory data. These boundaries do not always align with the 2018 Rural-Urban boundaries. It is possible that some meshblocks have been included with a suburban area when part of their land (and rural activity) actually falls outside the urban boundary.

[45] Ibid.

[46] CAU level projections have been pro-rated to meshblocks by M.E.

Figure 7.3: Selwyn Urban-Rural HPS Summary with Socio-Economic Activity Relationship

Selwyn District	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Medium urban area	**81**	**1,489**	**2,403**	**19%**	**16,130**	**5,020**	**25%**	**3,080**	**29%**	**9**	**37**	**7%**	**46**	**25**	**1%**	**3,870**	**21%**	**3,933**	**19%**
HPS > than 75% of MB Area	41	1,424	1,474	10%	7,620	2,390	12%	1,530	15%	7	10	2%	32	20	1%	3,059	17%	3,089	15%
HPS between 50% and 75% of MB Area	4	18	26	1%	960	310	2%	100	1%	-	-	0%	-	-	0%	81	0%	81	0%
HPS between 25% and 50% of MB Area	2	10	25	0%	290	90	0%	30	0%	-	-	0%	-	-	0%	129	1%	129	1%
Other LUC Category (4-8/Water/Settlement)	34	38	879	8%	7,260	2,240	11%	1,430	14%	2	28	5%	14	5	0%	601	3%	634	3%
Small urban area	**108**	**3,420**	**3,525**	**26%**	**14,630**	**4,760**	**24%**	**1,880**	**18%**	**11**	**29**	**5%**	**93**	**64**	**3%**	**5,487**	**30%**	**5,580**	**27%**
HPS > than 75% of MB Area	101	3,370	3,428	24%	14,020	4,570	23%	1,830	17%	10	28	5%	91	64	3%	5,329	29%	5,421	26%
HPS between 50% and 75% of MB Area	5	44	74	1%	360	110	1%	30	0%	1	1	0%	2	1	0%	136	1%	138	1%
HPS between 25% and 50% of MB Area	1	3	8	0%	150	40	0%	10	0%	-	-	0%	-	-	0%	12	0%	12	0%
Other LUC Category (4-8/Water/Settlement)	1	3	15	0%	110	30	0%	10	0%	-	-	0%	-	-	0%	9	0%	9	0%
Rural settlement	**31**	**729**	**885**	**7%**	**4,030**	**1,120**	**6%**	**220**	**2%**	**5**	**3**	**0%**	**10**	**2**	**0%**	**1,837**	**10%**	**1,841**	**9%**
HPS > than 75% of MB Area	20	728	736	5%	2,440	850	4%	190	2%	5	3	0%	10	2	0%	548	3%	553	3%
HPS between 50% and 75% of MB Area	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
HPS between 25% and 50% of MB Area	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
Other LUC Category (4-8/Water/Settlement)	11	0	149	3%	1,590	280	1%	20	0%	-	-	0%	-	-	0%	1,289	7%	1,289	6%
Rural other	**203**	**134,845**	**631,264**	**48%**	**27,100**	**9,200**	**46%**	**5,330**	**51%**	**196**	**463**	**87%**	**1,452**	**1,832**	**95%**	**7,099**	**39%**	**9,393**	**45%**
HPS > than 75% of MB Area	109	66,764	69,917	26%	15,330	5,100	25%	3,340	32%	118	303	57%	684	522	27%	3,355	18%	4,179	20%
HPS between 50% and 75% of MB Area	36	34,636	55,296	9%	4,730	1,650	8%	740	7%	28	88	16%	290	376	20%	732	4%	1,196	6%
HPS between 25% and 50% of MB Area	19	17,496	54,400	4%	2,510	880	4%	380	4%	19	13	2%	237	541	28%	1,164	6%	1,718	8%
Other LUC Category (4-8/Water/Settlement)	39	15,950	451,652	9%	4,530	1,560	8%	870	8%	30	60	11%	242	393	20%	1,848	10%	2,301	11%
TOTAL	**423**	**140,483**	**638,077**	**100%**	**61,890**	**20,100**	**100%**	**10,510**	**100%**	**221**	**532**	**100%**	**1,601**	**1,923**	**100%**	**18,292**	**100%**	**20,747**	**100%**
HPS > than 75% of MB Area	271	72,286	75,554	64%	39,410	12,910	64%	6,890	66%	141	343	64%	817	607	32%	12,291	67%	13,240	64%
HPS between 50% and 75% of MB Area	45	34,697	55,395	11%	6,050	2,070	10%	870	8%	29	88	17%	292	377	20%	949	5%	1,414	7%
HPS between 25% and 50% of MB Area	22	17,510	54,433	5%	2,950	1,010	5%	420	4%	19	13	2%	237	541	28%	1,305	7%	1,859	9%
Other LUC Category (4-8/Water/Settlement)	85	15,990	452,695	20%	13,490	4,110	20%	2,330	22%	32	88	16%	255	398	21%	3,747	20%	4,233	20%

Source: Statistics NZ, Landcare, M.E

7.2.3 Horticulture

There are 221 horticultural businesses within Selwyn District (2017 Business Directory data). They employ approximately 532 workers, accounting for around 3% of total employment (Figure 7.3). These businesses are highly correlated with the HPS, with over 141 businesses (64%) located in meshblocks where HPS makes up more than 75% of the total meshblock area. These businesses are the larger horticultural businesses as they account for just over 64% of all horticultural employment. The majority of the horticultural businesses are located in Rural Other (non-urban) areas (196 out 221 or 89%), with 11 in (or immediately adjacent to) the Small Urban areas - all on meshblocks with high shares (50% or more) of HPS land. There are 9 horticultural businesses in Rolleston (7 of which are in meshblocks with 75% of more land classified as HPS).

The productive output of horticultural farms with high incidence of HPS is greater per hectare and this is why they sustain more workers per business. This supports the rationale of the NPS - HPL to prioritise primary production in the HPS resource as it maximises the output of the primary sector.

7.2.4 Pastoral farming

Selwyn is mainly a Pastoral based farming district (2017). In total there are around 1,600 pastoral farming businesses employing 1,923 workers (or 9% of the District's total employment). 84% of the district's farms are located in meshblocks with more than 25% of land classified as HPS and over 50% in meshblocks with over 75% HPS land (Figure 7.3). As expected, 91% of the pastoral farms are located in Rural Other (non-urban) areas employing 95% of the districts farm workers. 83% of these farms are located in meshblocks with more than 25% area classified as HPS.

In total 16% of farms are located in meshblocks with low shares of HPS land which (coverage of between 0% and 25%).

7.2.5 Other economic activity

Other economic activity covers everything else within the economy. In total there are over 18,290 other jobs in Selwyn (2017). The Other economic activity makes up 88% of total employment in the district (Figure 7.3). 67% of this activity occurs in meshblocks with high shares of HPS land and 20% occurs in meshblocks with very low shares of HPS (including 'town' areas). Most of the Other economic activity occurs in Rural Other locations (39% of the total or 7,099 MECs). This is followed by the 30% in the combined Small Urban areas (or 5,487 MECs) and the 21% in Rolleston (or 3,870 MECs).

In the more urban areas, there is a high share of other economic activity located in meshblocks with high shares of HPS land (79% in Rolleston and 97% in the combined small urban areas), but in the Rural Other area this falls to around 47% as the land will have already been put to productive uses.

7.2.6 Total economic activity

Because in Selwyn District, Horticultural and Pastoral activities are a small proportion of total employment and activity, total economic activity mimics the Other economic activity closely. In total 45% of Selwyn's economic activity occurs in the Rural Other (non-urban) area, with 27% occurring in the combined Small Urban areas and 19% in Rolleston. In total 64% of Selwyn's economic activity occurs in meshblocks where

HPS accounts for over 75% of the land area. An additional 12% occurs in meshblocks with between 25% and 75% land classified as HPS (Figure 7.3).

This is high and given that growth is strong and also highly concentrated in high HPS meshblocks, provisions designed to protect the productive capacity of these soils will need to be carefully implemented.

7.2.7 Maori Owned Land

Figure 7.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in Selwyn District in combined rural zones. We have not shown any Maori owned land in urban zones. In total there is an estimated 384ha of Maori Freehold Land and 27% of this contains HPS. This is entirely located in the Rural Outer Plains Zone. This is a higher incidence of HPS than for all other tenures (21%) in Selwyn District, however other tenures account for nearly all of HPS land in quantum terms (99.9%).

While difficult to see at a district scale, Figure 7.5 shows the location of Maori Land relative to the HPS resource. It is located near the coast in the Outer Plains Zone.

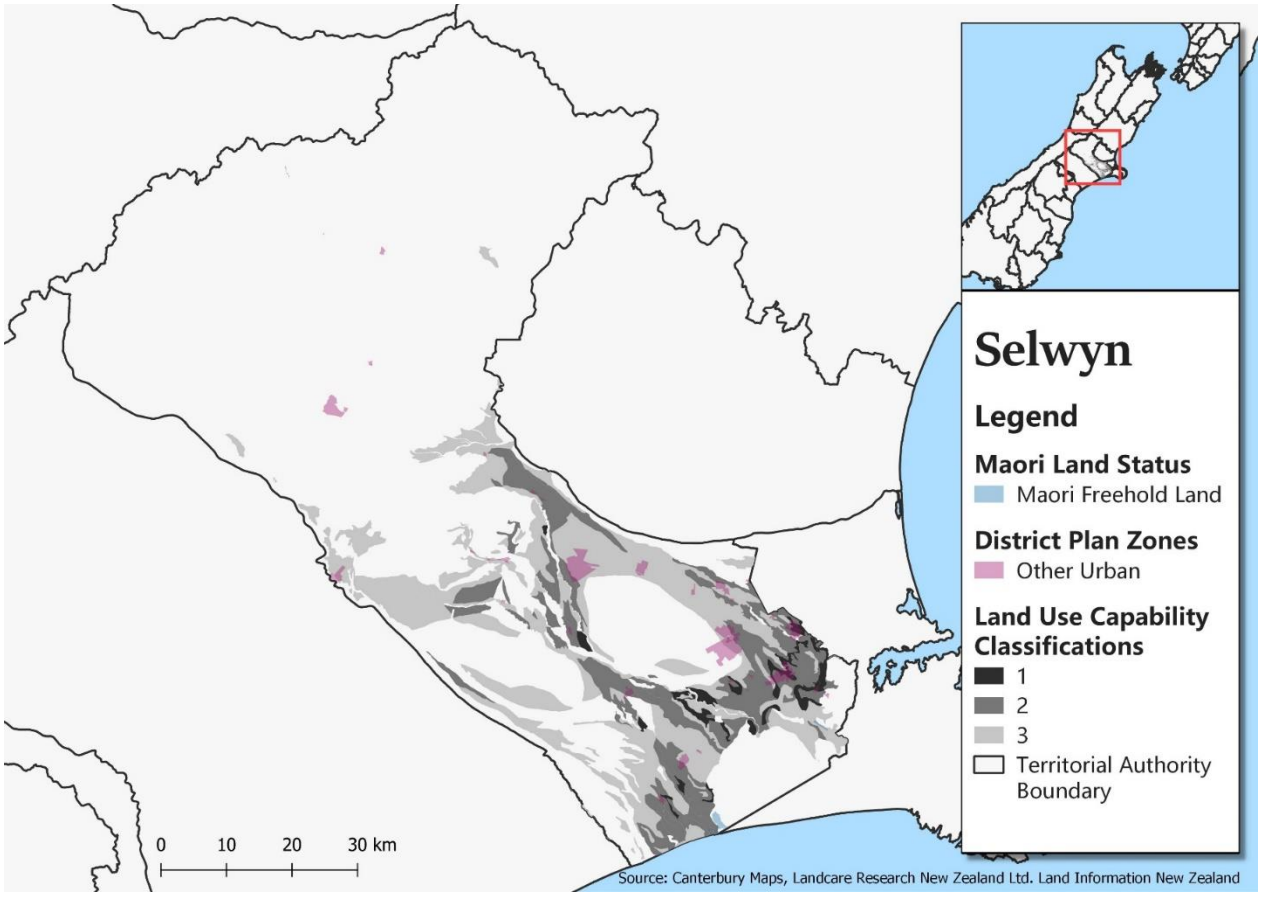
Figure 7.4 – Selwyn Summary of HPS by Maori Land and Other Tenure in Rural Zone Area (ha)

Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
Rural Residential Zone	5	32	-	36	13%	0.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	-	-	-	-	0%	0.0%
Other (Non-Maori Land Court) Land	5	32	-	36	13%	0.0%
Rural Zone	135,388	463,599	49,282	648,269	21%	100.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	105	276	3	384	27%	0.1%
Other (Non-Maori Land Court) Land	135,283	463,324	49,279	647,886	21%	99.9%
Total Rural Zones *	135,393	463,631	49,282	648,306	21%	100.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	105	276	3	384	27%	0.1%
Other (Non-Maori Land Court) Land	135,288	463,356	49,279	647,922	21%	99.9%

Source: Selwyn Distict Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Figure 7.5: Selwyn District HPS Coverage and Land Tenure



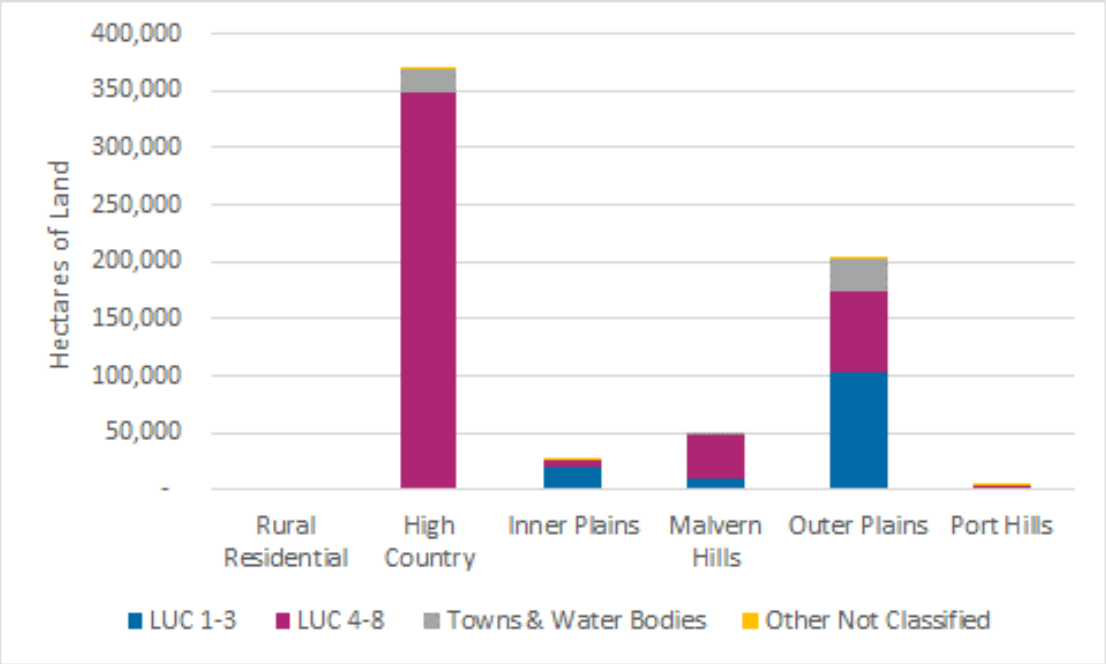
7.2.8 District Plan Zoning

The Selwyn rural zones identified for this analysis include the Rural Residential Zone[47] which is approximately 36ha, Inner Plains Zone which is approximately (25,643ha), Outer Plains Zone (202,622ha), Malvern Hills Zone (48,359ha), Port Hills Zone (3,254ha) and the High Country Zone (368,392ha). For the purpose of this report, all rural zones excluding the Rural Residential Zone are considered productive rural zones (Figure 7.6).

The small Rural Residential zone is made up of just 13% HPS (5ha). The Inner Plains Zone contains 19,384ha of HPS – this makes up an average of 76% of the zone and accounts for 14% of the total HPS resource in the rural environment. The Outer Plains zone comprises 102,655ha of HPS, 51% coverage and a significant 76% of total HPS. The Malvern Hills Zone comprises 22% HPS (10,816ha) – this is just 8% of the district total. The Port Hills does not contain HPS and the extensive High Country Zone has just 1% of land as HPS (just 2% of the district total). Overall, the 'plains' contain 90% of the HPS resource.

[47] The data identifies the Rocklands Existing Development Area as the only Rural Residential Zone Type.

Figure 7.6 – Land Capability by Rural Zone – Selwyn District



7.2.9 Land Cover

Figure 7.7 contains an analysis of the Land Cover Database data (2012/2013) as it relates to the location of HPS[48]. Based on the categories of land cover in that dataset, the top two land covers occupying HPS are as follows:

1. High Producing Exotic Grassland – this land cover includes 94,384ha of HPS. The HPS resource makes up 51% of all land with this land cover in Selwyn, meaning that half is located on other soils. The presence of HPS appears to play a significant role in the location of this activity (all else being equal). This land cover is also significant as it makes up 70% of the total HPS resource in the combined rural area of the district.

2. Short Rotation Cropland - this land cover includes 34,112ha of HPS. The HPS resource makes up 86% of all land with this land cover in Selwyn, meaning that just 14% is located on other soils. The presence of HPS appears to play a very significant role in the location of this activity (all else being equal). That is, highly productive Short Rotation Crop businesses require highly productive land. This land cover is moderately significant as it makes up 25% of the total HPS resource in the combined rural area of the district.

All other land covers account for only minor shares of the HPS resource. Orchards, Vineyard or Other Perennial Crops for example makes up just 627ha of HPS (0.5% of the total). This is however highly concentrated (88%) on HPS land suggesting a high dependency on that resource (or at least significant advantages).

[48] Some small areas are not common to both datasets, so the total area of HPS in the rural area differs slightly from that stated earlier.

Figure 7.7 – Selwyn Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	94,384	51%	69.7%
Short-rotation Cropland	34,112	86%	25.2%
Exotic Forest	2,749	17%	2.0%
Gorse and/or Broom	800	7%	0.6%
Deciduous Hardwoods	795	34%	0.6%
Orchard, Vineyard or Other Perennial Crop	627	88%	0.5%
Low Producing Grassland	517	1%	0.4%
Built-up Area (settlement)	222	55%	0.2%
Urban Parkland/Open Space	192	56%	0.1%
Gravel or Rock	139	0%	0.1%
Herbaceous Freshwater Vegetation	138	15%	0.1%
Indigenous Forest	116	0%	0.1%
Broadleaved Indigenous Hardwoods	110	4%	0.1%
Forest - Harvested	101	9%	0.1%
Lake or Pond	75	2%	0.1%
Matagouri or Grey Scrub	73	1%	0.1%
Herbaceous Saline Vegetation	69	3%	0.1%
Sand or Gravel	65	65%	0.0%
Mixed Exotic Shrubland	27	38%	0.0%
n.e.c	25	5%	0.0%
Surface Mine or Dump	19	25%	0.0%
River	10	0%	0.0%
Fernland	9	1%	0.0%
Manuka and/or Kanuka	7	0%	0.0%
Estuarine Open Water	4	0%	0.0%
Flaxland	4	6%	0.0%
Transport Infrastructure	3	20%	0.0%
Tall Tussock Grassland	2	0%	0.0%
Alpine Grass/Herbfield	-	0%	0.0%
Depleted Grassland	-	0%	0.0%
Landslide	-	0%	0.0%
Permanent Snow and Ice	-	0%	0.0%
Sub Alpine Shrubland	-	0%	0.0%
Total HPS Area Within Rural Zones * (ha)	135,393	21%	100.0%

Source: Selwyn Distict Council (Zones), LCDB, LUCB - Landcare.

** As defined by M.E for the purpose of the study.*

7.2.10 Land Use (Rural Environment)

The following analysis relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types (Figure 7.8). This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 7.4. The data also contains a breakdown of property types for rural properties in Selwyn District (other than lifestyle). This helps form a profile of the rural property estate.

In total, the CoreLogic data identifies 7,822 lifestyle or rural properties. Lifestyle defined properties account for 77% of the total (6,050 current estimate)[49]. An estimated 958 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 16% of total lifestyle properties and 12% of all lifestyle and rural properties.

Figure 7.8 – Count and Structure of Total Selwyn District Rural and Lifestyle Properties (2019)

Property Type Category	Total Count	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Bare	21	0%	0%
Lifestyle - Improved	5,071	65%	84%
Lifestyle - Vacant	958	12%	16%
Sub-Total Lifestyle	6,050	77%	100%
Arable - Irrigated	324	4%	20%
Arable - Not irrigated	168	2%	10%
Dairying - Milk	321	4%	19%
Horticulture - Berry fruit	2	0%	0%
Horticulture - Flowers	8	0%	0%
Horticulture - Glasshouse	14	0%	1%
Horticulture - Market garden	9	0%	1%
Horticulture - Mixed/Other	13	0%	1%
Horticulture - Vineyards	10	0%	1%
Pastoral - Finishing	624	8%	38%
Pastoral - Grazing	155	2%	9%
Pastoral - High country runs	3	0%	0%
Sub-Total Horticulture & Farming	1,651	21%	100%
Forestry - Exotic	93	1%	85%
Forestry - Indigenous	3	0%	3%
Forestry - Protected	2	0%	2%
Forestry - Vacant	11	0%	10%
Sub-Total Forestry	109	1%	100%
Mining - Rock/shingle/sand	12	0%	100%
Sub-Total Mining	12	0%	100%
Total Rural & Lifestyle Properties	7,822	100%	

Source: Core Logic 2019, MPI

In terms of Horticultural and Farming properties – there are an estimated 1,651 of these – and they make up 21% of all properties in the dataset. Pastoral Finishing Farms dominate this group (38% or 624). This is followed by Arable – Irrigated properties (20% or 324), Dairy Farms (19% or 321), Arable – Not Irrigated (10% or 168) and Pastoral Grazing (9% or 155). There are an estimated 109 forestry properties, and they are dominated by exotic forests. Last, there are 12 mining related properties.

[49] Corelogic defines lifestyle properties differently to the NPS – HPL. In their data, a lifestyle property is larger than a residential property and smaller than a typical rural production property (farm) and can be managed by a single household.

7.2.11 Lifestyle Properties

The CoreLogic data also contains a description of dominant land use for each property type. There is generally a strong correlation between both type and land use, but Lifestyle blocks in particular have diverse uses, including productive use at a lifestyle property scale. Figure 7.9 provides a matrix of Selwyn lifestyle properties from that dataset. It shows that the land use of 83% of lifestyle properties is primarily for a single residential dwelling. A further 16% have been coded as multi-use lifestyle blocks which we understand means both a place of residence and another use (mostly some form of primary production). Approximately 22 lifestyle blocks are primarily horticultural or farming lots with some improvements but potentially no dwelling. This data provides further evidence of the loss of productive capacity when rural land is subdivided for lifestyle blocks.

Figure 7.9 – Count and Land Use of Total Selwyn District Lifestyle Properties (2019)

Land Use Category (Corelogic)	Lifestyle - Bare	Lifestyle - Improved	Lifestyle - Vacant	Sub-Total Lifestyle	Share of Total by Land Use
Residential, Single Unit, Bach	5	5,022	6	5,033	83%
Lifestyle, Multi Use Lifestyle	12	38	939	989	16%
Horticulture & Farming	3	9	10	22	0%
Forestry	-	1	-	1	0%
Transport	-	-	1	1	0%
Other	1	1	2	4	0%
Total Count	21	5,071	958	6,050	100%
Share of Total by Type	0%	84%	16%	100%	

Source: Core Logic 2019, MPI

Figure 7.10 – Growth of Lifestyle Properties in Selwyn 1993-2015

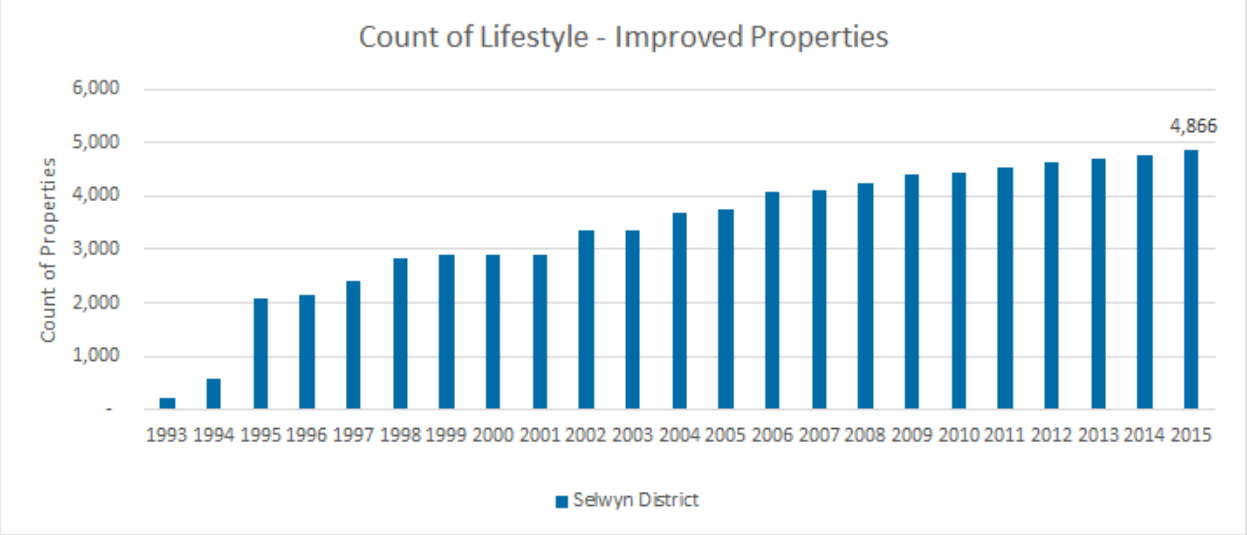


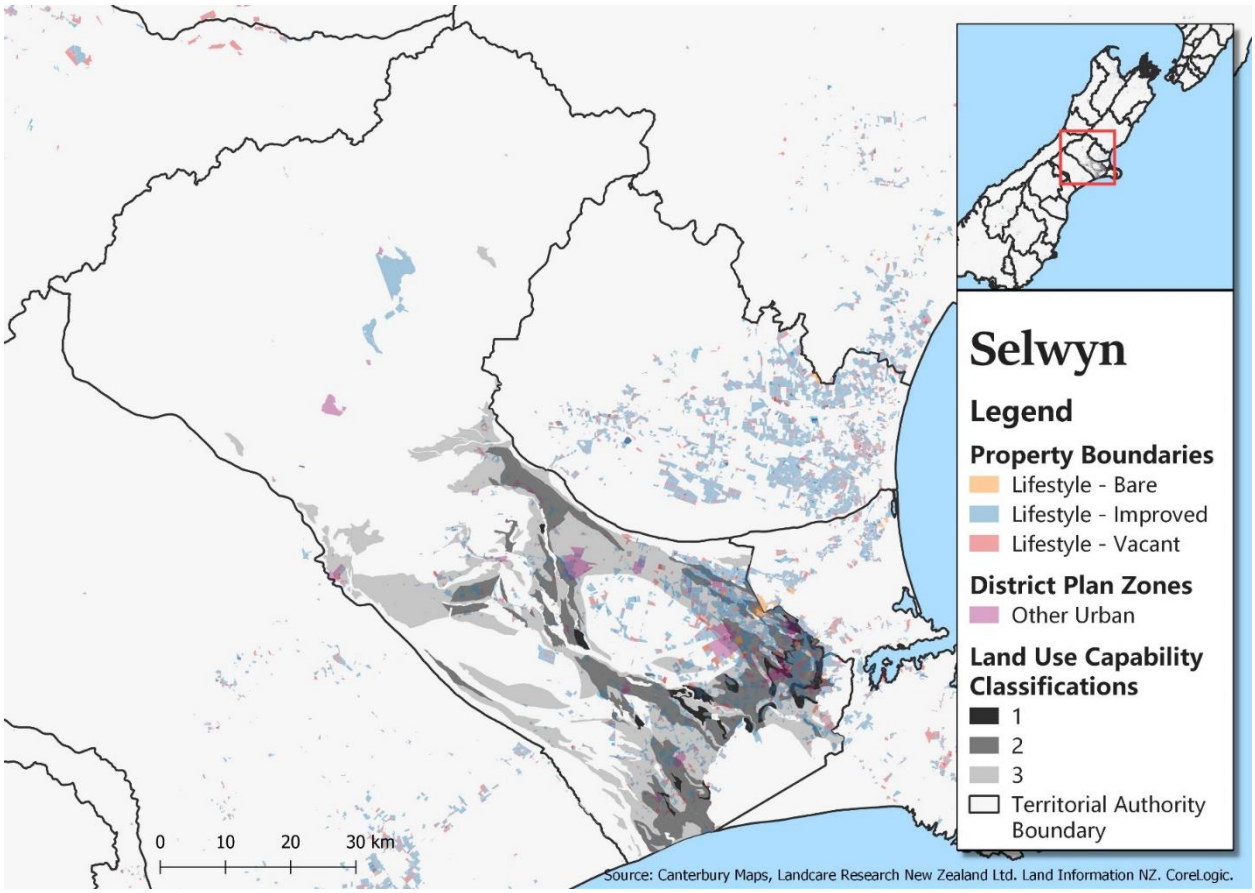
Figure 7.10 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for Selwyn[50]. It shows a sudden increase in 1995 and steady growth to 1999. There was little additional growth

[50] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

through to 2001 and another jump in 2002. Growth since then has been steady. By 2015, the count had reached 4,866. Our latest data shows a count of 5,071, so there has been an estimated increase of 205 lifestyle properties between 2015 and 2019, suggesting that subdivision rates have continued at a steady pace.

Figure 7.11 provides a map of current lifestyle properties according to CoreLogic. It shows that they have mainly concentrated close to the boundary with Christchurch City. This of course has been facilitated by the minimum lot size enabled by the Inner Plains Zone (discussed in Section 7.3 below).

Figure 7.11 - Selwyn District HPS Coverage and Rural Lifestyle Property Patterns (2019)



7.3 Planning Approach Relevant to HPL

Selwyn District has one of the fastest resident population growth rates in New Zealand. The operative district plan recognises the irreversible use of versatile soils as a resource management issue, but based on our reading of the plan provisions, very little is done to effectively manage effects on versatile soils. The Rural Volume of the Plan adopts a strategy of "*encouraging urban expansion to occur in or adjoining townships*". Urban expansion is a key focus of the NPS – HPL but is not the only focus.

Approach to Urban Expansion

The Selwyn District Council seeks to consolidate future residential growth in the existing townships of Lincoln and Rolleston, and to a lesser extent Prebbleton. The operative district plan states that "*This*

consolidation will provide housing for the increases in the population while creating a more compact urban form, in accordance with the guiding principles of the Greater Christchurch Urban Development Strategy (UDS) and the Regional Policy Statement."

The Greater Christchurch Urban Development Strategy is a long-term planning project aimed at managing Greater Christchurch's population growth. The Strategy is a partnership between Environment Canterbury, Selwyn and Waimakariri District Councils, Christchurch City Council and the New Zealand Transport Agency. Through a set of agreed actions and a framework about how the Strategy will be managed, it set out a settlement pattern for residential, commercial, business and rural residential growth to 2041.

The Strategy:

- Reinforced the Selwyn community's desire to maintain its uniqueness and individual character;
- Encouraged townships to become more self-sufficient, without attempting to duplicate the range of facilities that are in Christchurch City;
- Set a broad framework for growth within which Council could facilitate market driven township growth through mechanisms such as structure plans (and subsequent outline development plans as part of a change to the operative district plan);
- Reinforced the principles of integrated land use, transport and water systems;
- Reinforced the Council policy of Izone Southern Business Hub being the main industrial centre in the District, and encouraged vibrant town centres in Rolleston and Lincoln through a range of mechanisms;
- Set density targets to encourage a full range of section sizes in a township to accommodate all ages and the increase of single person households;
- Encouraged new growth to be designed in a manner that integrates and connects to the existing township;

Implementing the Strategy required changes to a number of policy and legislative documents, including the Regional Policy Statement and, as a consequence, the operative district plan. This approach reflects the Council's decision to take a more directive role in determining where, and in what fashion, urban growth is to occur (i.e. a change from a 'market-led' to a strategic approach). The outcome has been zone areas created to cater for urban growth, including deferred living zones for the longer term.

In this way, Selwyn district is in keeping with the need to take a strategic approach to urban growth. The operative district plan encompasses outline development plans for key urban areas. It is not clear what weight was given to the presence or otherwise of HPS or HPL in the zoning of urban growth areas.

Approach to Rural Residential Zoning

In the rural environment, the operative district plan identifies demand for rural residential sections, particularly within the commuter belt of the District with Christchurch City. "*There has also been an increase in the use of 4ha rural allotments provided for under the Rural (Inner Plains) Zone for rural residential lifestyle living rather than rural purposes. It is recognised that a managed amount of rural land should be*

rezoned to rural residential densities to provide diverse living environments and promote housing choice, but that this should only be provided through a comprehensive plan change process where all potential adverse effects can be assessed, along with the location's consistency with Chapter 6 of the Canterbury Regional Policy Statement and the adopted Selwyn District Council Rural Residential Strategy 2014."

Any Living 3 Zone (being a rural residential zone) is located "*beyond the 'urban limits' but where it can be economically provided with reticulated sewer and water supply, and appropriate stormwater treatment and disposal. The Living 3 Zone will have regard to providing a visual transition area between the 'urban area' and the rural area which exists beyond townships by incorporating certain design elements of rural character, which are common in rural settings so the land is visually set apart from the neighbouring urban area*".

The Rural Residential Strategy includes three criteria for identifying rural residential zones adjacent to towns/settlements that have regard for primary production (or capacity) and soils as follows:

- Preserve the rural character and productive capacity of large rural land holdings and the Rural (Outer Plains) zoned land to the south of Rolleston.
- Support locations that maintain appropriate separation from the Intensive Farming Activities legitimately established on the periphery of Rolleston.
- Consider the extent to which any locations may reduce the productive capacity of Class I and II versatile soils on the periphery of Rolleston.

It is therefore relevant that under the NPS - HPL, inclusion of LUC class 3 soils would potentially impact on where future rural residential zones could be located in the Greater Christchurch area, compared with the status quo. There appear to be two main policies that manage rural residential development although neither seem to reflect the criteria and language of the Rural Residential Strategy:

- *Policy B4.1.3 - Within the Greater Christchurch area of the District covered by Chapter 6 to the Canterbury Regional Policy Statement, to provide for rural residential development through the Living 3 zone and only where located in accordance with the areas shown in the adopted Selwyn District Council Rural Residential Strategy 2014. Elsewhere in the District to allow, where appropriate, the development of low density living environments in locations in and around the edge of townships where they achieve the following:*
    - *A compact township shape;*
    - *Consistent with preferred growth options for townships;*
    - *Maintains the distinction between rural areas and townships;*
    - *Maintains a separation between townships and Christchurch City boundary;*
    - *Avoid the coalescence of townships with each other;*
    - *Reduce the exposure to reverse sensitivity effects;*
    - *Maintain the sustainability of the land, soil and water resource;*

- *Efficient and cost-effective operation and provision of infrastructure.*

- *Policy B4.2.13. For brevity this policy is not copied, but there is little or no focus on highly productive land or the soil resource in this policy.*

Approach to rural development and Subdivision

The operative district plan recognises that there is a steady demand for more houses in the rural area. "*Most of this demand will be for allotments in that part of the rural area within 30 km radius of Christchurch City. This area is within the area shown as the Inner Plains, on the Planning Maps*." The stated effects of residential development in the rural area cover a range of issues, including rural character effects, but do not identify loss of productive capacity from rural fragmentation. The effects of rural dwelling demand are managed through setting residential densities and subdivision minimum lot sizes. Relevant objectives are:

- *Objective B4.1.1 - The provision of a variety of residential section sizes in the rural area, while maintaining a low overall residential density.*

- *Objective B4.1.2 - Residential density is low enough to maintain the character of the rural area and to avoid adverse effects on natural and physical resources or reverse sensitivity effects.*

The explanation of these objectives suggests a key focus was managing effects "*on the rural character and landscape values of each area*". Managing reverse sensitivity effects is also raised. The following policy gives effect to these objectives. Again, the explanation is very much focussed on rural character but not rural production.

- *Policy B4.1.1 - Avoid residential density greater than those shown below where these are outside the areas identified in Policies B4.1.3 to B4.1.6.*

- *Area shown on Planning Map & Dwellings per Hectare*

- *Port Hills – Lower Slopes: 1:40*

- *Port Hills – Upper Slopes: 1:100*

- *Inner Plains: 1:4*

- *Outer Plains: 1:20*

- *Malvern Hills: 1:20*

- *High Country: 1:120*

This is complemented by:

- *Policy B4.1.9 - Ensure any allotment created is of sufficient size and shape for its intended use, including the avoidance of reverse sensitivity effects on existing lawful uses and has provision for a complying access to an adjacent road.*

The subdivision rules for minimum lot size match the residential density provisions. Subdivision is a controlled activity.

We note that Selwyn District Council is undergoing a district plan review. Rural density (minimum lot sizes) has been expressly considered. The adopted issues and options paper provides a good overview of the need to update the operative district plan and suggested minimum lot sizes that might better provide for rural character, primary production, the RPS and the purpose of the Act generally. At this stage, M.E is not aware what the Council's preferred option is for the proposed district plan.

As it stands, the operative district plan provides little protection for highly productive land, particularly in the Inner Plains zone. It is expected that the NPS - HPL would require a significant shift in the way that rural subdivision in particular is managed, although the proposed district plan may address some aspects of the NPS - HPL in part (but is still to be determined).

7.4 Modelling of Rural Lifestyle Development Outcomes

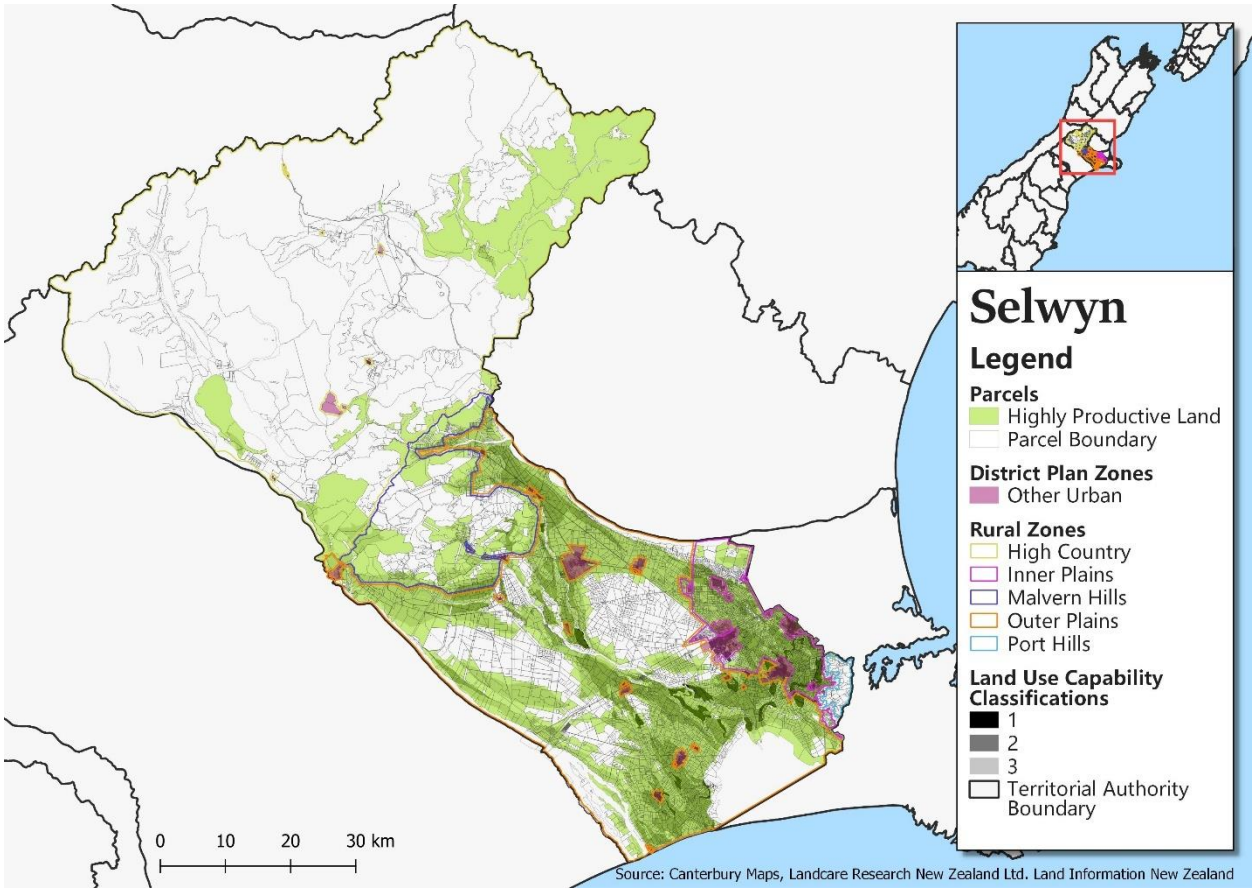
This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in Selwyn's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

7.4.1 Definition of Highly Productive Land under the NPS – HPL

Figure 7.12 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or greater coverage of LUC 1-3 or 4ha or greater of LUC class 1-3 land). The HPL is contained in the inner Plains, Outer Plains, Malvern Hills, Port Hills and High Country zones of Selwyn District in accordance with the geography of the HPS resource.

In total, this HPL area captures 10,966 parcels of rural zoned land, predominantly on the Plains areas. Of these, 1,230 parcels are able to be subdivided under current provisions (discussed below). These parcels total 105,482ha and include 62,272ha of LUC class 1-3 land. This area represents 46% the total HPS area of 134,991ha in the district and 54% of the HPS in the rural zones.

Figure 7.12 – Map of Indicative HPL (Default Definition) Selwyn District



7.4.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

M.E has examined the land parcels in Selwyn's rural area that could be further subdivided under the operative minimum lot size provisions. The focus is just on subdivision potential in the productive rural zones. We have not examined additional dwelling capacity in the Rural Residential Zone. Figure 7.13 summarises the operative minimum lot sizes we have adopted for this analysis.

Figure 7.13 – Simple Operative Minimum Lot Size Assumptions by Rural Zone – Selwyn

District	Relevant Rural Zones	Min Lot Size (Subdivision)	Notes
Selwyn	Port Hills Lower Slopes	40	Subdivision is controlled in the Inner Plains and Restricted Discretionary in all other zones. These are high level minimum lot rules. They do not capture other forms of subdivision associated with clusters, existing dwellings, conservation lots, balance lots etc.
	Port Hills Upper Slopes	100	
	Inner Plains	4	
	Outer Plains	20	
	Malvern Hills	20	
	High Country	120	

Figure 7.14 identifies the location of existing parcels that may be able to be subdivided to create one or more additional lot under the status quo (it does not reveal the yield of additional lots explicitly).

Figure 7.14 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – Selwyn

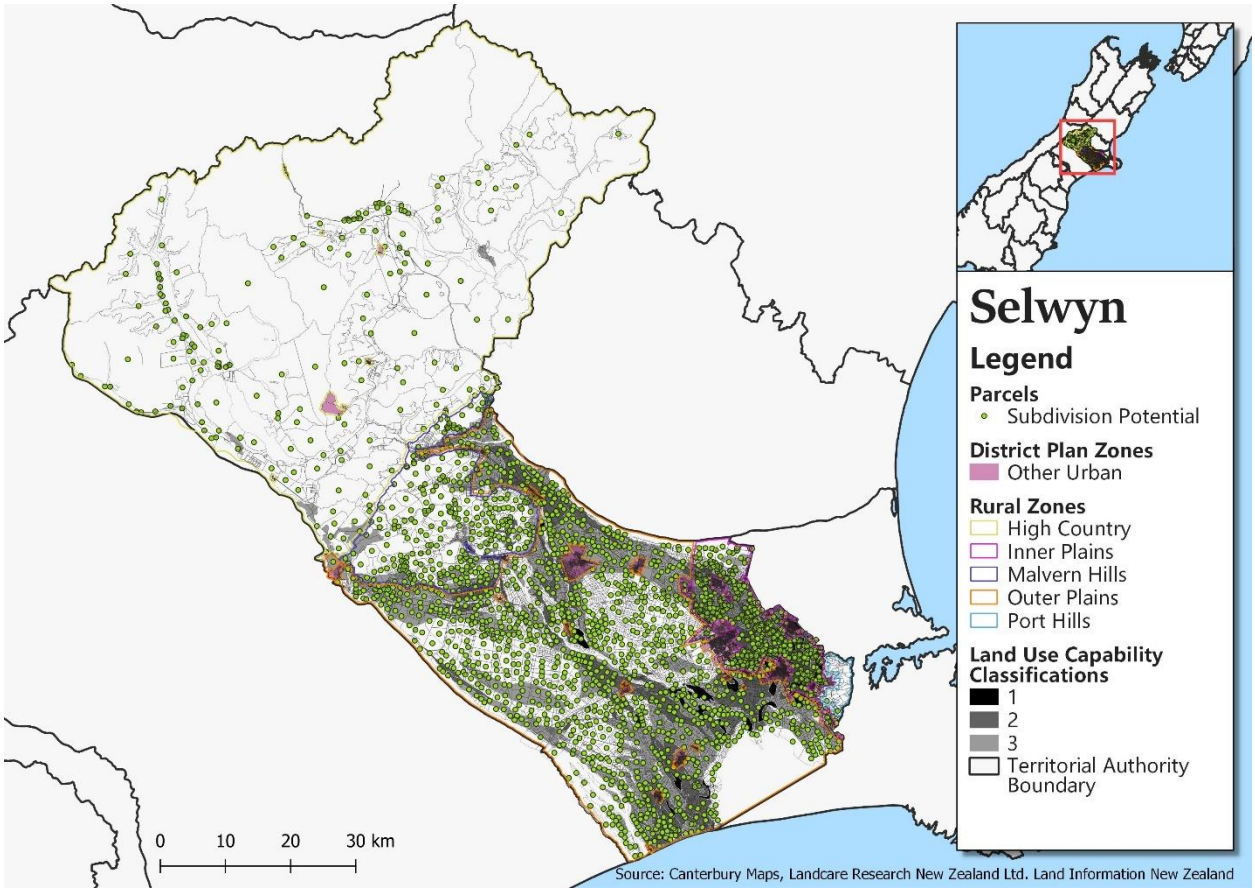
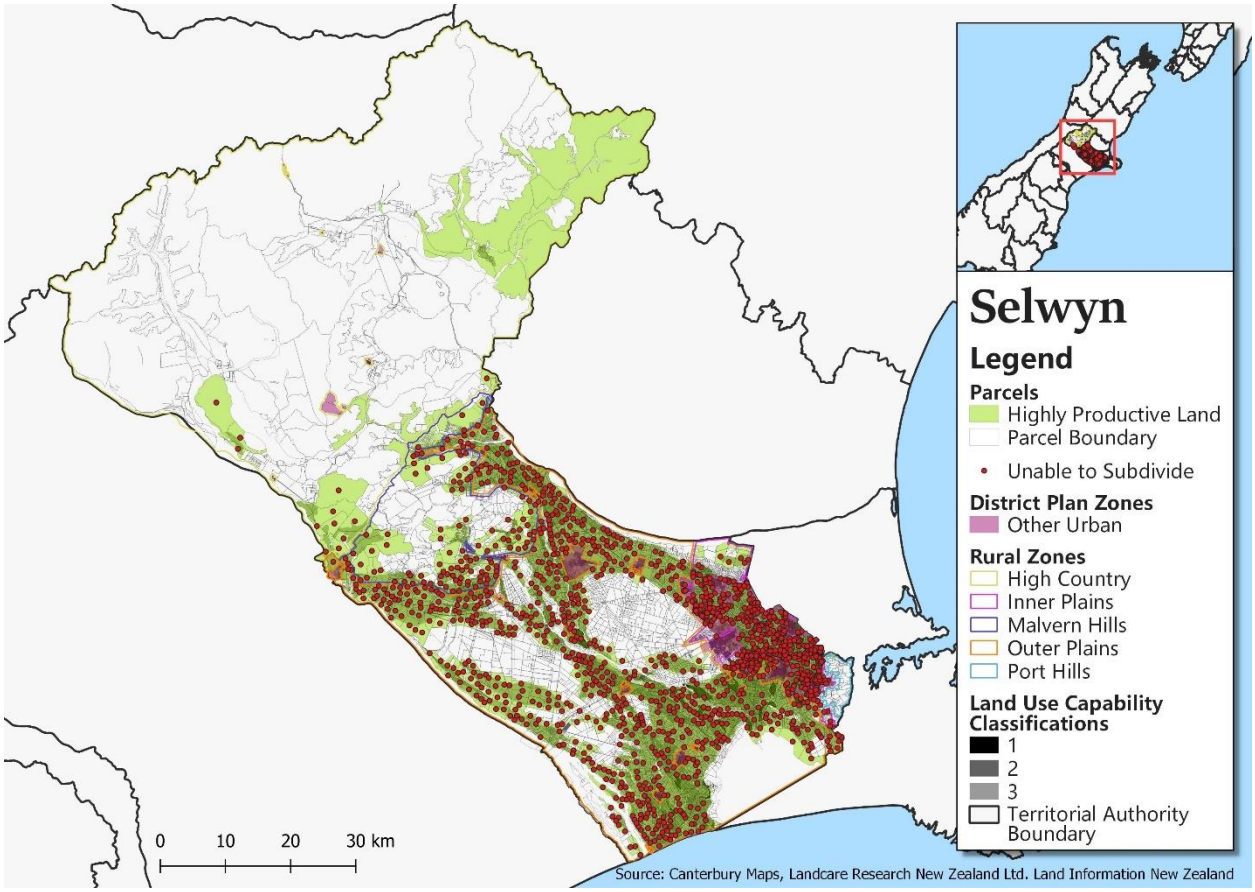


Figure 7.14 highlights that there is significant indicative potential for further land fragmentation (based purely on application of minimum lots sizes and no policy or physical constraints) in areas with HPS (LUC class 1-3). There are fewer areas where subdivision can occur that do not contain HPS.

While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. Figure 7.15 identifies those parcels within the defined HPL area that would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 7.12 and Figure 7.14) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

Figure 7.15 – HPL Parcels Unable to Subdivide Under the NPS - HPL High Scenario – Selwyn



7.4.3 Projected Growth

Selwyn's medium growth outlook is for a 26% increase in household numbers by 2028, from the current 20,100 to 25,400, with further substantial increases to 2038 (30,600 households) and 2048 (36,900 households). These are shown in Figure 7.16. Over the next three decades, the district as a whole can expect between 8,100 (low growth outlook) to 26,200 (high growth outlook) additional households.

Figure 7.16 – Selwyn Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	21,400	29,100	37,200	47,600	7,700	15,800	26,200
Medium	20,100	25,400	30,600	36,900	5,300	10,500	16,800
Low	18,900	21,700	24,200	27,000	2,800	5,300	8,100
Growth Rate (%pa)					***Lifestyle Parcels***		
High		3.1%	2.8%	2.7%	1,160	2,210	3,670
Medium		2.4%	2.1%	2.0%	770	1,380	2,200
Low		1.4%	1.2%	1.2%	350	540	820

Source: SNZ 2018; ME 2019

7.4.4 Lifestyle Demand

In Selwyn, there are currently some 6,781 parcels within (6,050) lifestyle properties based on data from CoreLogic, including 5,716 parcels within (5,071) lifestyle properties listed as having improvements (generally a dwelling) and 1,068 parcels within lifestyle properties listed as having no improvements (vacant or bare). Of these, some 5,017 parcels are in the Rural zones, where they occupy an estimated 31,191ha of land (see map in Figure 7.11). Mean parcel size is 6.22ha. A substantial share of the land in these lifestyle blocks is HPS (19,434ha of the total 31,191ha). This represents 14.0% of the total HPL resource in Selwyn District (as defined here), so is low-moderate in that context.

Figure 7.16 further shows the projected increase in demand for lifestyle parcels. This has been estimated in part from growth in the Selwyn District population, but primarily according to the rate of growth expected in the Christchurch City population. This is because Selwyn District is adjacent the large Christchurch City, it has limited urban development of its own (mainly Rolleston town), and a substantial share of the lifestyle properties relate to the Christchurch urban economy. Into the future, Selwyn is expected to attract a substantial share of demand for lifestyle properties from the population of the whole Greater Christchurch area. Accordingly, it is not appropriate in our view to generate demand on a simple *pro rata* basis for Selwyn as it has been done for some other districts.

The underlying household projections indicate an additional 770 lifestyle parcels would be demanded by 2028 in the medium growth future, with 1,380 by 2038, and 2,200 by 2048 (Low 820, High 3,670).

7.4.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based around the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation. The base case outlook is the medium growth projection, with 770 more by 2028, 1,380 by 2038 and 2,200 by 2048 (Figure 7.16).

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle parcels is driven by existing rules for subdivision (minimum lot sizes) in the Rural zones. Since the yield of potential subdivisions (around 12,200 under current provisions) is substantially greater than the projected demand over the decades, the new parcels have been estimated according to the number of potential parcels, the demand in each period, and the current geography of the lifestyle blocks.

The core output for each scenario from this process is an estimated number of lifestyle properties (newly subdivided parcels) in each rural location (meshblock) within Selwyn District for 2028 and 2048.

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

7.4.6 Lifestyle Subdivision

Land Fragmentation

Figure 7.17 summarises the subdivision and land use outcomes to accommodate Selwyn's projected lifestyle property demand to 2028, for the without NPS - HPL and with NPS - HPL futures. The total area of rural land taken up would be more or less the same in the status quo and Low-Medium future, with the

difference being the extent of the HPL resource occupied, and the location of the new lifestyle properties, but would be much larger under the High scenario due to pushing a portion of demand towards larger parcels.

Key medium-term outcomes for land use are (2028):

a. Demand for lifestyle parcels would see some 770 additional parcels by 2028, taking up between 5,580 and 10,540ha of Rural land.

b. Under the Status Quo future, the 770 additional lifestyle parcels would be distributed with 424 (55%) on HPS land, and the balance (346) on land without significant HPS resource. The additional parcels would take up a total area of 5,580ha (at an average of 7ha per parcel), including 2,350ha of HPS resource. It is important to note that the modelling assumes there is no reduction in minimum subdivision size over the period, which may arise for example from concern about the substantial areas being taken up for lifestyle properties and desire to reduce that land uptake.

c. Under the Low-Medium Regulatory future, the 770 additional parcels would be distributed across both HPS resource and on land without significant HPS resource. Because the constraints on subdividing the HPL resource would not be completely effective (70% deflected), the scenario shows around 45% of the new lots indicatively occurring on the HPS resource[51], with 344 lots taking up some 1,860ha of HPS land.

d. Under the High Regulatory future, the outcome would be different, as the more rigorous application of NPS – HPL based provisions would see only 8 new lifestyle properties on the HPS resource (although outside the indicative HPL resource as not all properties meet the NPS - HPL thresholds as to minimum size and HPS share). The additional 770 parcels would take up around 10,540ha.

Figure 7.17 – Selwyn Lifestyle Subdivision and Land Outcomes to 2028 (Medium Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory[1]	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	35	180	29	130	-	-
2	187	850	143	690	-	-
3	202	1,320	172	1,040	8	40
4	222	2,020	270	2,250	506	7,390
5	-	-	-	-	-	-
6	116	1,020	146	1,120	232	2,550
7	9	190	9	180	23	530
8	-	-	-	-	1	30
TOTAL	770	5,580	770	5,410	770	10,540
HPL Total	**424**	**2,350**	**344**	**1,860**	**8**	**40**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

[51] While the scenario allows just 30% of demand to occur on HPL, the resulting 45% relates to parcels containing HPS. Not all of these parcels meet the threshold for HPL.

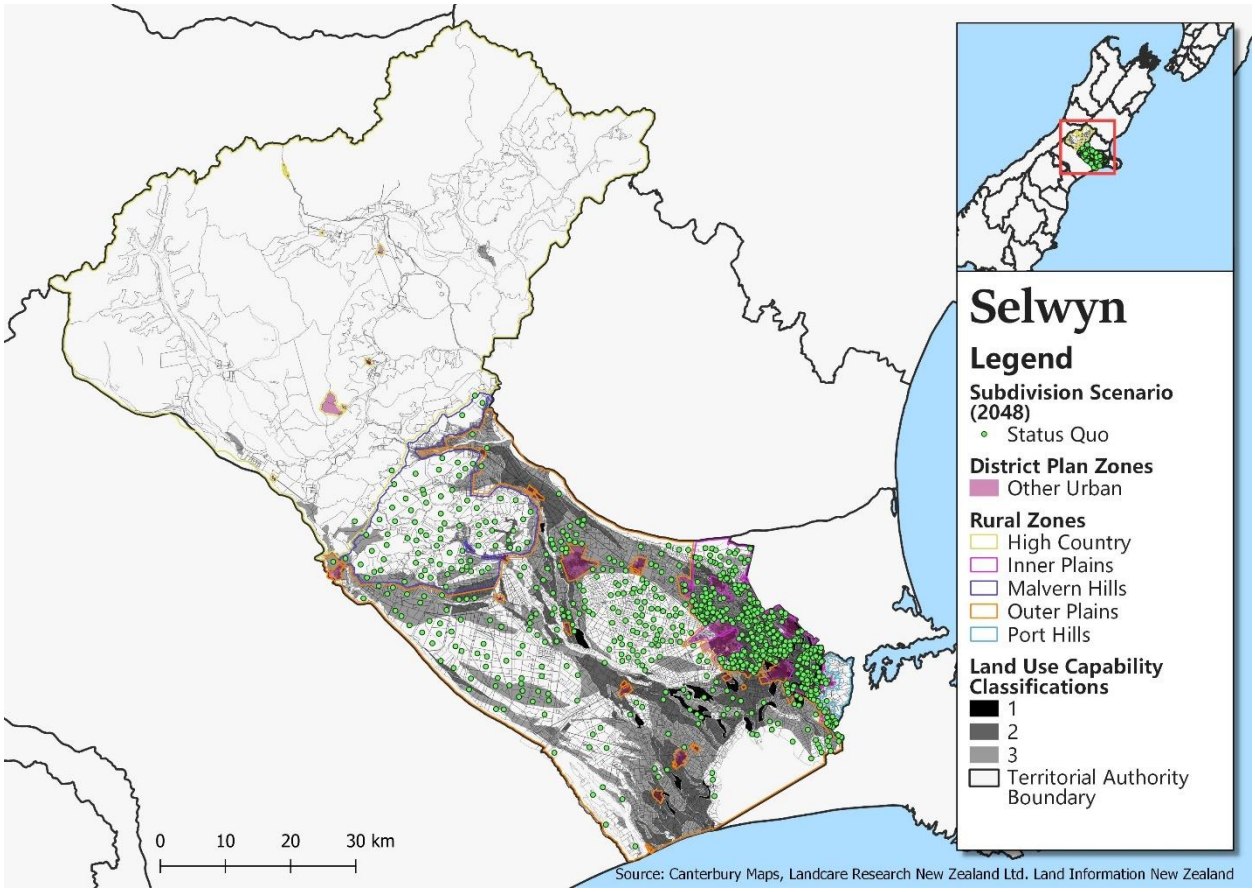
e. The effect of applying the NPS - HPL provisions would not constrain medium-term rural lifestyle demand growth but would reduce the loss of HPS land. Under the two regulatory futures, there would be 80-416 fewer lifestyle parcels on HPS land than would otherwise be the case, and 490-2308ha of HPS resource retained for primary production by diverting rural subdivision elsewhere.

In the longer term (2048), similar effects are expected:

a. Demand for lifestyle parcels would see approximately 2,200 additional parcels by 2048, taking up between 16,240 and 39,820 ha of rural land (Figure 7.20).

b. Under the Status Quo future, the 2,200 additional parcels would be distributed with 1,260 (57%) on HPS parcels, and the balance (940) on land without significant HPS resource. The additional parcels would take up a total area of 16,240ha, including 7,640ha of HPS resource (Figure 7.18 and Figure 7.20).

Figure 7.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



c. Under the Low-Medium Regulatory future, around two-fifths of the additional parcels would be distributed across the HPS resource, with most on land without significant HPS resource. The 951 lots on the HPS land would take up some 7,730ha of HPS land (Figure 7.20).

d. Under the High Regulatory future, the outcome would be different, with just 10 lots established on HPS (but not on the indicative HPL), and 2,190 additional parcels distributed on land without significant HPS resource. The additional parcels would in total take up an area of 39,820ha (Figure 7.19 and Figure 7.20).

e. The effect of applying the NPS - HPL provisions would reduce the loss of HPS land over the period to 2048 without constraining demand for rural lifestyle properties. The High regulatory NPS - HPL future would see 1,250 fewer lifestyle parcels on HPS land than would otherwise be the case in the Status Quo, and 7,560ha of HPS resource retained for primary production. The Low-Medium regulatory future would see 309 fewer parcels created on the HPS resource, but 90 additional ha of HPS land taken up (due to a different mix of land parcels supplied).

Figure 7.19 –Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory

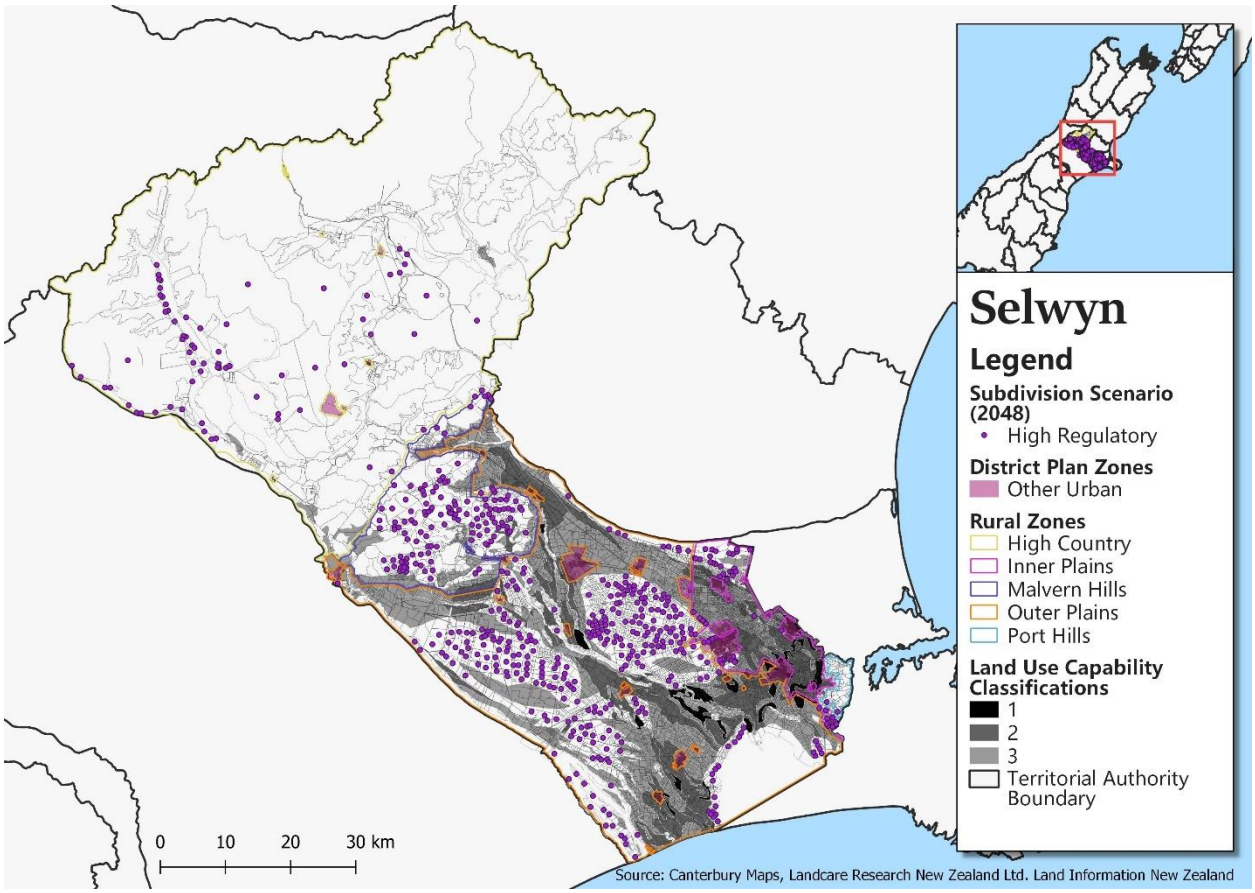


Figure 7.20 – Selwyn Lifestyle Subdivision and Land Outcomes to 2048 (Medium Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory[1]	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	106	550	76	510	-	-
2	542	2,710	383	2,730	1	10
3	616	4,380	492	4,490	9	70
4	612	5,460	820	10,110	1,363	23,500
5	-	-	-	-	-	20
6	299	2,720	397	4,090	675	11,430
7	21	410	34	720	135	3,070
8	-	10	1	40	16	1,720
TOTAL	2,200	16,240	2,200	22,690	2,200	39,820
HPL Total	**1,260**	**7,640**	**951**	**7,730**	**10**	**80**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

Primary Production Gross Output

Demand for lifestyle parcels has direct effects on primary production, as many lifestyle properties do not remain in full primary production, especially when a dwelling is added. Key outcomes for primary production gross output are as follows (Figure 7.21).

a. Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $8.7m annually in 2028, $18.4m in 2038 and $26.7m annually in 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $405m (undiscounted) including $319m on HPS land, and $86m on other land.

c. In PV terms, the reduced output from HPS land would be $78m and on all land it would be $100m[52].

d. In the Low-Medium NPS - HPL scenario, a smaller share of the subdivision would occur on the HPS land. The total opportunity cost (foregone primary production) would be $381m (undiscounted) and $89m (discounted) over 30 years to 2048.

e. The opportunity cost on the HPS land would be $18m less than in the Status Quo future, however the foregone production on the other land would be some $7m more. In net terms, the foregone production would be $11m less in gross output terms in the Low-Medium future. This includes an estimated $8.2m of labour and resource costs (inputs to production).

f. In the High NPS - HPL scenario, with virtually no subdivision occurring on the HPL, the total opportunity cost (foregone primary production) would be $371m (undiscounted) and $88m (discounted) to 2048.

g. The opportunity cost on the HPS land would be $77m less than in the Status Quo future, however the foregone production on the other land would be some $65m more. In net terms, the foregone

[52] Over 30 years, discounted at 8% pa.

production would be $12m less in gross output terms in the High NPS - HPL scenario. This includes an estimated $9.0m of labour and resource costs (inputs to production).

h. This represents a positive economic effect in terms of foregone output from protecting the HPS resource. Although the total land area taken up is larger under the High NPS - HPL scenario, a much smaller share occurs on HPS land. The difference in potential productive output from the land means that the avoided loss of productive output on the HPS area outweighs the lower potential output that could otherwise occur across the larger non-HPS land area.

Figure 7.21 – Selwyn Long-Term Primary Production Outcomes to 2048 (Medium Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
					($m)				
2028	$ 6.7	$ 2.1	$ 8.7	$ 4.9	$ 2.4	$ 7.3	$ 0.1	$ 6.9	$ 7.1
2038	$ 14.7	$ 3.7	$ 18.4	$ 10.7	$ 4.9	$ 15.6	$ 0.2	$ 16.6	$ 16.8
2048	$ 21.2	$ 5.6	$ 26.7	$ 20.6	$ 9.9	$ 30.5	$ 0.2	$ 26.4	$ 26.6
2018-48	$ 319	$ 86	$ 405	$ 259	$ 122	$ 381	$ 4	$ 367	$ 371
Difference v SQ				-$ 60	$ 36	-$ 24	-$ 315	$ 281	-$ 34
PV (2018-48)	$ 78	$ 22	$ 100	$ 60	$ 28	$ 89	$ 1	$ 87	$ 88
Difference v SQ				-$ 18	$ 7	-$ 11	-$ 77	$ 65	-$ 12

Source: ME Lifestyle Parcel Model 2019

8 Horowhenua District Analysis

This section contains the spatial analysis completed for Horowhenua District. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative Horowhenua District Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

Horowhenua District covers the area south of Palmerston North and West of the Tararua's. To the west it borders the Tasman Sea and its main centre is the town of Levin. It has smaller populations in Foxton, Foxton Beach and other small beach and Rural Settlements (Shannon, Waitarere Beach and Waikawa Beach). The District is mostly flat land, coastal plains dropping from the mountains to the east to the sea in the west.

Palmerston North provides the area with higher order goods and services and employs workers from Horowhenua in higher order jobs. Central Wellington City is only an hour and a half drive from Levin, so offers Metropolitan services to Horowhenua households. Horowhenua is mostly rural, with 95% of total land area classified as Rural Other (non-urban) by StatisticsNZ.

8.1 HPS Resource

Horowhenua has a total of 43,765ha of land classified as HPS. There are 4,984ha of LUC 1 class soils identified in the district according to this data source. There is just under 19,840ha of LUC class 2 land and just over 18,940ha of LUC class 3 land (Figure 8.1).

Figure 8.1: Summary of Land Use Capability in Horowhenua District (ha)

	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total District
Area of LUC Class (Ha)	4,984	19,838	18,943	7,783	-	19,724	16,660	15,424	2,256	796	106,409
Share of TA Area	5%	19%	18%	7%	0%	19%	16%	14%	2%	1%	100%
Sub-Total LUC 1-3 (Ha)			43,765								
Sub-Total LUC 1-3 (%)			41%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

Figure 8.2 shows the location of the HPS resource relative to the urban land use zones (shown in pink). The most significant concentration of HPS is a solid band north to south as the base of the foothills and on the central plains, with patchy areas of LUC class 3 approaching the coast. There are pockets of LUC class 1

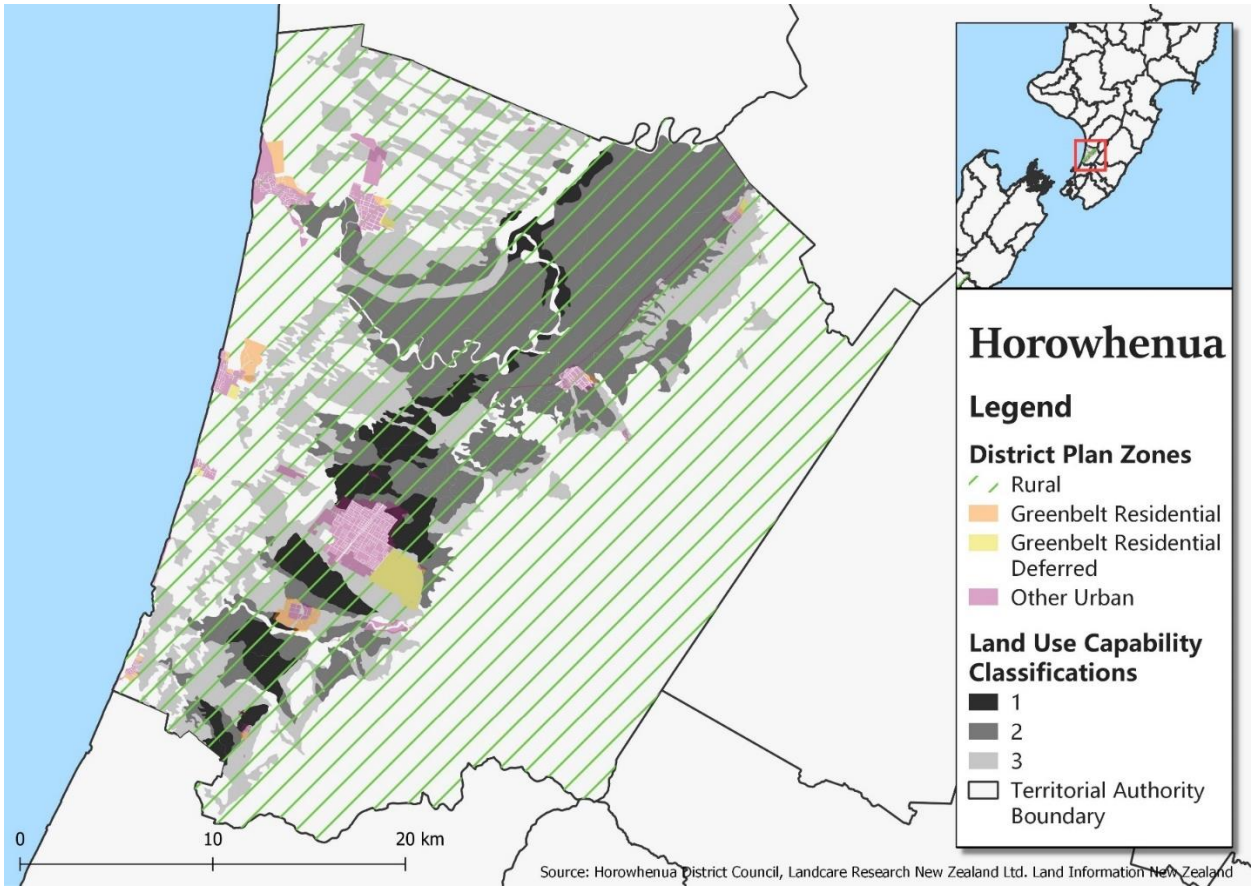
soils both north and south of Levin and the biggest concentration of LUC class 2 soils in the north around the Manawatu River.

When the HPS resource is intersected with StatisticsNZ meshblock (2013) and urban area (2018) boundaries (there are 405 meshblocks that make up Horowhenua), more than half of HPS land is concentrated into meshblocks with more than 75% of area classified as HPS, and 23% in meshblocks with between 25% and 50% area classified as HPS. A total of 92 meshblocks have very high (>75%) levels of HPS (23%), 255 have low levels (<25%) of HPS (63%) and the balance between 25% and 75% (14%).

In total 23% of meshblocks are classified as having 75% or more of their land HPS. The majority of these meshblocks are in the Rural Other (non-urban) areas as defined by StatisticsNZ (58/92 = 63%), but these 58 meshblocks account for some 23,110ha of HPS or almost 50% of the total resource. Almost 43% of the rest of the HPS resource is located rurally in meshblocks with lower concentrations (towards the coast). Only 1,333ha or 3% is in the Medium Urban area (Levin).

This geographic concentration of HPS land in the rural areas is important for land use and other potential policies for the NPS - HPL, because it allows the policy settings to be quite focussed geographically.

Figure 8.2: Horowhenua District HPS Coverage and Rural Environment District Plan Zones



8.2 Baseline Analysis

8.2.1 Population and Households

Levin is the largest centre with 53% of Horowhenua's total 32,180 current population. Apart from Levin (17,090), approximately 7,090 persons (22%) live in the Rural Other area, with the balance residing in the Small Urban areas (5,880 or 18%), and Rural Settlements (2,120 or 7%). Overall, the rural land community is about one-third of the total.

There is a reasonable overlap between the HPS resource and the population patterns. Across the district, approximately 20% of households are located in meshblock areas which show a substantial HPS resource (75% of more). A further 13% are in meshblocks with between 25% and 75% HPS land area. In total these households make up some 33% of the district total (Figure 8.3).

8.2.2 Household Growth

Horowhenua is expecting very little household growth in the medium term, with nil change or slight decrease to 2038 (StatisticsNZ medium growth projections). The high growth future would see up to 1,200 more households over the next 20 years, though at a rate of only 60 persons per year.

Applying a medium-high projection to 2038, around one-third of the growth is expected in Levin, with most growth in the Rural other areas – albeit very slow. This would mean very little change in the distribution of population relative to the HPS resource, although over half of the household growth would be expected in areas where the HPS resource makes up 75% or more of the land area. However, given the low levels of growth in both absolute and relative terms, it is unlikely that Horowhenua's HPS land is under threat from urban expansion and high levels of additional rural fragmentation caused by demand for rural living.

8.2.3 Horticulture

Horticulture is not heavily represented in Horowhenua District. The sector makes up around 4% of total employment in 2017, about half as much as pastoral farming (Figure 8.3). In total there are 93 horticultural businesses in the district, employing 456 people (MECs). They are mostly located in meshblocks with highly productive soils (63/93 = 68%). These businesses employ 77% of the horticultural workforce – so are on average slightly larger than the rest. The horticultural businesses are predominantly rural, with 79% locating in Rural Other areas – again mostly on HPS land (74% in meshblocks with 75% or more land classified as HPS) (Figure 8.3).

8.2.4 Pastoral farming

Horowhenua District has 433 pastoral farming businesses. Together they employ 861 workers making up 8% of the district's employment. The pastoral farms are less concentrated in meshblocks with high shares of HPS (33% of the workforce in meshblocks with 75% + of land area classified as HPS compared with 77% of horticultural workers). Approximately 40% of pastoral workers are in meshblocks with low levels of HPS. This is much higher than the horticultural sector where only 2% of workers operated out of low concentration meshblocks (Figure 8.3).

Figure 8.3: Horowhenua Urban-Rural HPS Summary with Socio-Economic Activity Relationship

Horowhenua District	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Medium urban area	**182**	**1,333**	**2,187**	**45%**	**17,090**	**7,270**	**53%**	**- 150**	**167%**	**11**	**62**	**14%**	**29**	**16**	**2%**	**6,109**	**69%**	**6,188**	**61%**
HPS > than 75% of MB Area	18	1,253	1,276	4%	1,600	680	5%	10	-11%	4	32	7%	10	2	0%	667	8%	700	7%
HPS between 50% and 75% of MB Area	7	41	65	2%	720	310	2%	-	0%	-	-	0%	-	-	0%	48	1%	48	0%
HPS between 25% and 50% of MB Area	9	38	116	2%	790	310	2%	- 20	22%	2	26	6%	5	3	0%	740	8%	769	8%
Other LUC Category (4-8/Water/Settlement)	148	1	730	37%	13,990	5,970	44%	- 150	167%	5	5	1%	14	11	1%	4,655	53%	4,671	46%
Small urban area	**72**	**488**	**1,387**	**18%**	**5,880**	**2,610**	**19%**	**- 150**	**167%**	**1**	**1**	**0%**	**30**	**296**	**34%**	**1,010**	**11%**	**1,306**	**13%**
HPS > than 75% of MB Area	2	77	93	0%	140	60	0%	-	0%	-	-	0%	1	11	1%	18	0%	29	0%
HPS between 50% and 75% of MB Area	2	375	570	0%	340	140	1%	-	0%	-	-	0%	12	4	0%	21	0%	25	0%
HPS between 25% and 50% of MB Area	4	27	69	1%	430	180	1%	- 10	11%	-	-	0%	2	6	1%	63	1%	69	1%
Other LUC Category (4-8/Water/Settlement)	64	10	655	16%	4,980	2,240	16%	- 140	156%	1	1	0%	15	274	32%	909	10%	1,183	12%
Rural settlement	**39**	**1,319**	**1,854**	**10%**	**2,120**	**900**	**7%**	**30**	**-33%**	**7**	**62**	**14%**	**21**	**21**	**2%**	**449**	**5%**	**533**	**5%**
HPS > than 75% of MB Area	14	889	889	3%	1,250	490	4%	30	-33%	5	36	8%	14	7	1%	311	4%	355	3%
HPS between 50% and 75% of MB Area	2	420	651	0%	120	50	0%	-	0%	2	26	6%	4	2	0%	56	1%	84	1%
HPS between 25% and 50% of MB Area	1	4	8	0%	-	-	0%	-	0%	-	-	0%	2	12	1%	2	0%	13	0%
Other LUC Category (4-8/Water/Settlement)	22	6	305	5%	760	370	3%	- 10	11%	-	-	0%	2	-	0%	81	1%	81	1%
Rural other	**112**	**40,626**	**100,971**	**28%**	**7,090**	**2,910**	**21%**	**180**	**-200%**	**73**	**331**	**73%**	**353**	**528**	**61%**	**1,286**	**15%**	**2,145**	**21%**
HPS > than 75% of MB Area	58	21,865	23,110	14%	3,630	1,480	11%	100	-111%	54	283	62%	188	265	31%	748	8%	1,295	13%
HPS between 50% and 75% of MB Area	15	5,566	8,548	4%	950	380	3%	30	-33%	8	15	3%	34	45	5%	176	2%	235	2%
HPS between 25% and 50% of MB Area	18	10,103	27,449	4%	1,260	530	4%	20	-22%	9	29	6%	96	158	18%	254	3%	442	4%
Other LUC Category (4-8/Water/Settlement)	21	3,091	41,863	5%	1,250	520	4%	20	-22%	2	4	1%	35	60	7%	109	1%	172	2%
TOTAL	**405**	**43,765**	**106,399**	**100%**	**32,180**	**13,690**	**100%**	**- 90**	**100%**	**93**	**456**	**100%**	**433**	**861**	**100%**	**8,855**	**100%**	**10,171**	**100%**
HPS > than 75% of MB Area	92	24,084	25,368	23%	6,620	2,710	20%	140	-156%	63	351	77%	212	285	33%	1,743	20%	2,379	23%
HPS between 50% and 75% of MB Area	26	6,401	9,834	6%	2,130	880	6%	30	-33%	10	41	9%	50	51	6%	300	3%	391	4%
HPS between 25% and 50% of MB Area	32	10,172	27,643	8%	2,480	1,020	7%	- 10	11%	11	55	12%	105	179	21%	1,059	12%	1,293	13%
Other LUC Category (4-8/Water/Settlement)	255	3,108	43,554	63%	20,980	9,100	66%	- 280	311%	9	10	2%	65	345	40%	5,753	65%	6,107	60%

Source: Statistics NZ, Landcare, M.E

8.2.5 Other economic activity

Other economic activity covers everything else within the economy. Over 8,850 workers are engaged in other activities in Horowhenua. The majority of this work occurs in Levin (69%), but with moderate shares in the Rural Other area (15%) and in the Small Urban areas (Foxton and Foxton Beach) (11%). In both the urban areas and the Rural Other areas, the Other economic activity is concentrated on the area with low concentrations of HPS. In total only 20% occurs in meshblocks with a very high concentration of HPS, while 65% occurs in the lowest concentration meshblocks (<25% HPS) (Figure 8.3).

8.2.6 Total economic activity

As discussed above, Horowhenua District employs 10,171 workers. In total 61% of these are in the Medium Urban area (Levin), with a substantial 21% in the Rural Other areas, 12% in the Small Urban areas and 5% in small Rural Settlements. Approximately 23% of the total workforce is engaged in meshblocks with very high levels of HPS, while 60% are in meshblocks with very low levels of HPS.

Because the HPS is strongly rurally located and the growth pressures in Horowhenua are both small and directed not to HPS areas, any changes in provisions to protect the HPS in Horowhenua for primary production are likely to be easier to implement relative to some council areas where a greater number of rural households may be concerned with opportunity costs to subdivide in the face of strong demand.

8.2.7 Maori Owned Land

Figure 8.4 – Horowhenua Summary of HPS by Maori Land and Other Tenure in Rural Zone (ha)

Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
GREENBELT RESIDENTIAL	209	381	16	606	35%	0.5%
Crown Land Reserved for Maori	-	-	-	-	0%	0.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	9	9	1	19	49%	0.0%
Other (Non-Maori Land Court) Land	200	372	15	587	34%	0.5%
GREENBELT RESIDENTIAL DEFERRED	554	61	12	627	88%	1.3%
Crown Land Reserved for Maori	-	-	-	-	0%	0.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	-	10	-	10	0%	0.0%
Other (Non-Maori Land Court) Land	554	51	12	618	90%	1.3%
RURAL	42,212	58,513	1,572	102,296	41%	98.2%
Crown Land Reserved for Maori	4	134	0	138	3%	0.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	2,251	3,066	312	5,630	40%	5.2%
Other (Non-Maori Land Court) Land	39,956	55,313	1,260	96,529	41%	93.0%
Total Rural Zones *	42,975	58,955	1,600	103,530	42%	100.0%
Crown Land Reserved for Maori	4	134	0	138	3%	0.0%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	2,261	3,085	313	5,658	40%	5.3%
Other (Non-Maori Land Court) Land	40,711	55,736	1,287	97,733	42%	94.7%

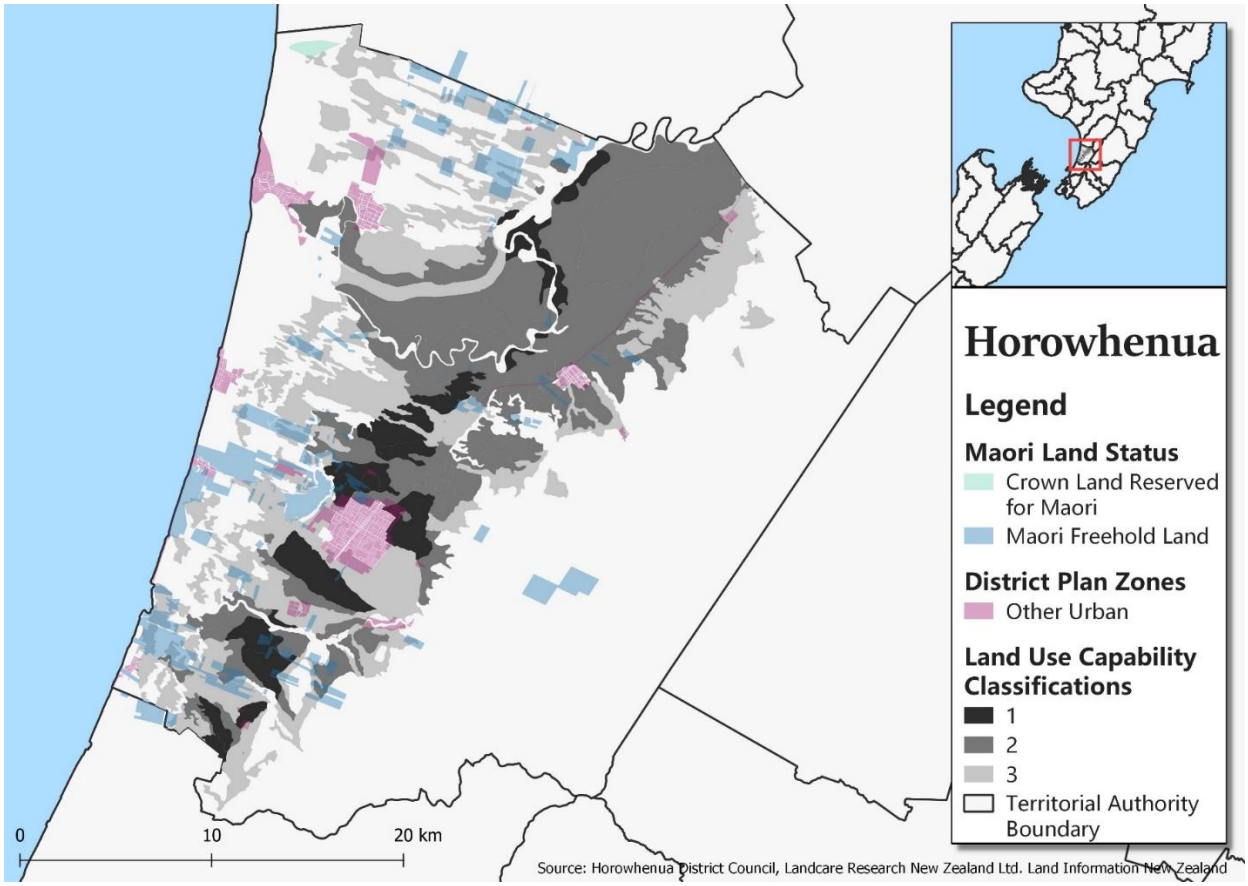
Source: Horowhenua Distict Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Figure 8.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in Horowhenua in combined rural zones. We have not shown any Maori owned land in urban zones. In total there is an estimated 138ha of Crown Land Reserved for Maori in the rural environment and 3% of this contains HPS. This is total in the Rural Zone. There is a further 5,658ha of Maori Freehold Land and 40% of this contains HPS. The significant majority of this is in the Rural Zone, with 19ha in the Greenbelt Residential Zone. Overall, 39% of Maori land contains HPS – this is a similar incidence compared to all other tenures (40%), however other tenures account for the majority of HPS land in quantum terms (95%).

While difficult to see at a district scale, Figure 8.5 shows the location of Maori Land relative to the HPS resource. Large blocks are near coast.

Figure 8.5: Horowhenua District HPS Coverage and Land Tenure



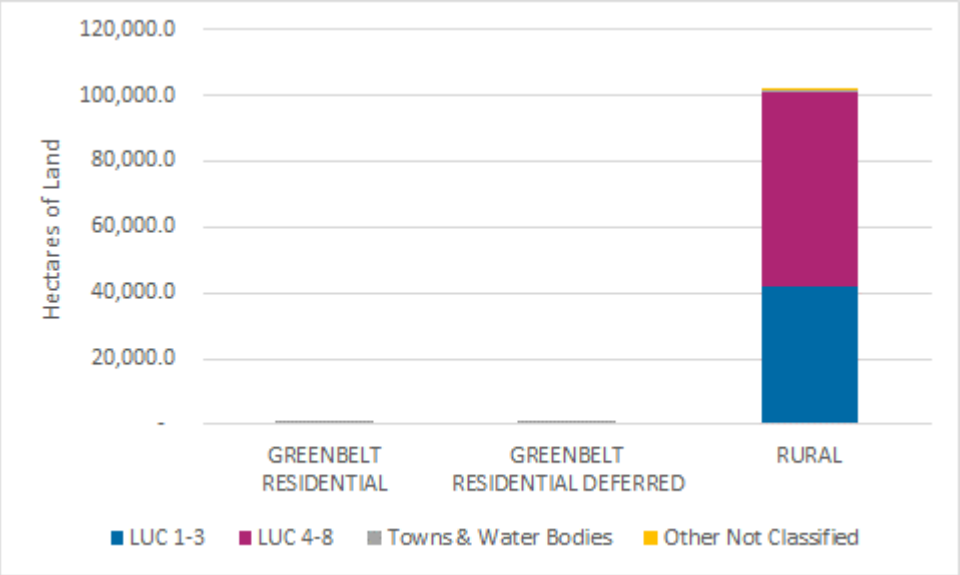
8.2.8 District Plan Zoning

The Horowhenua rural zones identified for this analysis include the Greenbelt Residential Zone which is approximately 606ha, the Greenbelt Residential Deferred Zone (approximately 627ha) and the Rural Zone (102,296ha) – being the productive rural zone (Figure 8.4 and summarised in Figure 8.6). Figure 8.2 provides a map of these rural zones relative to the HPS resource.

While the Greenbelt Residential zone is relatively small, 35% of this land is made up of HPS (209ha). The HPS in this zone makes up just 1% of what is in the rural area, so is a small loss once fully occupied by rural residential properties (if not already).

In the Deferred Greenbelt Residential Zone – 88% of this zone contains HPS (554ha). However, relative to the total resource, this is a potential future loss of less 1%.

Figure 8.6 – Land Capability by Rural Zone – Horowhenua District



The extensive Rural Zone contains 42,212ha of HPS – this makes up an average of 41% of the zone and accounts for 99% of the total HPS resource in the rural environment. This means that targeting, in the first instance, rural productive zones for the definition of HPL in the NPS - HPL, will be an appropriate approach, In the context of Horowhenua.

8.2.9 Land Cover

Figure 8.7 contains an analysis of the Land Cover Database data as it relates to the location of HPS. Based on the categories of land cover in that dataset, the top two land covers occupying HPS are as follows:

1. High Producing Exotic Grassland – this land cover includes 36,712ha of HPS. The HPS resource makes up 70% of all land with this land cover in Horowhenua, meaning that just under a third is located on other soils. The presence of HPS therefore plays a significant role in the location of this activity (all else being equal). However, this land cover is also significant as it makes up 85% of the total HPS resource in the combined rural area of the district.

2. Short Rotation Cropland - this land cover includes 3,583ha of HPS. The HPS resource makes up 97% of all land with this land cover in Horowhenua, meaning that almost none of this landcover is sustained on other soils. The presence of HPS play only a very significant role in the location of this activity (all else being equal). That is, highly productive short rotation cropland businesses require highly productive land. This land cover is minor significance as it makes up just 8% of the total HPS resource in the combined rural area of the district.

Other land covers account for only minor shares of the HPS resource.

Figure 8.7 – Horowhenua Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	36,712	70%	85.4%
Short-rotation Cropland	3,583	97%	8.3%
Exotic Forest	857	11%	2.0%
Herbaceous Freshwater Vegetation	388	65%	0.9%
Low Producing Grassland	260	7%	0.6%
Indigenous Forest	234	1%	0.5%
Orchard, Vineyard or Other Perennial Crop	143	89%	0.3%
Built-up Area (settlement)	137	42%	0.3%
Lake or Pond	131	22%	0.3%
River	122	14%	0.3%
Deciduous Hardwoods	96	46%	0.2%
Broadleaved Indigenous Hardwoods	76	1%	0.2%
Urban Parkland/Open Space	61	43%	0.1%
Flaxland	45	79%	0.1%
Manuka and/or Kanuka	37	6%	0.1%
Gorse and/or Broom	27	4%	0.1%
Forest - Harvested	27	3%	0.1%
Sand or Gravel	9	2%	0.0%
Mixed Exotic Shrubland	8	8%	0.0%
Surface Mine or Dump	7	20%	0.0%
Transport Infrastructure	5	42%	0.0%
Herbaceous Saline Vegetation	4	3%	0.0%
Estuarine Open Water	4	19%	0.0%
Gravel or Rock	1	1%	0.0%
Fernland	0	0%	0.0%
Landslide	-	0%	0.0%
Sub Alpine Shrubland	-	0%	0.0%
Tall Tussock Grassland	-	0%	0.0%
n.e.c	-	0%	0.0%
Total HPS Area Within Rural Zones * (ha)	42,975	42%	100.0%

Source: Horowhenua Distict Council (Zones), LCDB, LUCB - Landcare.

** As defined by M.E for the purpose of the study.*

8.2.10 Land Use (Rural Environment)

The following analysis relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types[53]. This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 8.4. The data also contains a breakdown of property types for rural properties (other than lifestyle). This helps form a profile of the rural property estate in Horowhenua.

In total, the CoreLogic data identifies 3,061 lifestyle or rural properties. Lifestyle defined properties account for 63% of the total (1,919 current estimate). An estimated 535 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 28% of total lifestyle properties and 17% of all lifestyle and rural properties.

[53] This definition is not limited to the definition provided in the NPS – HPL (i.e. may include a broad range of property sizes at the upper end).

Figure 8.8 – Count and Structure of Total Horowhenua Rural and Lifestyle Properties (2019)

Property Type Category	Total Count	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Bare	7	0%	0%
Lifestyle - Improved	1,377	45%	72%
Lifestyle - Vacant	535	17%	28%
Sub-Total Lifestyle	1,919	63%	100%
Arable - Not irrigated	62	2%	6%
Dairying - Milk	551	18%	52%
Horticulture - Berry fruit	3	0%	0%
Horticulture - Flowers	10	0%	1%
Horticulture - Glasshouse	15	0%	1%
Horticulture - Market garden	150	5%	14%
Horticulture - Mixed/Other	6	0%	1%
Horticulture - Pip fruit	6	0%	1%
Horticulture - Vineyards	2	0%	0%
Pastoral - Finishing	186	6%	17%
Pastoral - Grazing	75	2%	7%
Sub-Total Horticulture & Farming	1,066	35%	100%
Forestry - Exotic	52	2%	69%
Forestry - Indigenous	14	0%	19%
Forestry - Protected	9	0%	12%
Sub-Total Forestry	75	2%	100%
Mining - Rock/shingle/sand	1	0%	100%
Sub-Total Mining	1	0%	100%
Total Rural & Lifestyle Properties	3,061	100%	

Source: Core Logic 2019, MPI

In terms of Horticultural and Farming properties – there are an estimated 1,066 of these – and they make up 35% of all properties in the dataset. Dairy farms dominate this group (52% or 551). This is followed by Pastoral Finishing farms (17% or 186) and Horticulture Market Gardens (14% of 150). There are an estimated 75 forestry properties, with two thirds of these exotic forests. Last, there is 1 mining related properties according to the dataset.

8.2.11 Lifestyle Properties

The CoreLogic data also contains a description of dominant land use for each property type. There is generally a strong correlation between both type and land use, but Lifestyle blocks in particular have diverse uses, including productive use at a lifestyle property scale. Figure 8.9 provides a matrix of Horowhenua lifestyle properties from that dataset. It shows that the land use of 72% of lifestyle properties is primarily for a single residential dwelling. A further 28% have been coded as multi-use lifestyle blocks which we understand means both a place of residence and another use (mostly some form of primary production). In this case though, they are overwhelmingly vacant, so dwellings on these properties is less likely. This data provides some evidence of the loss of productive capacity when rural land is subdivided for lifestyle blocks.

Figure 8.9 – Count and Land Use of Total Horowhenua District Lifestyle Properties (2019)

Land Use Category (Corelogic)	Lifestyle - Bare	Lifestyle - Improved	Lifestyle - Vacant	Sub-Total Lifestyle	Share of Total by Land Use
Residential, Single Unit, Bach	-	1,372	3	1,375	72%
Lifestyle, Multi Use Lifestyle	6	5	532	543	28%
Horticulture & Farming	-	-	-	-	0%
Forestry	1	-	-	1	0%
Total Count	7	1,377	535	1,919	100%
Share of Total by Type	0%	72%	28%	100%	

Source: Core Logic 2019, MPI

Figure 8.10 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for Horowhenua[54]. It shows a sudden increase in 1994 and another jump in 1996. There was little growth through to 2004 and then steady growth to 2011. There has been only limited growth since (to 2015). By 2015, the count of improved lifestyle properties had reached 1,299. Our latest data shows a count of 1,377, so there has been an estimated increase of 78 lifestyle properties between 2015 and 2019.

Figure 8.10 – Growth of Lifestyle Properties in Horowhenua1993-2015

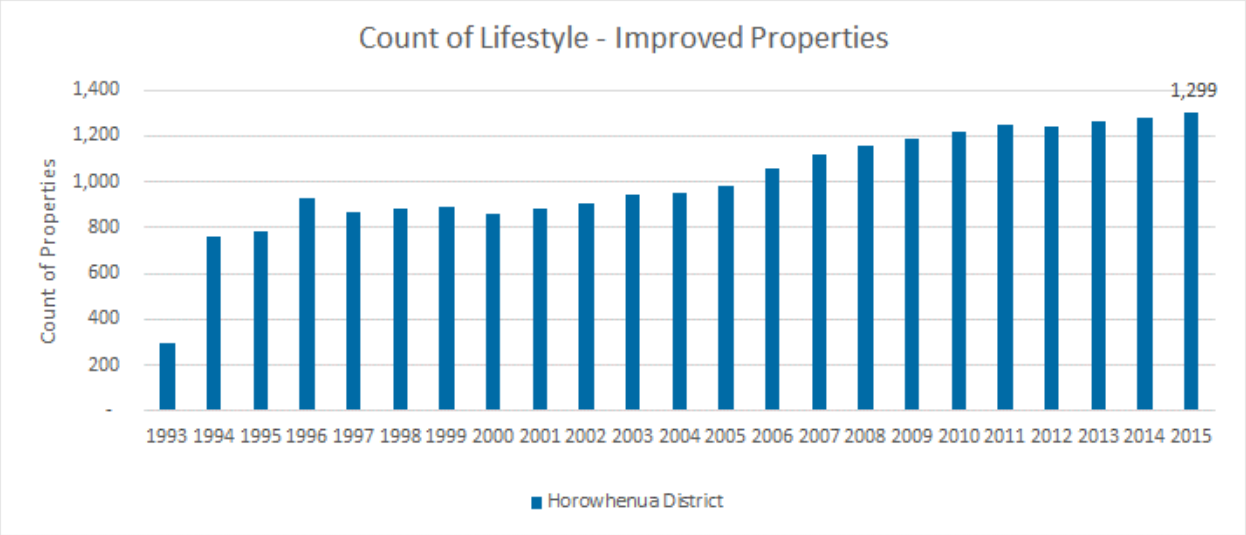
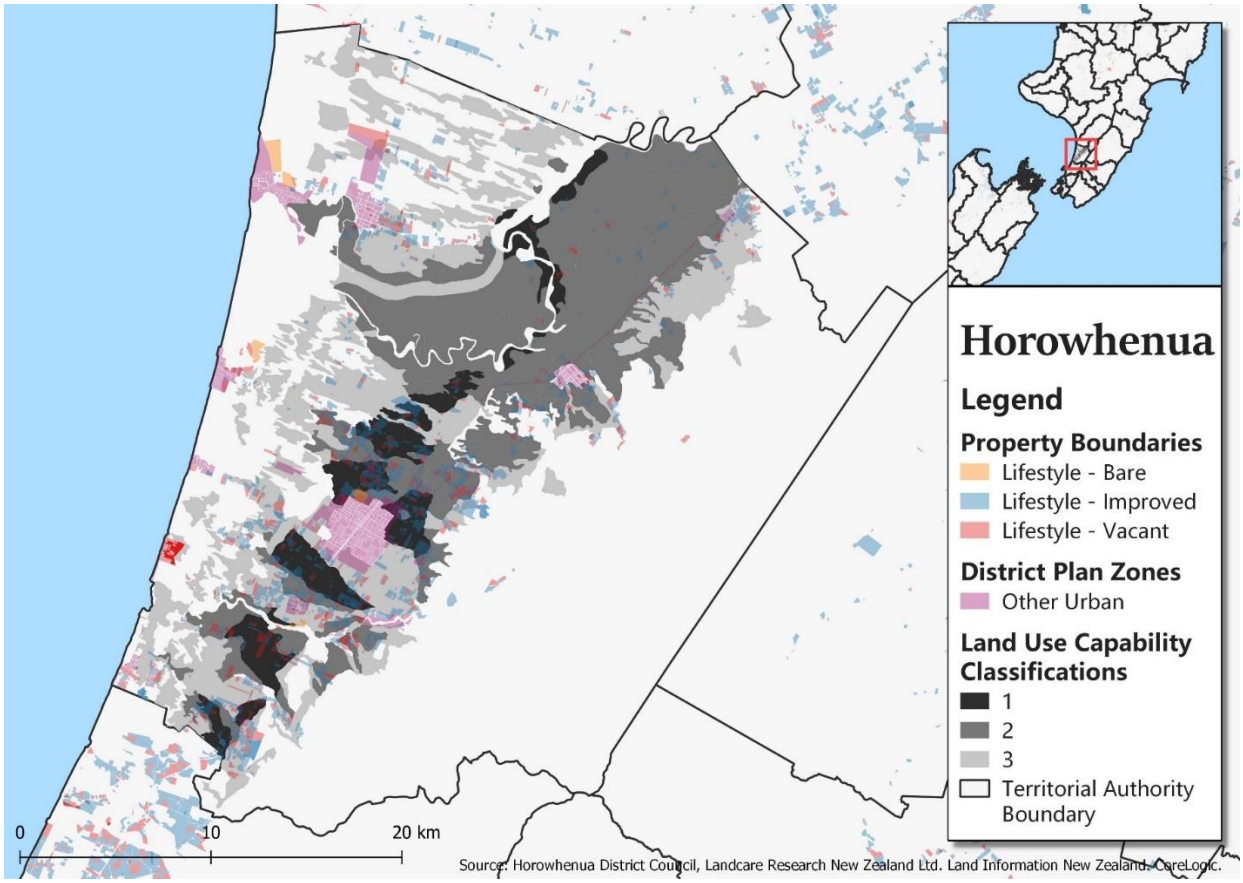


Figure 8.11 provides a map of current lifestyle properties according to CoreLogic. It shows that they have concentrated around Levin, but with pockets near Foxton and in the north and south of the district.

[54] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

Figure 8.11: Horowhenua District HPS Coverage and Rural Lifestyle Property Patterns (2019)



8.3 Planning Approach Relevant to HPL

Approach to urban expansion

The Council's website identifies that the population of Horowhenua is projected to grow significantly over the next 20 years in response to improvements in transport infrastructure with Wellington. In response to this, "*Council has been looking at how it can plan to provide enough land for future growth while maintaining Horowhenua's unique character and protecting our environment*". The Council has recently completed a comprehensive Growth Strategy 2040. We focus on that here, as opposed to the operative provisions.

The growth strategy identifies areas where residential and industrial growth might occur and will guide decisions about where and how to accommodate growth out to 2040, having considered the remaining capacity of existing zones. It gives effect to the NPS - UDC. In this regard, Horowhenua has already addressed the NPS - HPL need to complete integrated spatial planning to manage growth.

The identification of growth areas (focussed on both residential zone and rural residential zone (a.k.a Greenbelt Residential) included technical analysis and engagement with landowners followed by public consultation. It is however described as high-level with more detailed analysis occurring as part of rezoning plan changes. Regard was given to a number of rural principles when managing growth including avoiding

ad hoc rural development to protect the land and soil resource. The specific criteria used to evaluate growth areas regarding soils was:

> *Highly versatile (LUC Class I and II) soils are valued in the community for their productive purpose as they are highly fertile and require less irrigation or fertiliser to grow plants. Therefore, areas containing these highly versatile soils should be considered carefully in the context of the district before being allocated for residential development.*

It is therefore relevant that the criteria underpinning the Growth Strategy does not give regard to LUC class 3 land, as is the default position of the proposed NPS – HPL for identifying HPL. For the growth areas identified around Levin for example, the Strategy notes that all four options contain versatile soils. In some instances, rural residential land that is vacant has been proposed for future residential growth where it was surplus to projected demand. Council has outlined an implementation timetable to action the growth strategy.

Approach to rural residential and lifestyle development

The Horowhenua operative district plan provides a specific zone for rural residential demand, referred to as the Greenbelt Residential Zone and includes deferred zone areas. The zone is described as follows in the Plan:

> *There is increasing demand for rural living in the Horowhenua. The Greenbelt Residential Zone is at the urban edge and provides a residential choice for people wanting the opportunities that come with larger areas of open space and a semi-rural context. The opportunities include larger sized gardens, small scale productive activities, and a relatively open outlook.*
>
> *The locations of the Greenbelt Residential Zone have been identified to provide ready proximity to urban day-to-day services, to enable short trip distances to the centres they relate to, and to provide an urban edge interface with rural areas that limits reverse sensitivity conflicts and provides for the protection of permitted rural activities and those lawfully established activities, in the Rural Zone and the more open landscape of the District.*

The operative plan includes policies that manage reverse sensitivity effects between rural residential and rural activities through the use of buffers and setbacks.

Approach to rural fragmentation and subdivision

The operative district plan states that "*providing for a range of land use activities in the Rural Zone is important for ensuring diversity and resilience to the rural economy by providing additional employment and economic opportunities.*" Horowhenua has a single Rural Zone although three distinct land use types are identified (Coastal Sand Country, Inland Plains and River Terraces and the Hill Country). *"Within these three land types, ten landscape domains have been identified which exhibit individual qualities and landscape character. Given the character and qualities in each land domain, they have different capacity and ability to manage the effects of subdivision, use and development."*

These landscape domains are therefore the key mechanism through which rural subdivision is managed. Selected overarching policies are included below. None specifically reference HPS or soil versatility, but some directly reference primary production activities:

- *Policy 2.1.3 - Manage subdivision and land development based on the landscape domains through subdivision controls that reflect the different characteristics and qualities of the landscape domains.*

- *Policy 2.1.4 - Provide for subdivision where it is compatible with the character and qualities of the landscape domain, and limit subdivision where the character and qualities of the landscape domain would be degraded by subdivision and land development.*

- *Policy 2.1.8 - Ensure that adequate physical or spatial buffers or other mitigation measures are applied when allowing new allotments or buildings primarily or exclusively for residential purposes in rural areas, so that productive land use opportunities are not compromised.*

- *Policy 2.1.20 - Ensure that new activities locating in the rural area are of a nature, scale, intensity and location consistent with maintaining the character of the rural area and to be undertaken in a manner which avoids, remedies or mitigates adverse effects on rural character, including rural productive values and potential reverse sensitivity effects.*

Selected landscape domains have more specific provisions regarding HPS and HPL. In the Kuku Domain for example, policy K.3 provides "*for the amalgamation of land parcels and adjustments of the boundaries of land parcels where this would enable a greater range of soil-based production activities*". Subdivision consents will be assessed in terms of their environmental effects against both the policies of the Rural zone and those policies relating specifically to each domain.

Fragmentation of rural productive land is a key issue identified in the Horowhenua operative district plan and is therefore well aligned with the concerns of the NPS – HPL. The issue is articulated as follows: "*The effects that fragmentation through subdivision has on the ability to use land for rural production activities including safeguarding the life-supporting capacity of Horowhenua's finite soil resource within the rural environment, so that both current and future generations are able to sustainably use versatile land, for a wide range of productive purposes, including those uses that may not currently be present in the Horowhenua."*

In the Horowhenua District, versatile land is considered to be land that contains highly versatile Class I and II soils. "*These soils are those that have the greatest potential capability for a range of land uses*". The accuracy of the LRI mapping of LUC is appropriately recognised. It is also recognised that "*soil quality is just one of several factors that influence how land is actually used. Other factors include location, existing land uses, water, climate, community values, scarcity, drainage and infrastructure. The District Plan relies on the mapped Class I and II soils as the basis for identifying versatile land. Whilst it is acknowledged that this is a blunt instrument to achieve this purpose, it does provide a point for departure*". This suggests that Horowhenua District Council has a good understanding of the principles of identifying HPL, but currently their approach is narrower than the default definition contained in the NPS - HPL (i.e. excludes LUC class 3).

Selected policies that seek to manage the effects of fragmentation of the soil resource include:

- *Policy 2.2.3 - Avoid further fragmentation of land in the predominant areas of the District containing versatile land to protect this finite resource and to safeguard the life-supporting capacity of the soil from the cumulative effects of subdivision below the minimum lot standard.*

- *Policy 2.2.6 - Subdivision, use and development of the versatile rural land resource should occur in a way which retains its potential to be used for a range of productive rural purposes and which maximises the likelihood of it actually being used for such purposes.*
- *Policy 2.2.7 - Fragmentation of the versatile rural land resource for purposes not directly related to maintaining or enhancing the primary productive potential of the rural land resource should be minimised and, where possible avoided.*
- *Policy 2.2.8 - Except where specifically tailored to accommodate other activities with a legitimate need for a rural location, new rural lots created through subdivision should be of a size and shape suitable for a range of primary productive uses.*
- *Policy 2.2.9 - Subdivision, use and development which has the potential to inhibit the efficient use and development of versatile land for primary production should minimised and, where possible avoided.*

8.4 Modelling of Rural Lifestyle Development Outcomes

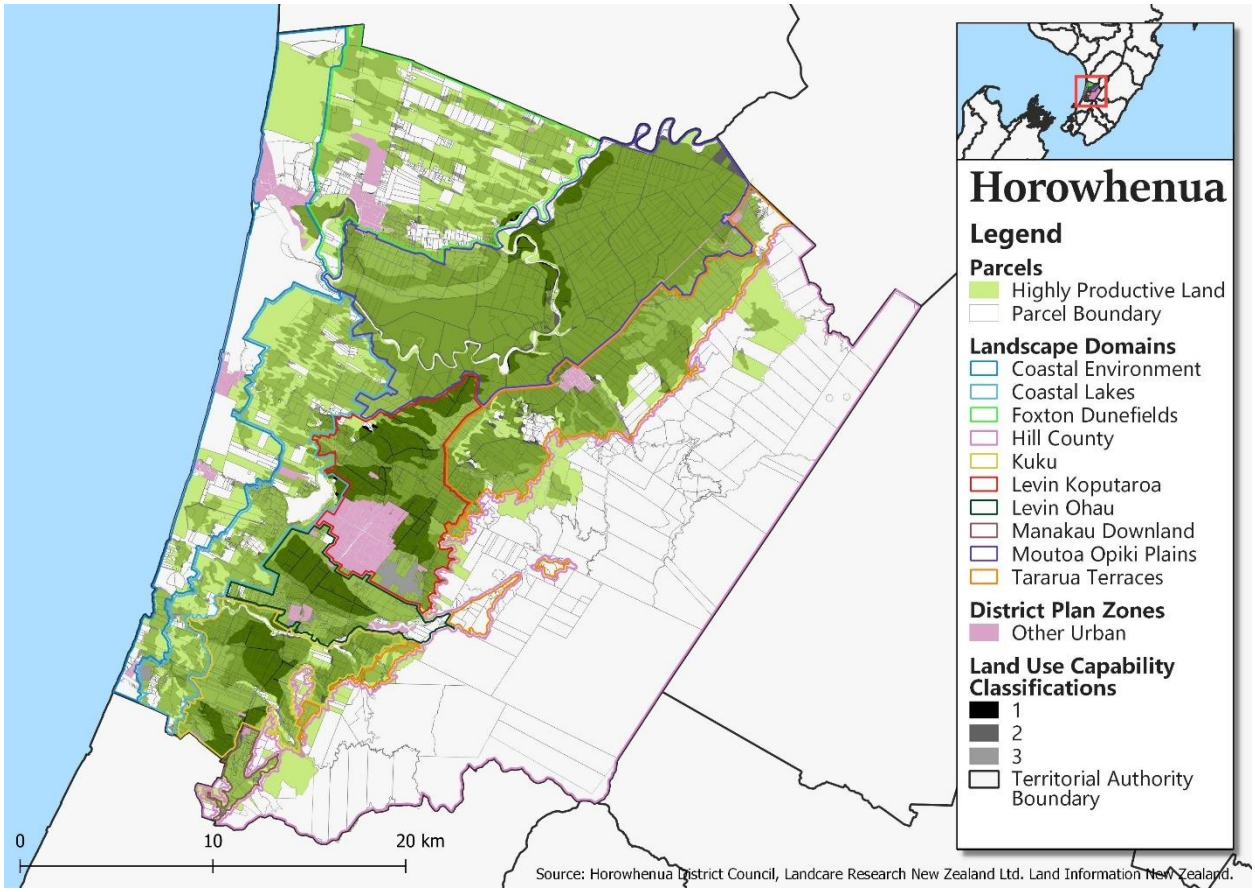
This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in Horowhenua's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

8.4.1 Definition of Highly Productive Land under the NPS – HPL

Figure 8.12 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or more coverage of LUC class 1-3 or 4ha or more of LUC 1-3). The HPL is limited to the rural areas of the following landscape planning domains: Moutoa Opiki Plains; Coastal Environment; Foxton Dunefields; Coastal Lakes; Manakau Downland; Hill Country; Kuku; Levin-Koputaroa; Tararua Terraces; Levin-Ohau.

In total, this HPL area captures 5,037 parcels of rural zoned land, which are spread across the district. Of these HPL parcels, 531 parcels are able to be subdivided under current provisions. These parcels that are able to be subdivided total 27,627ha, and include 18,552ha of LUC class 1-3 land. This area represents 42% the total HPS area of 43,765ha in the district and 43% of the HPS in the rural zones.

Figure 8.12 – Map of Indicative HPL (Default Definition) Horowhenua District



8.4.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

M.E has examined the land parcels in Horowhenua's rural area that could be further subdivided under the operative minimum lot size provisions. The focus is just on subdivision potential in the productive rural and rural lifestyle zones. Figure 8.13 summarises the operative minimum lot sizes we have adopted for this analysis (they have been simplified somewhat for the purpose of modelling). The minimum lot sizes are identified for each planning landscape domain. The minimum lot size applied to each individual parcel is also a function of the parent parcel size, land use class and date of title issue.

Figure 8.13 – Simple Operative Minimum Lot Size Assumptions by Rural Zone – Horowhenua

Horowhenua - simplified Rural Subdivision Rules - Controlled Activity Status

Landscape Domain	Simple Minimum Subdivision Pathway	Minimum Parent Lot Subdivision Pathway	Max New lots that can be created
Coastal Environment, Coastal Lakes, Hill Country		NA - no subdivsion allowed that creates new lots	0
Foxton Dunefields		10ha title issued before 2009	1
		20ha title issued before 2009	2
Kuku	10ha		Multiple at minimum
Levin-Koputaroa LUC 3-8		3ha title issued before 2009	1
		6ha title issued before 2009	2
Levin-Koputaroa LUC 1-2	10ha		Multiple at minimum
Levin-Ohau LUC 3-8		3ha title issued before 2009	1
		6ha title issued before 2009	2
Levin-Ohau LUC 1-2	10ha		Multiple at minimum
Manukau Downlands		4ha title issued before 2009	1
Moutoa-Opiki Plains	20ha		Multiple at minimum
Tararua Terraces LUC 3-8		5ha title issued before 2009	1
Tararua Terraces LUC 1-2	15ha		Multiple at minimum

Horowhenua - simplified Rural Subdivision Rules - Restricted Discretionary Activity Status

Landscape Domain	Simple Minimum Subdivision Pathway	Minimum Parent Lot Subdivision Pathway	Max New lots that can be created
Coastal Environment, Coastal Lakes, Hill Country			
Foxton Dunefields		20ha title issued before 2009	Parent Lot minus 3ha, balance divided by 0.5ha lots
Kuku	20ha		Parent Lot minus 10ha, balance divided by 10ha lots
Levin-Koputaroa LUC 3-8	3ha (average)	Title issued before 2009	Multiple at minimum, but title date applies
Levin-Koputaroa LUC 1-2	10ha	Title issued before 2009	Multiple at minimum, but title date applies
Levin-Ohau LUC 3-8	3ha (average)	Title issued before 2009	Multiple at minimum, but title date applies
Levin-Ohau LUC 1-2	10ha	Title issued before 2009	Multiple at minimum, but title date applies
Manukau Downlands		10ha title issued before 2009	Parent Lot minus 50%, balance divided by 2ha lots
Moutoa-Opiki Plains	40ha		Parent Lot minus 20ha, balance divided by 20ha lots
Tararua Terraces LUC 3-8		15ha title issued before 2009	Parent Lot minus 50%, balance divided by 0.7ha lots
Tararua Terraces LUC 1-2	15ha	Title issued before 2009	Multiple at minimum, but title date applies

Horowhenua - simplified Rural Subdivision Rules - Discretionary Activity Status

Landscape Domain	Simple Minimum Subdivision Pathway	Minimum Parent Lot Subdivision Pathway	Max New lots that can be created
Coastal Environment, Coastal Lakes		20ha title issued before 2009	Parent Lot minus 50%, balance divided by 5ha lots
Hill Country	40ha		Multiple at minimum

Excludes rules where there is an existing dwelling (for simplicity)
Detail of minimum lot sizes excluded from parent-child lot subdivsion (irrelevant - but creates small rural lifestyle lots)
Layer of complexity excluded relating to subdividing on LUC 1-2 (Versatile) land (for simplicity). But, if area of versatile soil is not fragmented by the new lot creation, then can subdivide in accordance with the LUC 3-8 rules for that landscape domain, but this restricts the subdivision to titles issued prior to 2009.

Figure 8.14 identifies the location of existing parcels that may be able to be subdivided to create one or more additional lot under the status quo (it does not reveal the yield of additional lots explicitly).

Figure 8.14 highlights that there is moderate indicative potential for further land fragmentation (based purely on application of minimum lots sizes, parent lot sizes, title issue dates and land use classes) in areas with HPS (LUC class 1-3). Over four-fifths (84%) of the parcels able to be subdivided contain HPS (although not all would qualify as HPL). There are some areas where subdivision can occur that do not contain HPS. Around half of the potential lots that could be created are in Foxton Dunefields, although this domain only accounts for 16 of the 120 parcels that are able to be subdivided (that do not contain HPS).

While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. Figure 8.15 identifies those parcels within the defined HPL area that would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 8.14 and Figure 8.12) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Figure 8.14 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – Horowhenua

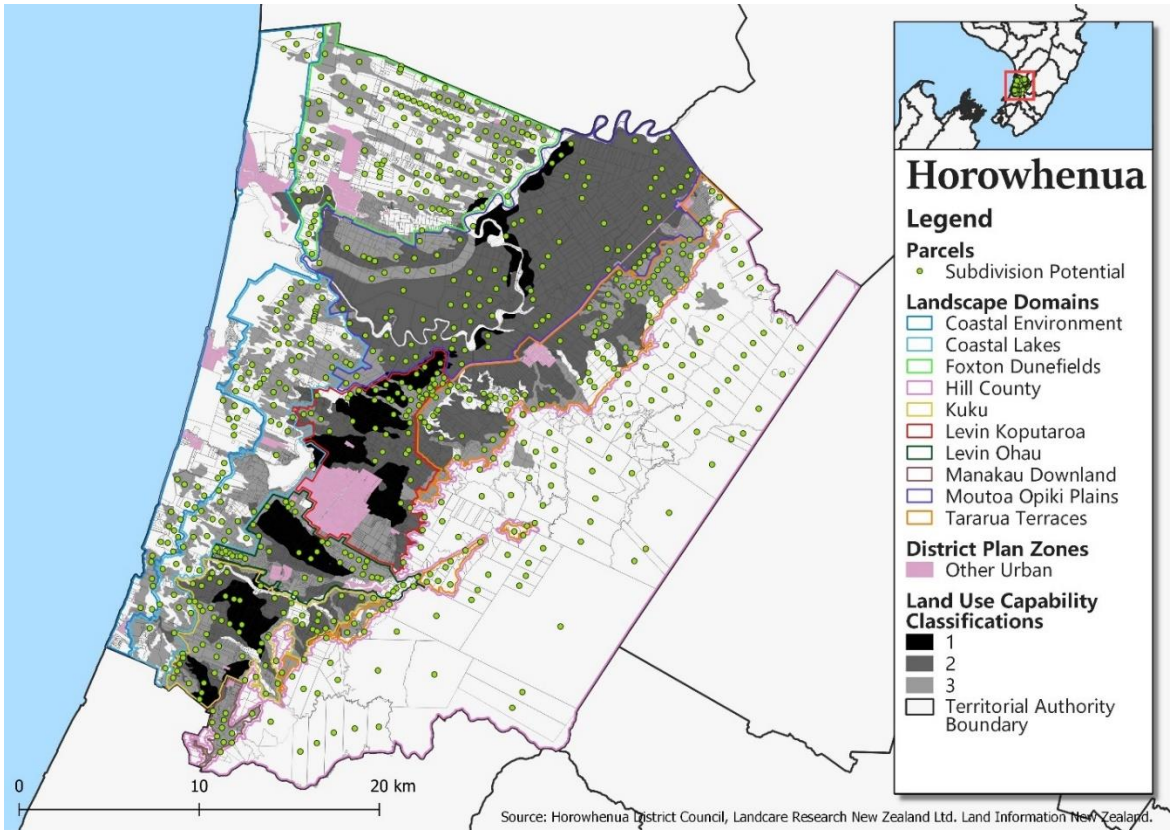
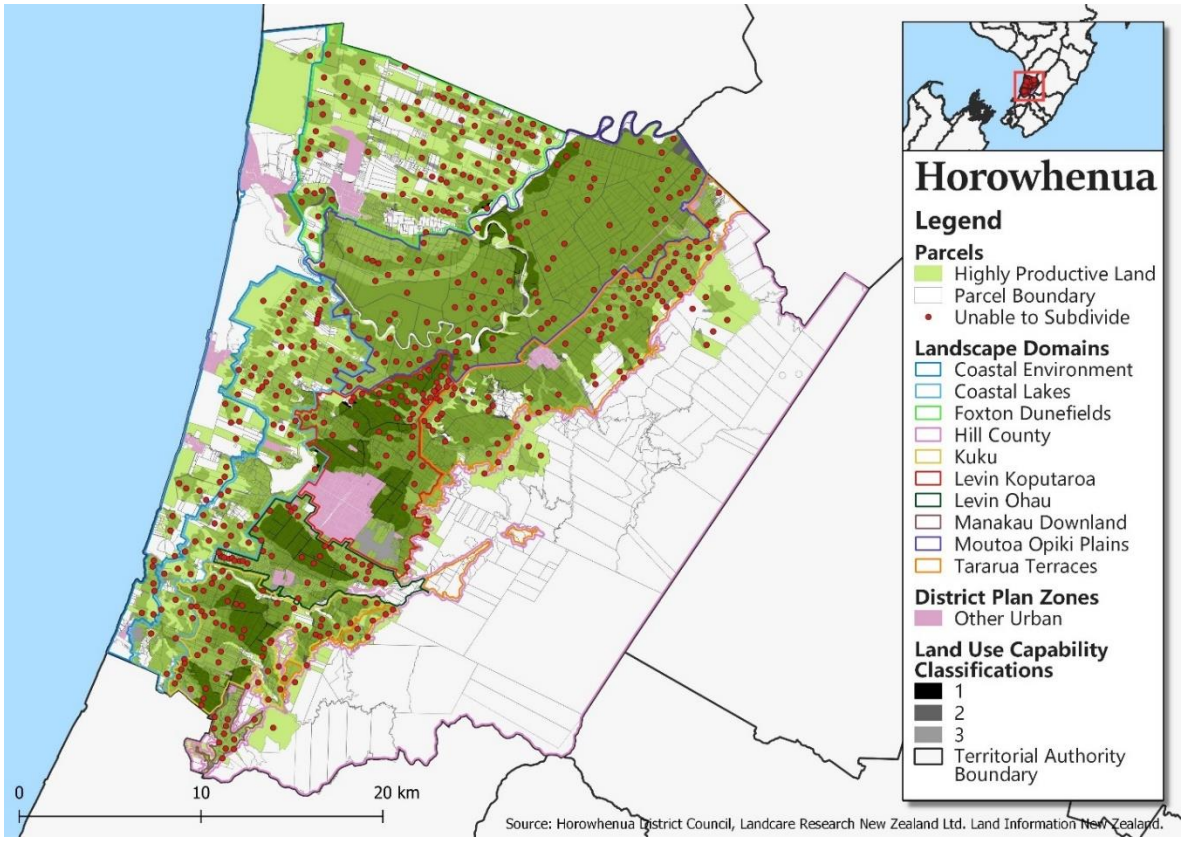


Figure 8.15 – HPL Parcels Unable to Subdivide - NPS - HPL High Scenario – Horowhenua



Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

8.4.3 Projected Growth

Horowhenua District is projected to have negative household growth over the medium to long-term under the low and medium growth projection series (according to StatisticsNZ)[55]. Under the high growth scenario, household numbers are projected to increase by 6% by 2028, from the current 13,900 to 14,800, with further small increases to 2038 (15,100 households) and 2048 (15,400 households). These are shown in Figure 8.16. Over the next three decades, the district as a whole can expect to have a change in household number of between 1,900 fewer (low growth outlook) to 1,500 (high growth outlook) additional households.

Figure 8.16 – Horowhenua Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	13,900	14,800	15,100	15,400	900	1,200	1,500
Medium	13,700	14,000	13,600	13,200	300	-100	-500
Low	13,400	13,200	12,300	11,500	-200	-1,100	-1,900
Growth Rate (%pa)					***Lifestyle Parcels***		
High		0.6%	0.4%	0.3%	150	200	250
Medium		0.2%	0.0%	-0.1%	50	-20	-80
Low		-0.2%	-0.4%	-0.5%	-30	-190	-330

Source: SNZ 2018; ME 2019

8.4.4 Lifestyle Demand

In Horowhenua, there are currently some 2,303 parcels within (1,919) lifestyle properties based on data from CoreLogic, including 1,786 parcels within (1,377) lifestyle properties listed as having improvements (generally a dwelling) and 517 parcels within lifestyle properties list as not having improvements. Of these, some 2,111 are in the Rural Zone, where they occupy an estimated 9,661ha of land (Figure 8.11). Mean parcel size is 4.58ha. Over two-thirds (68%) of the land in these lifestyle parcels contains HPS (6,575ha of the total 9,661ha). This represents 16.5% of the total HPS resource in Horowhenua District (as defined here).

Figure 8.16 further shows the projected increase in demand for lifestyle parcels. This has been estimated on a direct pro rata basis, assuming that the number of households on lifestyle properties remains more or less constant with the current share (an implied 16.8% of total households).

[55] We note that Council's recent Growth Strategy 2040 adopts bespoke growth projections that estimate much stronger dwelling growth than the StatisticsNZ high growth series. This is based on improved migration due to roading infrastructure developments on route to Wellington. M.E's analysis is conservative compared to Council's projections and the pressure on rural fragmentation would be much worse than modelled here.

The underlying household projections indicate an additional 150 lifestyle properties would be demanded by 2028 in the high growth future (Low -30, Medium 50), with 200 by 2038, and 250 by 2048 (Low -320, Medium -80).

8.4.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based around the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation. The base case outlook is the medium growth projection, which has a net decline in the number of households over the medium to long-term. Under this growth scenario, there would only be demand for an additional 60 lifestyle properties out to 2028, and declining numbers of properties thereafter. It Is likely that this demand can already be met within the existing unimproved lifestyle properties (currently existing, 517 unimproved lifestyle parcels). As such, the analysis has instead focussed on the high growth scenario, as it is the only scenario that is likely to have an increase in the number of lifestyle parcels into the long-term[56]. Under the High growth scenario, there is a projected increase of 150 lifestyle properties by 2028, 200 by 2038 and 250 by 2048 (Figure 8.16).

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle properties is driven by existing rules for subdivision (minimum lot sizes) in the Rural zones. Since the yield of potential subdivisions (around 15,790 under current provisions) is substantially greater than the projected demand over the decades, the new parcels have been estimated according to the number of potential parcels, the demand in each period, and the current geography of the lifestyle blocks.

The core output for each scenario from this process is an estimated number of lifestyle properties (newly subdivided parcels) in each rural location (meshblock) within Horowhenua District for 2028 and 2048.

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

8.4.6 Lifestyle Subdivision

Land Fragmentation

Figure 8.17 summarises the subdivision and land use outcomes to accommodate Horowhenua's projected lifestyle property demand to 2028, for the without NPS - HPL and with NPS - HPL futures. There are differences in the total area of rural land, the extent of the HPS resource occupied, and the location of the new lifestyle properties.

Under the existing conditions (Status Quo scenario), there is a large capacity for additional lifestyle parcels (relative to demand). Most (90%) of these are less than 5ha in size, and a large share (72%) lies within the Foxton Dunefields landscape domain.

Substantial capacity would remain even when the High NPS - HPL provisions are applied, with up to 3,300 additional properties, with most being less than 5ha. While much of the Foxton Dunefields landscape

[56] As noted, this projection is very conservative relative to Council's latest bespoke growth projections.

domain would be constrained by the NPS - HPL, there would still be potential for more than 2,000 additional parcels in that area.

Key medium-term outcomes for land use are (2028):

a. Demand for lifestyle parcels would see some 150 additional parcels by 2028, taking up between 90ha and 170ha of Rural land. Differences in the location of parcels between the two scenarios affect the overall rural land taken up due to the differences in the minimum site size requirements by location (Figure 8.17).

b. Under the Status Quo future, the 150 additional lifestyle parcels would be distributed with 64 (43%) on HPS land, and the balance (84) on land without significant HPS resource. The additional parcels would take up a total area of 85ha (at an average of 0.6ha per parcel), including 36ha of HPS resource. It is important to note that the modelling assumes there is no reduction in minimum subdivision size over the period, which may arise for example from concern about the substantial areas being taken up for lifestyle properties and desire to reduce that land uptake.

c. Under the Low-Medium Regulatory future, the 150 additional parcels would still be distributed across both HPS resource and on land without significant HPS resource. Because the constraints on subdividing the HPL resource would not be completely effective (Restricted Discretionary), the scenario still shows a share of the new lots (around 39%) indicatively occurring on the HPS resource, with 55 lots taking up some 33ha of HPS land.

Figure 8.17 – Horowhenua Lifestyle Subdivision and Land Outcomes to 2028 (High Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	1	1	1	1	-	-
2	6	3	5	3	1	0
3	57	32	49	28	3	1
4	51	27	56	31	93	56
5	-	-	-	-	-	-
6	25	16	24	16	29	19
7	8	6	7	6	23	24
8	-	0	-	0	2	69
TOTAL	148	90	142	90	151	170
HPS Total	**64**	**37**	**55**	**33**	**4**	**2**

Note 1: Subdivision possible on HPS parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

d. Under the High Regulatory future, the outcome would be different, as the more rigorous application of NPS – HPL based provisions would see only 4 new lifestyle properties on the HPS resource (although these parcels contain HPS they do not qualify as HPL). The additional 147 parcels would take up around 130ha of rural land.

e. The effect of applying the NPS - HPL provisions would reduce the loss of HPS land. Under the high regulatory future, there would be 60 fewer lifestyle parcels on HPS land than would otherwise be

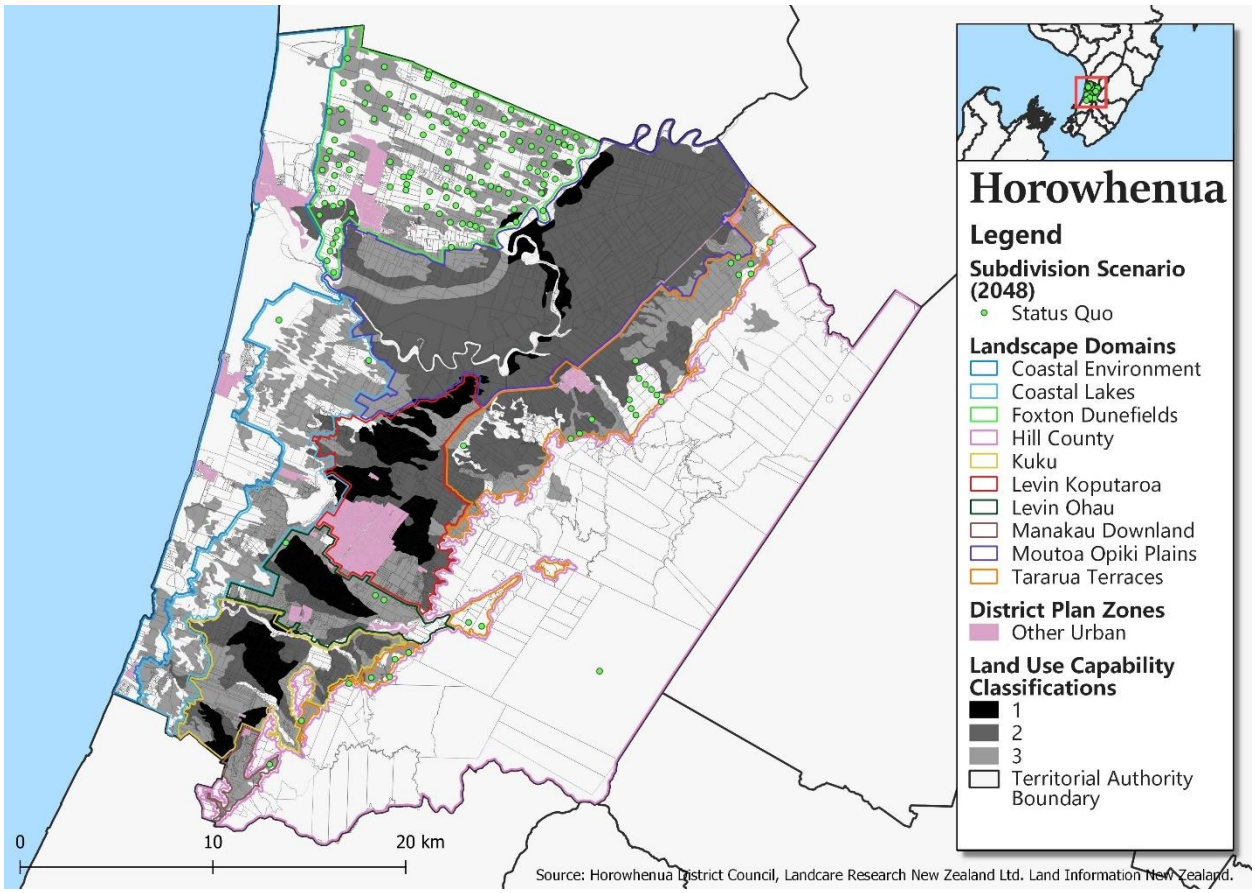
the case, and 34ha of HPS resource retained for primary production by diverting rural subdivision elsewhere.

In the longer term (2048), similar effects are expected:

a. Demand for lifestyle parcels would see approximately 250 additional parcels by 2048, taking up between 188 and 314ha of Rural land (Figure 8.16).

b. Under the Status Quo future, the 250 additional parcels would be distributed with 106 (43%) on parcels containing HPS, and the balance (142) on land without significant HPS resource. The additional parcels would take up a total area of 190ha, including 66ha of HPS resource (Figure 8.18 and Figure 8.20).

Figure 8.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



c. Under the Low-Medium Regulatory future, around 38% of the additional parcels would be distributed across the HPS resource, with most on land without significant HPS resource. The 94 lots on the HPS land would take up some 70 ha of HPS land (Figure 8.20).

d. Under the High Regulatory future, the outcome would be different, with a small number of lots established on HPS, and 241 additional parcels distributed on land without significant HPS resource. The additional parcels would in total take up an area of 310 ha (Figure 8.19 and Figure 8.20).

e. The effect of applying the NPS - HPL provisions would reduce the loss of HPS land over the period to 2048. The High regulatory NPS - HPL future would see 101 fewer lifestyle parcels on HPS land

than would otherwise be the case in the Status Quo, and 63ha of HPS resource retained for primary production. The Low-Medium regulatory future would see only 12 fewer parcels created on the HPS resource. The modelling, however, shows an increase in the scale of HPS land taken up due to a combination of land not meeting the HPL thresholds and the differences in average lot sizes by location where the location of parcels up taken differs between the scenarios.

Figure 8.19 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – High

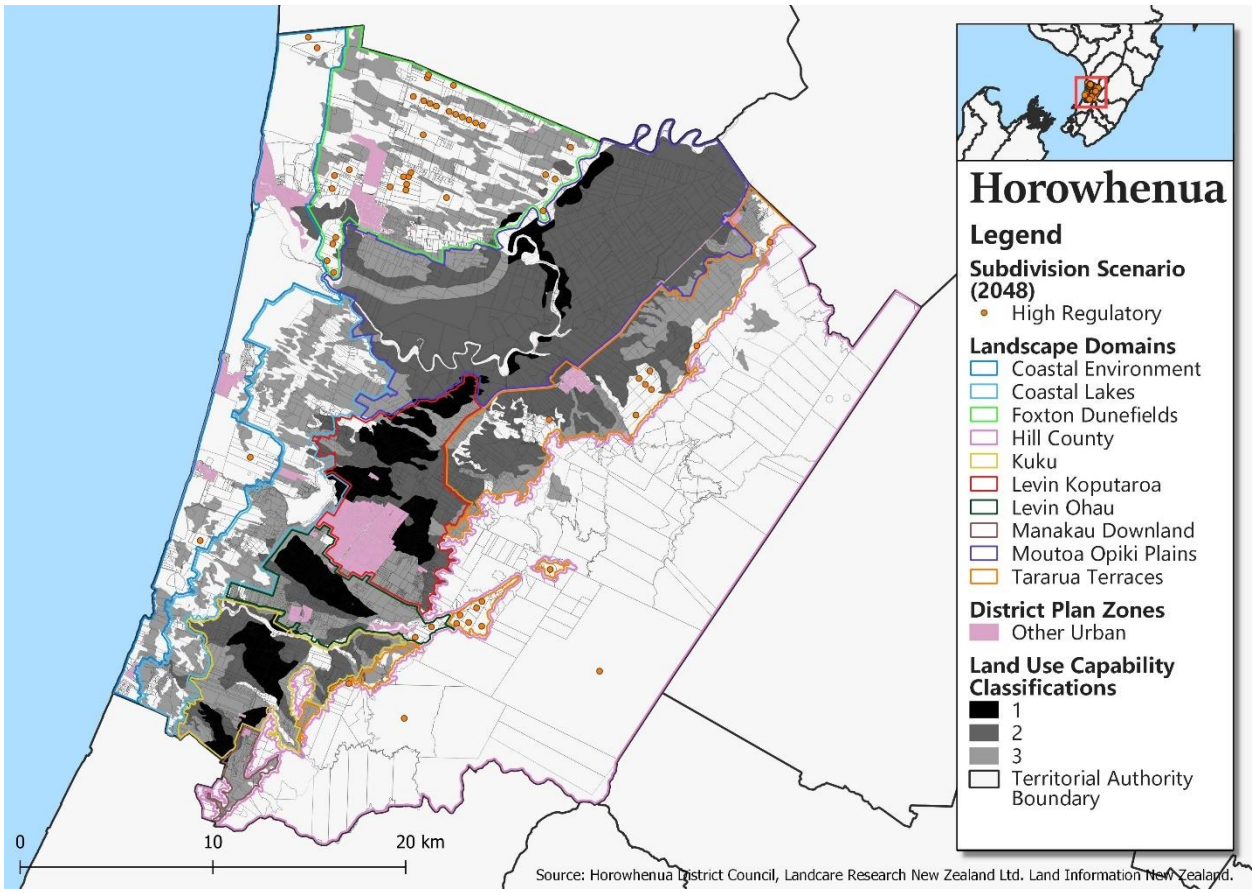


Figure 8.20 – Horowhenua Lifestyle Subdivision and Land Outcomes to 2048 (High Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	1	1	2	3	-	-
2	11	7	9	6	1	1
3	94	58	83	61	4	2
4	82	44	86	46	151	87
5	-	-	-	-	-	-
6	45	28	44	34	48	44
7	14	15	20	23	39	72
8	1	35	1	35	3	108
TOTAL	248	190	245	210	246	310
HPS Total	**106**	**66**	**94**	**70**	**5**	**3**

Note 1: Subdivision possible on HPS parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

Primary Production Gross Output

Demand for lifestyle parcels also has direct effects on primary production, as many lifestyle properties do not remain in full primary production, especially when a dwelling is added. The following analyses uses the High household growth scenario for Horowhenua District to demonstrate the effect of loss of primary production gross output. This is because population growth within the district is projected to be negative in the medium and long-term under the StatisticsNZ Medium growth scenario and would therefore not have any effect on primary production.

Key outcomes for primary production gross output are as follows (Figure 8.21).

a. Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $100,000 annually in 2028, $200,000 in 2038 and $300,000 annually in 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $4.8m (undiscounted) including $3.9m on HPS, and $1.0m on other land.

c. In PV terms, the reduced output from HPS land would be $1.1m and on all land it would be $1.3m[57].

d. In the Low-Medium NPS - HPL scenario, a slightly smaller share of the subdivision would occur on HPS. The share is only slightly smaller due to the differences in minimum site sizes by location under the different scenarios. The total opportunity cost (foregone primary production) would be $5.1m (undiscounted) and $1.3m (discounted) over 30 years to 2048.

e. The opportunity cost on the HPS would be $100,000 less than in the Status Quo future, although the opportunity cost on other land would be $100,000 more. These values net out to give an equal cost of total foregone production (some $1.3m discounted) between the Status Quo and Low-Medium NPS - HPL scenario.

[57] Over 30 years, discounted at 8% pa.

f. In the High NPS - HPL scenario, with virtually no subdivision occurring on HPL, the total opportunity cost (foregone primary production) would be $3.1m (undiscounted) and $0.9m (discounted) to 2048.

g. The opportunity cost on the HPS would be $1.0m less than in the Status Quo future, however the foregone production on the other land would be some $0.6m more. In net terms, the foregone production would be $0.5m less in gross output terms in the High NPS - HPL scenario. This includes an estimated $0.4m of labour and resource costs (inputs to production).

h. This represents a positive economic effect from protecting the HPS resource under the High NPS - HPL scenario. The Low-Medium NPS - HPL scenario would result in larger costs of foregone production due to the differences in minimum site sizes arising from the differences in location patterns of lifestyle blocks. While there would be fewer lifestyle properties on HPS land under the Low-Medium scenario in comparison to the status quo, these properties would be, on average, larger. However, because of the limited demand expected for lifestyle properties, the total impacts would be relatively minor.

Figure 8.21 – Horowhenua Long-Term Primary Production Outcomes to 2048 (High Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
	($m)								
2028	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.1
2038	$ 0.2	$ 0.0	$ 0.2	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.1	$ 0.1
2048	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.3	$ 0.0	$ 0.2	$ 0.2
2018-48	$ 3.9	$ 1.0	$ 4.8	$ 3.8	$ 1.3	$ 5.1	$ 0.2	$ 2.9	$ 3.1
Difference v SQ				-$ 0.1	$ 0.3	$ 0.3	-$ 3.7	$ 1.9	-$ 1.7
PV (2018-48)	$ 1.1	$ 0.3	$ 1.3	$ 1.0	$ 0.3	$ 1.3	$ 0.1	$ 0.8	$ 0.9
Difference v SQ				-$ 0.1	$ 0.1	$ 0.0	-$ 1.0	$ 0.6	-$ 0.5

Source: ME Lifestyle Parcel Model 2019

9 Western Bay of Plenty Analysis

This section contains the spatial analysis completed for WBoP District. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative WBoP District Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

The geography of WBoP is very diverse. The District surrounds the fast-growing City of Tauranga and stretches from the volcanic hinterlands towards Rotorua in the South, west to the Kaimai Ranges and North to the northern edge of the Tauranga Harbour and Waihi Beach. The area is characterised by high volumes of horticultural output, benefitting from the mild warm climate in the rain shadow of the ranges and productive soils. Kiwifruit and Avocados are important crop products from the District. The District does not contain any medium urban areas or larger as Tauranga City fills the major metropolitan role for the District. Most of the economic activity in the area occurs within the rural areas (58% of employment) with small urban areas making up the majority of the rest (38%). A very small amount of activity occurs in rural centres (4%).

9.1 HPS Resource

The HPS resource makes up around 23% of total area within WBoP (approximately 44,260ha). There are no LUC 1 class soils identified in the district according to this data source. There is just over 19,100ha of LUC class 2 land and just over 25,100ha of LUC class 3 land (Figure 9.1).

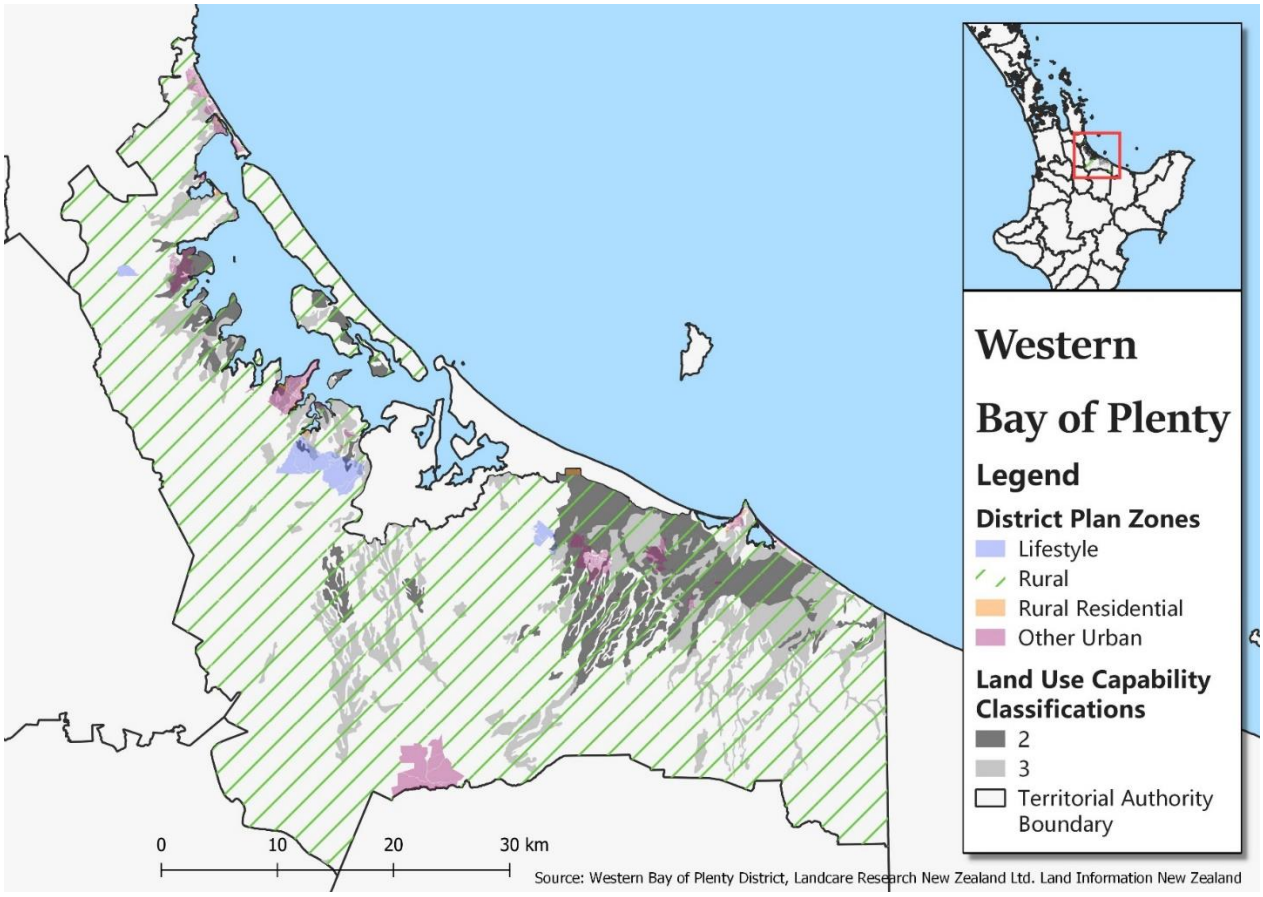
Figure 9.1: Summary of Land Use Capability in Western Bay of Plenty District (ha)

	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total District
Area of LUC Class (Ha)	-	19,149	25,114	32,165	659	70,385	28,466	17,906	448	866	195,159
Share of TA Area	0%	10%	13%	16%	0%	36%	15%	9%	0%	0%	100%
Sub-Total LUC 1-3 (Ha)			44,263								
Sub-Total LUC 1-3 (%)			23%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

Figure 9.2 shows the location of the HPS resource relative to the urban land use zones (shown in pink). The most significant concentration of HPS is in the east of the district around Te Puke and between Maketu and Matata, spreading extensively inland. The other main area of concentration on the coastal margins between Katikati and Te Puna. There are mall pockets of HPS on Matakana Rangiwaea Islands.

Figure 9.2: Western Bay of Plenty HPS Coverage and Rural Environment District Plan Zones



When the HPS resource is intersected with StatisticsNZ meshblock (2013) and urban area (2018) boundaries (there are 438 meshblocks that make up WBoP), some 106 are classified as having 75% of more of land area as HPS (or 24% of the total) (Figure 9.3). These meshblocks contribute around 42% of total HPS land in WBoP. Some 40,812ha of HPS are in the Rural Other (non-urban) areas (94%)[58]. Meshblocks with high concentrations of HPS (greater than 75% of meshblock coverage) are relatively evenly split between Rural Other areas (45 meshblocks) and Small Urban Areas (49 meshblocks)[59]. However, because the Rural Other area meshblocks are much larger, around 90% of HPS land in the high concentration meshblocks are in Rural Other areas.

This geographic concentration is important for land use and other potential policies for the NPS - HPL, because a policy setting that is highly focussed on non-urban areas will capture the major share of the HPs resource in the case of WBoP. The areas of HPS resource in Small Urban Areas would not be addressed and may be considered 'lost'. This assumes there is a strong correlation between urban-rural boundaries and urban-rural zoning.

[58] This is expected given that to a degree, the LUC database already excludes some urban ("Town") areas and focussed on mainly rural land.

[59] M.E's analysis relies on 2013 meshblocks in order to use the Business Directory data. These boundaries do not always align with the 2018 Rural-Urban boundaries. It is possible that some meshblocks have been included with a suburban area when part of their land (and rural activity) actually falls outside the urban boundary.

9.2 Baseline Analysis

9.2.1 Population and Households

WBoP has an estimated resident population of 48,600 persons in 18,640 households of which 10,030 (54%) are in the Rural Other area, with 1,570 (8%) in Rural Settlements and 7,040 in the Small Urban areas (38%) (Figure 9.3). There is a substantial overlap between the HPS resource and the population patterns. This is relevant for what the NPS – HPL might mean for rural communities in areas of HPL. Across the district, approximately 24% of the households are in meshblock areas which show a very high HPS concentration (75% or more). These households accommodate around 24% of the population. In total, 55% of households reside in meshblocks with high levels of HPS coverage (25% or more).

In the Rural Other areas some 1,530 households are located in the highest HPS concentration meshblocks (15% of the total Rural Other). However, in the Small Urban areas over one-third are in meshblocks with 75% or more land classified as HPS (2,200 out of 7,040 households).

9.2.2 Household Growth

Over the next 20 years WBoP is expecting to add around 2,560 new households based on StatisticsNZ medium projections[60] (a 14% increase in total over 2018) (Figure 9.3). This growth is expected to be show some greater focus on the urban area (45% compared with the current 38%), though with the largest share still in the Rural Other areas (50%) and the other 3% in Rural Settlements. Growth overall is slightly more focused in meshblocks with high shares of HPS land (25% of total household growth to 2038 compared with 21% of existing dwellings in these areas).

Overall there will be similar pressure in future in meshblocks with substantial shares of HPS land than in the past. In total around 54% of future growth is expected to occur in meshblocks with 25% or more land classified as HPS, compared with 50% of existing housing stock. This means that in future there will be similar or slightly greater overlap between residential land uses and HPS. While any encroachment is expected to impact on the productive capacity of the HPS, the pressure in future is less than is being felt elsewhere. The operative provisions that manage urban expansion and rural residential and rural lifestyle development may be able to achieve a different outcome than suggested by these projections.

[60] CAU level projections have been pro-rated to meshblocks by M.E.

Figure 9.3: WBoP Urban-Rural HPS Summary with Socio-Economic Activity Relationship

Western Bay of Plenty District	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Small urban area	**155**	**1,835**	**3,080**	**35%**	**17,850**	**7,040**	**38%**	**1,160**	**45%**	**178**	**186**	**14%**	**78**	**96**	**11%**	**6,780**	**41%**	**7,061**	**38%**
HPS > than 75% of MB Area	49	1,285	1,357	11%	5,570	2,200	12%	400	16%	85	103	8%	22	23	3%	2,828	17%	2,954	16%
HPS between 50% and 75% of MB Area	19	424	617	4%	2,400	930	5%	130	5%	40	13	1%	7	10	1%	611	4%	633	3%
HPS between 25% and 50% of MB Area	13	108	284	3%	2,280	880	5%	100	4%	12	14	1%	12	4	0%	1,097	7%	1,114	6%
Other LUC Category (4-8/Water/Settlement)	74	18	821	17%	7,600	3,030	16%	530	21%	41	57	4%	37	60	7%	2,244	14%	2,360	13%
Rural settlement	**48**	**763**	**1,428**	**11%**	**4,060**	**1,570**	**8%**	**120**	**5%**	**32**	**21**	**2%**	**21**	**14**	**2%**	**631**	**4%**	**666**	**4%**
HPS > than 75% of MB Area	12	480	540	3%	1,850	700	4%	70	3%	25	18	1%	14	7	1%	363	2%	388	2%
HPS between 50% and 75% of MB Area	4	156	247	1%	260	100	1%	10	0%	-	-	0%	2	3	0%	20	0%	23	0%
HPS between 25% and 50% of MB Area	4	105	261	1%	610	230	1%	10	0%	2	1	0%	-	-	0%	67	0%	68	0%
Other LUC Category (4-8/Water/Settlement)	28	21	380	6%	1,350	540	3%	30	1%	5	2	0%	5	4	1%	180	1%	187	1%
Rural other	**235**	**40,812**	**189,132**	**54%**	**26,690**	**10,030**	**54%**	**1,280**	**50%**	**1,438**	**1,074**	**84%**	**946**	**753**	**87%**	**8,941**	**55%**	**10,767**	**58%**
HPS > than 75% of MB Area	45	16,627	17,742	10%	4,130	1,530	8%	190	7%	283	331	26%	144	240	28%	2,394	15%	2,965	16%
HPS between 50% and 75% of MB Area	35	7,843	12,950	8%	4,550	1,700	9%	220	9%	322	238	19%	119	97	11%	2,216	14%	2,551	14%
HPS between 25% and 50% of MB Area	39	7,893	22,366	9%	5,310	2,000	11%	250	10%	277	218	17%	171	110	13%	1,291	8%	1,618	9%
Other LUC Category (4-8/Water/Settlement)	116	8,449	136,074	26%	12,690	4,800	26%	620	24%	556	287	22%	513	306	36%	3,040	19%	3,633	20%
TOTAL	**438**	**43,410**	**193,640**	**100%**	**48,600**	**18,640**	**100%**	**2,560**	**100%**	**1,647**	**1,281**	**100%**	**1,044**	**863**	**100%**	**16,351**	**100%**	**18,494**	**100%**
HPS > than 75% of MB Area	106	18,392	19,639	24%	11,550	4,430	24%	660	26%	393	451	35%	180	269	31%	5,586	34%	6,306	34%
HPS between 50% and 75% of MB Area	58	8,424	13,814	13%	7,210	2,730	15%	360	14%	363	251	20%	127	110	13%	2,847	17%	3,207	17%
HPS between 25% and 50% of MB Area	56	8,106	22,911	13%	8,200	3,110	17%	360	14%	291	233	18%	183	113	13%	2,455	15%	2,801	15%
Other LUC Category (4-8/Water/Settlement)	218	8,488	137,275	50%	21,640	8,370	45%	1,180	46%	601	346	27%	554	370	43%	5,463	33%	6,180	33%

Source: Statistics NZ, Landcare, M.E

9.2.1 Horticulture

There are over 1,640 horticultural businesses within WBoP in 2017, 60% more than in Auckland Region. They employ approximately 1,281 workers – less than 50% of the employment levels in Auckland. This points to many more owner operators and potentially smaller sized operations. The planning provisions indicate that 6ha is the minimum viable horticultural property in WBoP. These businesses are broadly correlated with the HPS, with over 64% of businesses (1,046) located in meshblocks where HPS makes up more than 25% of the total meshblock area (Figure 9.3). These businesses are the larger horticultural businesses as they account for over 73% of all horticultural employment. In total 87% of horticultural businesses are in Rural Other, with around 11% within the boundary of defined Small Urban areas.

The high concentration of horticultural activities in HPS dominated meshblocks points to the key rationale for protecting this resource.

9.2.2 Pastoral farming

In addition to the Horticultural businesses there are over 1,040 pastoral farm businesses in WBoP in 2017 (Figure 9.3). Collectively they employ 863 MECs or workers. The pastoral farms are almost evenly distributed between HPS dominated meshblocks and others. In total 490 out of the 1,044 pastoral farms are located in meshblocks with 25% or more of their land area classified as HPS, and 554 located in meshblocks with lower levels of HPS.

As expected, the farms are concentrated in Rural Other areas (946 out of 1,044 or 91%). This is almost the same with respect to pastoral farm employment – 87 % of employment is Rural Other area based.

9.2.3 Other economic activity

Other economic activity covers everything else within the economy. In total there are 16,351 MECs engaged in other activities in WBoP (2017). The majority of this activity occurs in the Rural Other area (55% of the other economic activity employment). The other employment is split evenly between meshblocks with very high (75%+) concentrations of HPS land (34%), low-moderate (25%-75%) concentrations of HPS land (33%) and the rest (33%) does not occur on HPS dominated Meshblocks (Figure 9.3).

9.2.4 Total economic activity

In 2017 the WBoP economy employs 18,494 MECs in total out of a population of 48,564. Employment is more highly concentrated in meshblocks with high shares of HPS land than the population distribution (34% compared with 24% for population). Employment activity is also more heavily concentrated in the Rural Other areas than the population is (58% compared with 54% of households). This implies the workforce is living in the urban areas and travelling to the Rural Other areas for employment – in particular on the HPS land (Figure 9.3). The rural economy is important for WBoP and the HPS resource is important for that rural activity.

9.2.5 Maori Owned Land

Figure 9.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in WBoP in combined rural zones. We have not shown any Maori owned land in urban zones. In total there is an

estimated 27ha of General Land Owned by Maori land in the rural environment and 36% of this contains HPS. This is largely in the Rural Zone with a minor share in the Rural Residential Zone. There is a further 16,236ha of Maori Freehold Land and 27% of this contains HPS, again almost all of this is in the Rural Zone. Overall, 27% of Maori land contains HPS – this is a higher incidence that for all other tenures (21%), however other tenures account for the majority of HPS land in quantum terms (89%).

While difficult to see at a district scale, Figure 9.5 shows the location of Maori Land relative to the HPS resource.

Figure 9.4 – WBoP Summary of HPS by Maori Land and Other Tenure in Rural Zone Area (ha)

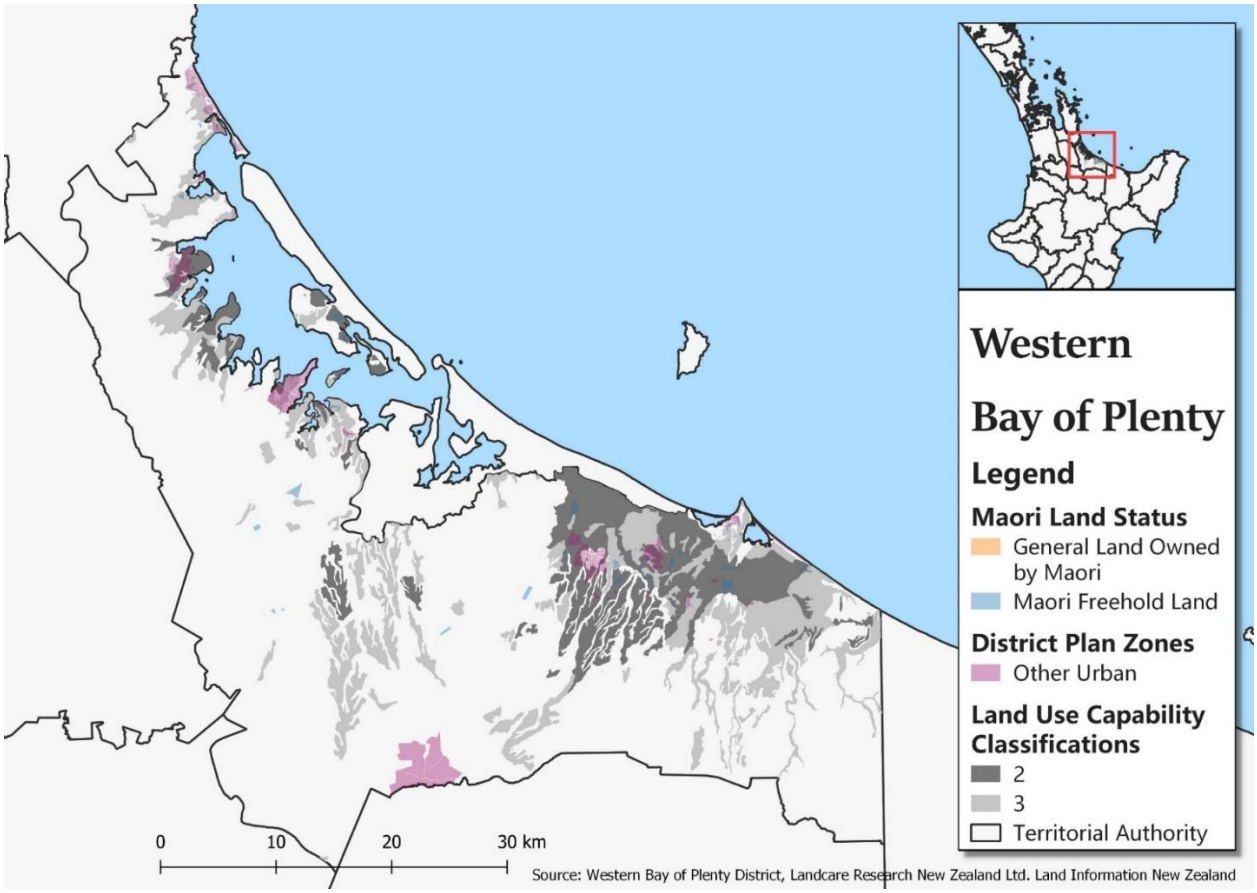
Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
Rural Residential Zone	123	63	5	191	64%	0.3%
General Land Owned by Maori	-	2	-	2	0%	0.0%
Maori Freehold Land	13	12	1	26	50%	0.0%
Other (Non-Maori Land Court) Land	110	49	4	163	67%	0.3%
Rural Lifestyle Zone	289	1,844	-	2,132	14%	0.7%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	0	0	-	0	100%	0.0%
Other (Non-Maori Land Court) Land	288	1,844	-	2,132	14%	0.7%
Rural Zone	40,388	142,299	856	183,543	22%	99.0%
General Land Owned by Maori	10	16	-	25	38%	0.0%
Maori Freehold Land	4,368	11,676	167	16,210	27%	10.7%
Other (Non-Maori Land Court) Land	36,011	130,608	689	167,307	22%	88.3%
Total Rural Zones *	40,800	144,206	860	185,866	22%	100.0%
General Land Owned by Maori	10	17	-	27	36%	0.0%
Maori Freehold Land	4,381	11,688	168	16,236	27%	10.7%
Other (Non-Maori Land Court) Land	36,409	132,501	693	169,603	21%	89.2%

Source: Western Bay of Plenty Distict Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Excludes road area and other land not captured by District Plan Zones.

Figure 9.5: Western Bay of Plenty District HPS Coverage and Land Tenure



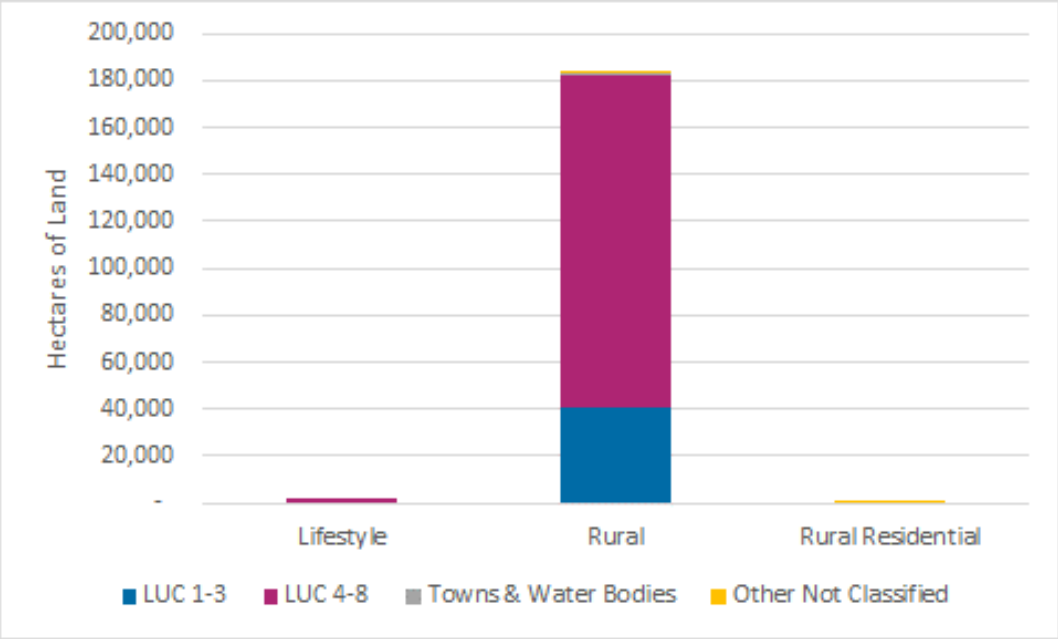
9.2.6 District Plan Zoning

The WBoP rural zones identified for this analysis include the Rural Residential Zone which is approximately 191ha, the Rural Lifestyle Zone (approximately 2,132ha) and the Rural Zone (183,543ha) – being the productive rural zone (Figure 9.4 and summarised in Figure 9.6). Figure 9.2 provides a map of these rural zones relative to the HPS resource.

While the Rural Residential zone is only small, 64% of this land is made up of HPS (123ha). The HPS in this zone makes up just 0.3% of what is in the district, so is a small loss once fully occupied by rural residential properties (if not already).

The situation is somewhat better in the Rural Lifestyle Zone – 14% of this zone contains HPS (289ha). This suggests that greater thought went into locating this zone, and this is consistent with the purpose of this zone described in the operative district plan (i.e. it was established to remove pressure to subdivide more valuable productive land). While primary production can occur in that zone and is likely to continue until pushed out by lifestyle development, the loss of HPS resource in this zone accounts for just 0.7% of all HPS in the rural environment.

Figure 9.6 – Land Capability by Rural Zone – Western Bay of Plenty District



The extensive Rural Zone contains 40,388ha of HPS – this makes up an average of 22% of the zone and accounts for 99% of the total HPS resource in the rural environment. This means that targeting, in the first instance, rural productive zones for the definition of HPL in the NPS - HPL, will be an appropriate approach, In the context of WBoP.

9.2.7 Land Cover

Figure 9.7 contains an analysis of the Land Cover Database data as it relates to the location of HPS. Based on the categories of land cover in that dataset, the top two land covers occupying HPS are as follows:

1. High Producing Exotic Grassland – this land cover includes 24,758ha of HPS. The HPS resource makes up 34% of all land with this land cover in WBoP, meaning that nearly two thirds is located on other soils. The presence of HPS appears to play only a moderate role in the location of this activity (all else being equal). However, this land cover is significant as it makes up 61% of the total HPS resource in the combined rural area of the district.

2. Orchard, Vineyard or Other Perennial Crop - this land cover includes 10,141ha of HPS. The HPS resource makes up 65% of all land with this land cover in WBoP, meaning that nearly a third is located on other soils. The presence of HPS appears to play only a significant role in the location of this activity (all else being equal). That is, highly productive horticultural businesses require highly productive land. This land cover is moderately significant as it makes up 25% of the total HPS resource in the combined rural area of the district.

Figure 9.7 – WBoP Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	24,758	34%	60.7%
Orchard, Vineyard or Other Perennial Crop	10,141	65%	24.9%
Indigenous Forest	1,626	3%	4.0%
Exotic Forest	1,443	6%	3.5%
Short-rotation Cropland	1,009	79%	2.5%
Broadleaved Indigenous Hardwoods	383	13%	0.9%
Herbaceous Freshwater Vegetation	261	49%	0.6%
Forest - Harvested	227	8%	0.6%
Built-up Area (settlement)	156	56%	0.4%
Manuka and/or Kanuka	144	8%	0.4%
Urban Parkland/Open Space	128	97%	0.3%
Low Producing Grassland	127	17%	0.3%
Deciduous Hardwoods	90	23%	0.2%
Surface Mine or Dump	63	31%	0.2%
River	62	65%	0.2%
Mixed Exotic Shrubland	48	28%	0.1%
Gorse and/or Broom	45	5%	0.1%
Herbaceous Saline Vegetation	40	12%	0.1%
Transport Infrastructure	12	60%	0.0%
Lake or Pond	10	18%	0.0%
n.e.c	7	4%	0.0%
Estuarine Open Water	7	4%	0.0%
Mangrove	6	10%	0.0%
Sand or Gravel	4	7%	0.0%
Gravel or Rock	1	100%	0.0%
Fernland	-	0%	0.0%
Landslide	-	0%	0.0%
Matagouri or Grey Scrub	-	0%	0.0%
Total HPS Area Within Rural Zones * (ha)	40,800	22%	100.0%

Source: Western Bay of Plenty Distict Council (Zones), LCDB, LRI - Landcare.

** As defined by M.E for the purpose of the study.*

Other land covers account for only minor shares of the HPS resource. Short Rotation Cropland for example makes up just 1,009ha of HPS (2.5% of the total). This is however highly concentrated on HPS land suggested a high dependency on that resource (or at lease significant advantages).

9.2.8 Land Use (Rural Environment)

The following analysis relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types[61]. This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 9.4. The data also

[61] This definition is not limited to the definition provided in the NPS – HPL (i.e. may include a broad range of property sizes at the upper end).

contains a breakdown of property types for rural properties (other than lifestyle). This helps form a profile of the rural property estate in WBoP.

In total, the CoreLogic data identifies 11,025 lifestyle or rural properties. Lifestyle defined properties account for 72% of the total (7,957 current estimate). An estimated 1,287 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 16% of total lifestyle properties and 12% of all lifestyle and rural properties.

Figure 9.8 – Count and Structure of Total WBoP Rural and Lifestyle Properties (2019)

Property Type Category	Total Count	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Bare	2	0%	0%
Lifestyle - Improved	6,670	60%	84%
Lifestyle - Vacant	1,287	12%	16%
Sub-Total Lifestyle	7,957	72%	100%
Dairying - Milk	416	4%	14%
Horticulture - Berry fruit	3	0%	0%
Horticulture - Citrus	6	0%	0%
Horticulture - Flowers	14	0%	0%
Horticulture - Glasshouse	28	0%	1%
Horticulture - Kiwifruit	1,669	15%	57%
Horticulture - Market garden	6	0%	0%
Horticulture - Mixed/Other	231	2%	8%
Horticulture - Pip fruit	2	0%	0%
Horticulture - Stone fruit	222	2%	8%
Horticulture - Vineyards	1	0%	0%
Pastoral - Finishing	322	3%	11%
Sub-Total Horticulture & Farming	2,920	26%	100%
Forestry - Exotic	42	0%	31%
Forestry - Indigenous	44	0%	33%
Forestry - Protected	49	0%	36%
Sub-Total Forestry	135	1%	100%
Mining - Rock/shingle/sand	13	0%	100%
Sub-Total Mining	13	0%	100%
Total Rural & Lifestyle Properties	11,025	100%	

Source: Core Logic 2019, MPI

In terms of Horticultural and Farming properties – there are an estimated 2,920 of these – and they make up 26% of all properties in the dataset. Kiwifruit orchards dominate this group (57% or 1,660). This is followed by Dairy Farms (14% or 416), Pastoral Finishing farms (11% of 322), Mixed/Other horticulture (8% or 231) and stone fruit orchards (8% or 222). There are an estimated 135 forestry properties, although only a third of these are exotic forests. Last, there are 13 mining related properties.

9.2.9 Lifestyle Properties

The CoreLogic data also contains a description of dominant land use for each property type. There is generally a strong correlation between both type and land use, but Lifestyle blocks in particular have

diverse uses, including productive use at a lifestyle property scale. Figure 9.9 provides a matrix of WBoP lifestyle properties from that dataset. It shows that the land use of 82% of lifestyle properties is primarily for a single residential dwelling. A further 16% have been coded as multi-use lifestyle blocks which we understand means both a place of residence and another use (mostly some form of primary production). Approximately 50 lifestyle blocks are primarily horticultural or farming lots with some improvements but potentially no dwelling. This data provides some evidence of the loss of productive capacity when rural land is subdivided for lifestyle blocks.

Figure 9.9 – Count and Land Use of Total WBoP District Lifestyle Properties (2019)

Land Use Category (Corelogic)	Lifestyle - Bare	Lifestyle - Improved	Lifestyle - Vacant	Sub-Total Lifestyle	Share of Total by Land Use
Residential, Single Unit, Bach	1	6,531	25	6,556	82%
Lifestyle, Multi Use Lifestyle	-	63	1,205	1,268	16%
Horticulture & Farming	1	25	25	50	1%
Forestry	-	-	2	2	0%
Rural Industry	-	4	-	4	0%
Other Industrial	-	6	-	6	0%
Commercial	-	1	-	1	0%
Educational	-	2	-	2	0%
Recreation	-	2	-	2	0%
Community Services, Other	-	1	-	1	0%
Other	-	35	30	65	1%
Total Count	2	6,670	1,287	7,957	100%
Share of Total by Type	0%	84%	16%	100%	

Source: Core Logic 2019, MPI

Figure 9.10 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for WBoP[62]. It shows a sudden increase in 1994 and stead growth to 2005. There was little additional growth through to 2008 and another jump in 2009. Growth since then has been slower. By 2015, the count had reached 6,170. Our latest data shows a count of 6,670 improved lifestyle blocks, so there has been an estimated increase of 500 lifestyle properties between 2015 and 2019.

Figure 9.11 provides a map of current lifestyle properties according to CoreLogic. It shows that they have concentrated in the west of the district (from Waihi Beach through to Te Puna and quite extensively inland from the coast) and in the centre of the district to the south and east of the boundary with Tauranga City.

[62] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

Figure 9.10 – Growth of Lifestyle Properties in WBoP 1993-2015

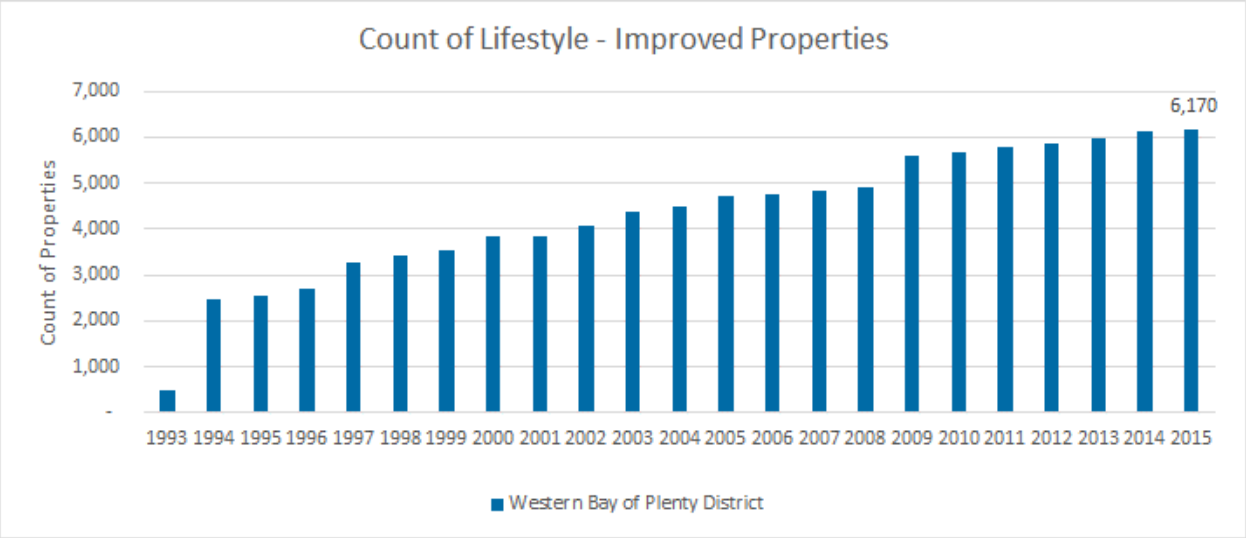
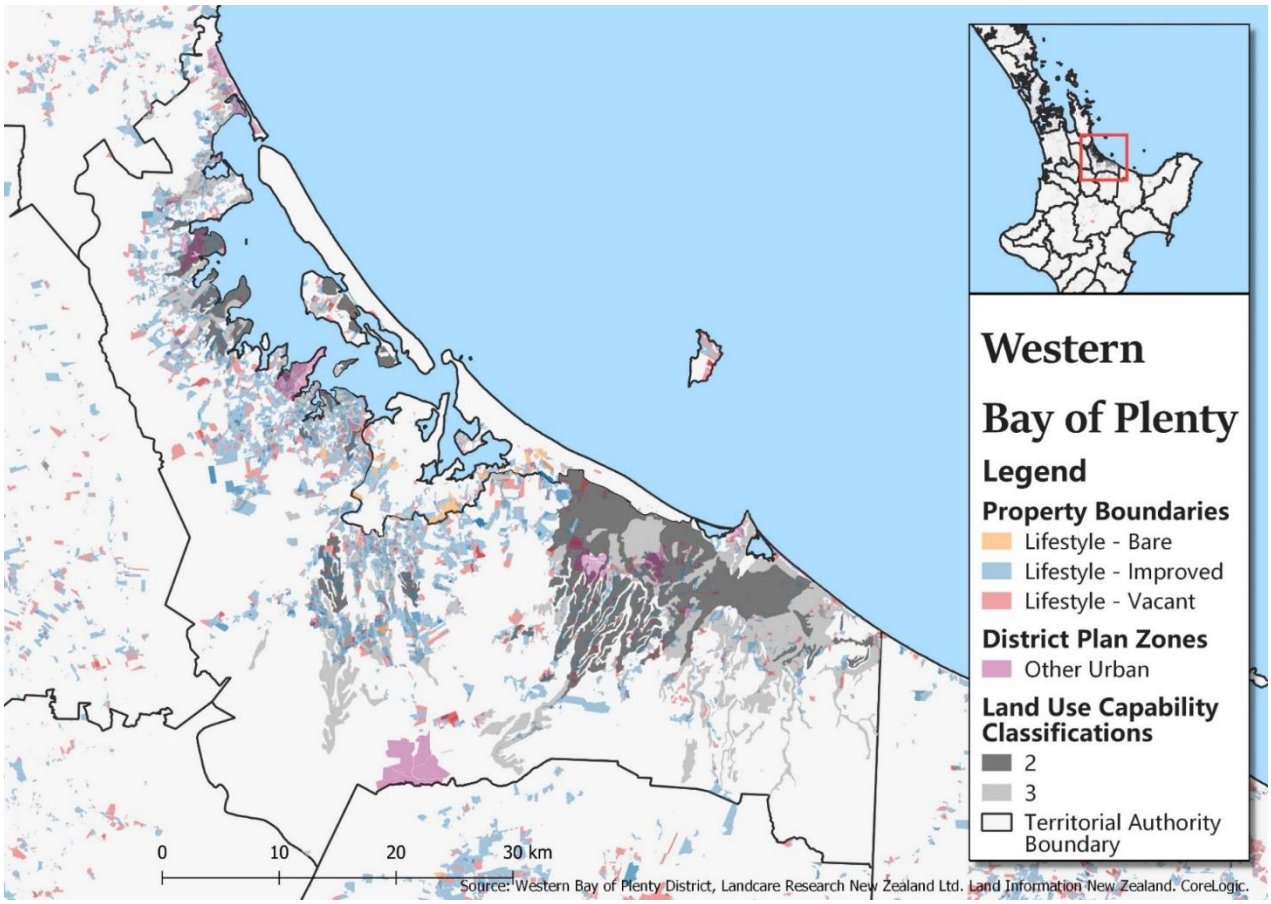


Figure 9.11: WBoP District HPS Coverage and Rural Lifestyle Property Patterns (2019)



9.3 Planning Approach Relevant to HPL

WBoP's operative district plan was made operative (in part) in 2012. The issues overview section highlights the pressure of strong projected population growth as well as the importance of agriculture and

horticulture for the economic and social wellbeing of the district community. Cross boundary issues with Tauranga City are highly relevant. Combined with the Regional Council, the three councils formed a partnership to collaboratively develop a 50-year growth management strategy and implementation plan (SmartGrowth). This has guided changes to the Regional Policy Statement to "*anchor land use patterns and set development targets (including minimum residential densities) for the western Bay of Plenty sub-region*".

Approach to urban expansion

This live/work/play principle of the SmartGrowth Strategy emphasises the need for a more compact approach to land use planning to limit the 'urban sprawl' which has characterised past development. The RPS has adopted a settlement plan that identifies areas for future urban development and sets defined urban limits that take account of growth projections. The expectation therefore is that current zoning removes the need for further urban expansion for the foreseeable future. In WBoP district, urban growth will be confined within or immediately adjoining the existing urban areas of Waihi Beach, Katikati, Omokoroa and Te Puke. "*Limiting urban growth to within defined areas will result in positive effects on the rural environment which makes up most of the Western Bay of Plenty District*".

In terms of the future urban zone, one area in the Omokoroa Peninsula has been zoned. "*Whilst not zoned on the District Planning Maps there are a number of areas within the District identified in the Bay of Plenty Regional Policy Statement for future urban growth. Zoning of these areas for immediate urban development will not occur until the completion of appropriate comprehensive structure planning exercises that include integrated assessment of any infrastructure upgrades. Undertaking such work ahead of actual demand or need for urbanisation is not an efficient use of resources and the resulting structure plans may become obsolete before the time of their implementation. Provision is therefore made for these areas to retain the ability for productive rural purposes in the interim prior to urbanisation*". Similarly, in the Omokoroa Peninsula, the minimum net lot size remains 4ha until this land is ready for urban development.

Given the development and implementation of the SmartGrowth Strategy, the proposed NPS – HPL policy that requires local authorities to carry out strategic spatial planning to manage future growth is unlikely to result in any additional costs for WBoP district Council based on our understanding of what that policy might entail and hope to achieve. There would also be no net benefits over the status quo.

Approach to rural residential and lifestyle development

As the District is predominantly rural, protection of the values and resources existing within the rural environment is essential and a key issue for the operative district plan. The plan states that "*currently 10% of the sub–region's population*[63] *is employed in the agriculture industry. This is well above the national average of 7.5%. In addition to this, the sub-region's most important export industry is agriculture (including horticulture).*"

"*As primary production is the main economic base of the sub-region there is a need to ensure that productive rural land is not unnecessarily fragmented through subdivision driven by lifestyle demand rather than that for primary production*." To that effect, WBoP has zoned places where rural residential and rural lifestyle development can go.

[63] The sub-region refers to the combined area of WBoP District and Tauranga City.

The Rural-Residential Zone is a historical zone that has been in place for some time and recognises existing development and provides mainly for those people who still desire urban standards of servicing while living in a 'rural' environment. New Rural-Residential Zones are provided as part of the urbanisation of the Omokoroa Peninsula. Their purpose is to provide a less intensive interface with the Harbour and to manage areas that have development constraints.

The Tara Road Rural Residential Zone provides for rural residential living on the urban fringe of Tauranga and has specific requirements to avoid reverse sensitivity, geotechnical and stormwater effects on the Tauranga Eastern Link and Tara Road. In particular rural residential development should not commence until the Tauranga Eastern Link is operational in order to avoid the potential for reverse sensitivity. A new zone has also been created at Tides Reach, Te Puna, in recognition of the development that has both occurred and is planned at that location.

The operative plan also manages where rural residential development cannot go. The example being the Omokoroa Peninsula. Land has been zoned for longer term urban growth in the form of a future urban zone. But the Peninsula is also recognised for areas of versatile land. The explanation for the future urban zones states that "*By not allowing rural-residential type development [in the Omokoroa Peninsula] the ability of the land resource to be used productively is maintained, as is the potential for urban development*".

The provision of a Rural Lifestyle zone is further aimed at reducing pressure for rural fragmentation. The Lifestyle Zone covers specific areas within the District that are close to existing urban centres and which have been identified as suitable for the establishment of lifestyle type living. It is intended that this Zone will provide people with an opportunity to live in the rural environment and enjoy the many good features of rural living such as open space, privacy and rural outlook, without the potential for conflict that can occur with primary production activities. Within this Zone there will be provision for small scale farming, conservation planting, open space networks and walkways and cycleways (greenlanes) to provide a high amenity rural environment.

Development of the Lifestyle Zone will require Transferable Lot entitlements from the range of incentives provided to land owners within the Rural Zone. The Zone is established to assist the restoration and maintenance of the productive rural land resource by removing some of the pressure that exists for rural lifestyle living within these areas. It does this by providing development opportunities in locations that are located in high demand areas in return for the transfer of development rights from less sought-after areas which remain important for rural production purposes.

By providing both rural residential and rural lifestyle zones in the operative district plan, the WBoP has already achieved one of the recommendations of the NPS – HPL.

Approach to rural development and subdivision

The operative district plan has a clear position on the importance of primary production and retaining access to versatile soils for productive activities. The Council's definition of versatile land already matches the NPS – HPL default definition of LUC classes 1-3. "*Rural production requires a range of attributes to enable the land to be effectively and efficiently managed for rural production purposes. The Western Bay of Plenty District has a range of the attributes that make the land versatile for food production to be undertaken. Such factors include soil, water, climate, contour, location and proximity to labour and services. To ensure that rural production can continue in the District provision needs to be made so rural production*

operations have access and are able to utilise these attributes. The high-quality versatile land found in parts of the sub-region is a scarce and finite resource. With increasing population this land needs to be protected to ensure the potential use for food production now and into the future is not compromised."

A key feature of this statement is that WBoP have not just considered highly productive soils, but a range of attributes that collectively identify highly productive land. This aligns well with the NPS – HPL policy 1 criteria.

Nonetheless, considerable fragmentation of the Rural Zone has already occurred. "*The magnitude of demand for rural living which has resulted in the high degree of rural land fragmentation through subdivision was not anticipated and the point has now been reached where the cumulative effects of the large amount of intensified rural development has now become evident. Many owners of land have also carried out subdivision to secure future development rights*."

"*Consequently, a considerable number of vacant lots now exist which have the potential to be developed. Many of these lots are in areas that have deficient infrastructure, and which are remote from employment areas and if developed will continue to add to the cumulative effects already being experienced*." "*The challenge is to ensure that subdivision under the District Plan rules, in particular those stipulating minimum lot sizes, results in the productive potential of the most versatile land not being compromised*". Or further compromised, as the case may be.

Selected operative objectives that seek to manage those effects in the Rural Zone are as follows:

3. *The rural land resource and versatile land capability is maintained to enable its use for rural production activities.*
4. *Primary productive activities should be able to operate in the Rural Zone without unreasonable constraints being imposed on them by other activities.*
5. *Appropriate provision for activities not directly based on primary production but which have a functional or other legitimate need for a rural location.*
6. *The efficient use and development of the rural land resource for primary production.*

Selected policies that give effect to those objectives, and which appear highly consistent with the policy direction of the proposed NPS – HPL, include:

7. *Subdivision, use and development of versatile land should occur in a way which retains its potential to be used for a range of productive rural purposes and which maximises the likelihood of it actually being used for such purposes.*
8. *Fragmentation of versatile land for purposes not directly related to maintaining or enhancing the primary productive potential of the rural land resource should be avoided or minimised.*
9. *Except where specifically tailored to accommodate other activities with a legitimate need for a rural location, new rural lots created through subdivision should be of a size and nature suitable for a range of primary productive uses.*

10. *Subdivision, use and development which has the potential to inhibit the efficient use and development of rural land for primary production or to inhibit the efficient use and development of existing mineral extraction sites (including vehicle access routes to such resources) should be avoided or minimised.*

11. *N.A*

12. *The amalgamation of existing rural lots into larger land parcels should be encouraged.*

13. *Provide for the amalgamation of large rural lots for productive purposes through the provision of incentives.*

Policy 13 is also notable for requiring any rural residential or rural lifestyle development to be channelled onto land with low versatility for primary production. To give effect to the policies for the Rural Zone, the zone standards include a minimum lot size for subdivision as follows[64]:

- *40ha to create a general farming lot[65].*
- *6ha to create a rural production lot. These can only be created below 200m above mean high water springs and must be verified as being capable of horticultural production.*
- *6ha to create a productive crop lot. These can be created anywhere in the rural zone where a minimum of 70% of the site is already planted in a productive crop. This allows horticultural properties to sell off commercially viable lots.*
- *There is further ability to create one additional balance lot (minimum of 6ha) lot if the average of both lots is no less than 6ha. This can occur anywhere in the Rural Zone[66].*

9.4 Modelling of Rural Lifestyle Development Outcomes

This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in WBoP's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

9.4.1 Definition of Highly Productive Land under the NPS – HPL

Figure 9.12 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or greater coverage of LUC 1-3 or 4ha or greater of LUC class 1-3 land). The HPL is applied to the rural zone (excluding Rural Residential and Lifestyle[67]) of WBOP District.

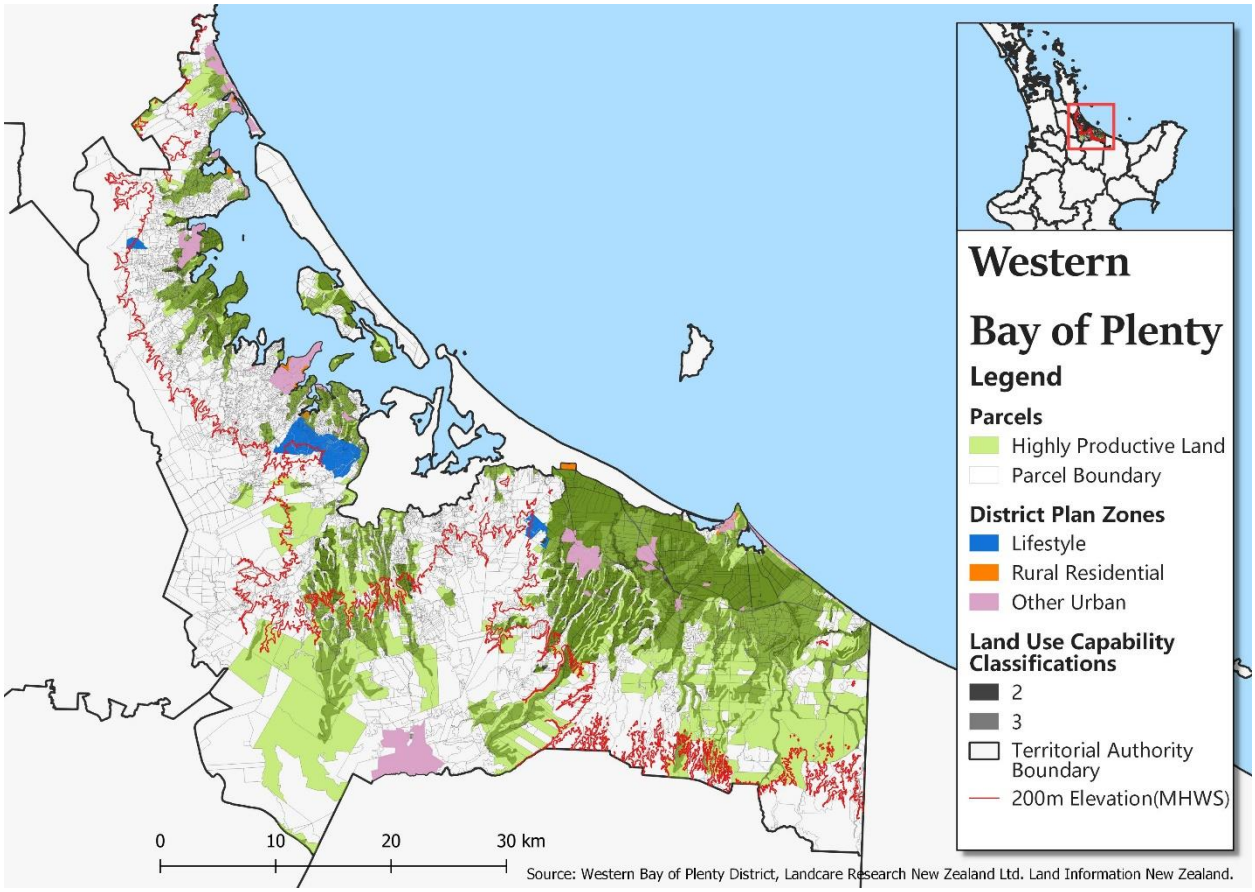
[64] Note, this is a simplified summary only and there are further limitations on general farming lots and general 6ha lots relating to previous boundary adjustments. There are also a range of other subdivision methods that have not been covered here.

[65] For the purpose of our modelling in section 9.4, we have not been able to take account of the boundary adjustment date constraint.

[66] For the purpose of our modelling in section 9.4, we have not been able to take account of the boundary adjustment date constraint.

[67] We note, this is broader than the intent of the NPS, which excludes Rural Residential (or similar) zones from HPL identification.

Figure 9.12 – Map of Indicative HPL (Default Definition) Western Bay of Plenty



In total, this HPL area captures 7,583 parcels of rural land. Nearly all (86%) of these are within the Rural Zone below 200m above MHWS. A further 10% (788 parcels) are located within the Rural Zone above 200m from MHWS. The remainder of HPL parcels are located within the Lifestyle Zones (159) and Rural Residential Zone (121). Of these HPL parcels, 1,084 parcels are able to be subdivided under current provisions (discussed below). These parcels that are able to be subdivided total 56,790ha and include 25,172ha of LUC 1-3. This area represents nearly two-thirds (63%) of the total HPS (LUC1-3) area of 39,973ha in the rural zones in WBOP District.

9.4.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

M.E has examined the land parcels in WBOP District's rural area that could be further subdivided under the operative minimum lot size provisions. Figure 9.13 summarises the operative minimum lot sizes we have adopted for this analysis – we have taken a simplified approach for the purpose of our modelling.

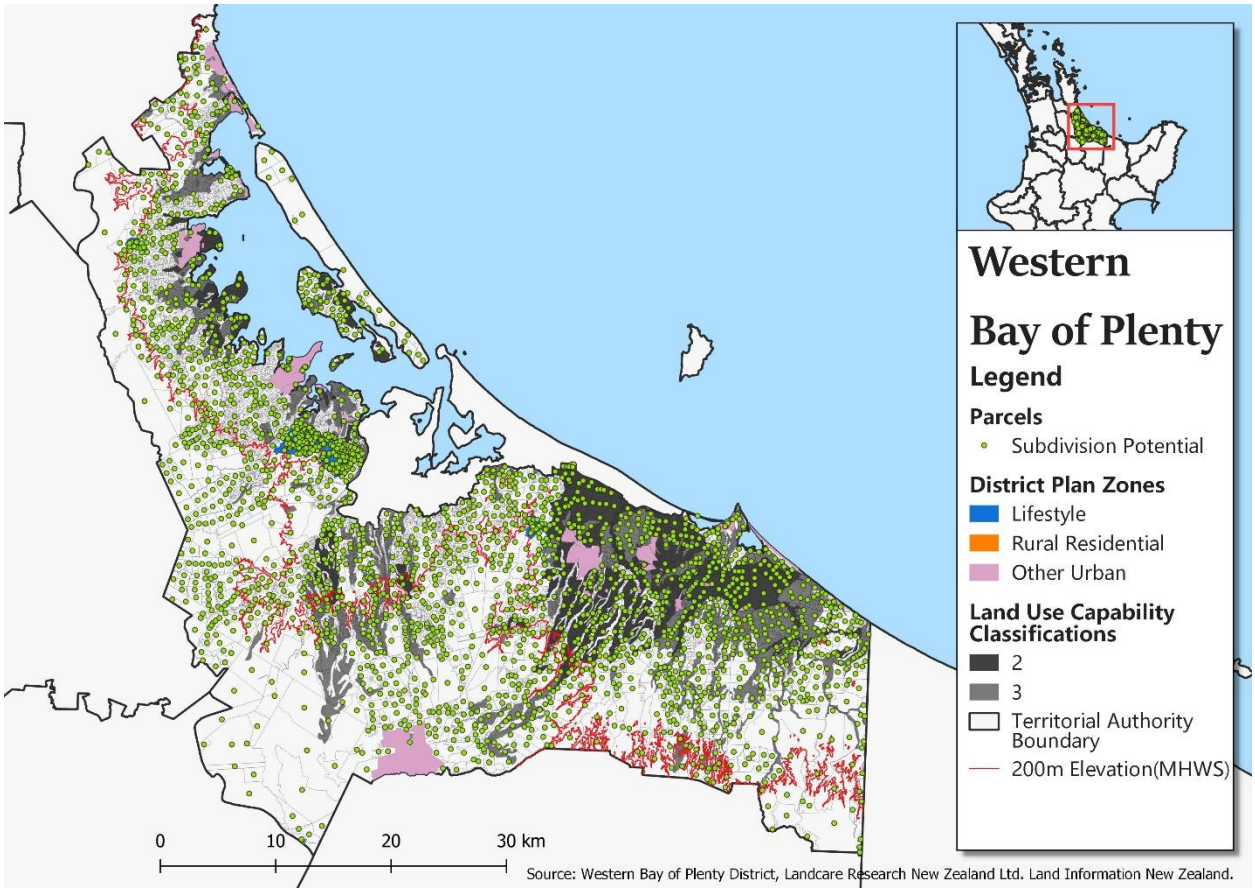
Figure 9.13 – Simple Operative Minimum Lot Size Assumptions by Rural Zone – WBoP

District	Relevant Rural Zones	Min Lot Size (Subdivision) (ha)	Notes
Western Bay of Plenty	Rural	40 – General Farming Lot	Limitations of boundary adjustment dates excluded for the purpose of modelling. Further, we have limited these to parcels above 200m above MHWS.
	Rural – less than 200m above MHWS	6 – Rural Production Lot	The lot must be *suitable* for the successful growing of permanent horticultural crops in the prevailing climatic conditions and must be assessed to demonstrate compliance with specified soil, slope and orientation characteristics (by a soil and horticultural expert). These factors are not taken account of by M.E. Rather, we assume simply potential for additional 6ha minimum lot sizes below 200m above MHWS.
	Rural	*6 – Rural Crop Lot*	*For simplicity, we have excluded this potential subdivision pathway for the purpose of our modelling on the basis that it is designed to retain existing primary production. As such, this form of rural fragmentation does not result in the potential loss of primary production, even if a dwelling is added. This exclusion is expected to have minor impact on identifying potential capacity for additional rural households.*
	Rural	6 (min average) - General	Potential for one balance lot where average of both is 6ha. For simplicity (and based on our current understanding) this has been applied to the area above 200m above MHWS (i.e in the rest of the rural zone) to avoid duplication of the way in which Rural Production Lots have been modelled below 200m above MHWS. To ensure that this subdivision pathway is mutually exclusive from general farming lots in the rural zone, we have limited this potential to parent lots loss than 80ha. I.e. anything above 80ha would follow the general farming lot subdivision pathway. For the purpose of modelling, M.E has not taken account of the limitations associated with boundary adjustment dates.
	Rural Residential	0.4 (min average)	
	Rural Lifestyle	0.5 (min average)	Exception for Minden Lifestyle Structure Plan excluded for purpose of modelling.
	General note of modelling subdivision yield potential: Excludes Transferable Rural Lot entitlements (which can be used in the Lifestyle Zone), Transferable Amalgamation Lots (which can be used in the Lifestyle Zone), Additional Dwelling Lots, Separation Lots, Protections lots,		

Figure 9.14 identifies the location of existing parcels that may be able to be subdivided (assuming no policy or physical constraints) to create one or more additional lot under the status quo (it does not reveal the yield of additional lots explicitly).

Figure 9.14 highlights that there is significant indicative potential for further land fragmentation (based purely on application of minimum lots sizes) in areas with HPS (LUC class 1-3 land). LUC class 1-3 land makes up around 18% of the land within parcels that able to be subdivided under current provisions. Nearly all (98%) of this LUC class 1-3 land is within the Rural Zone, with only small amounts (410ha) within the Rural Residential and Lifestyle zones. Equally, there are areas where subdivision can occur that do not contain HPS.

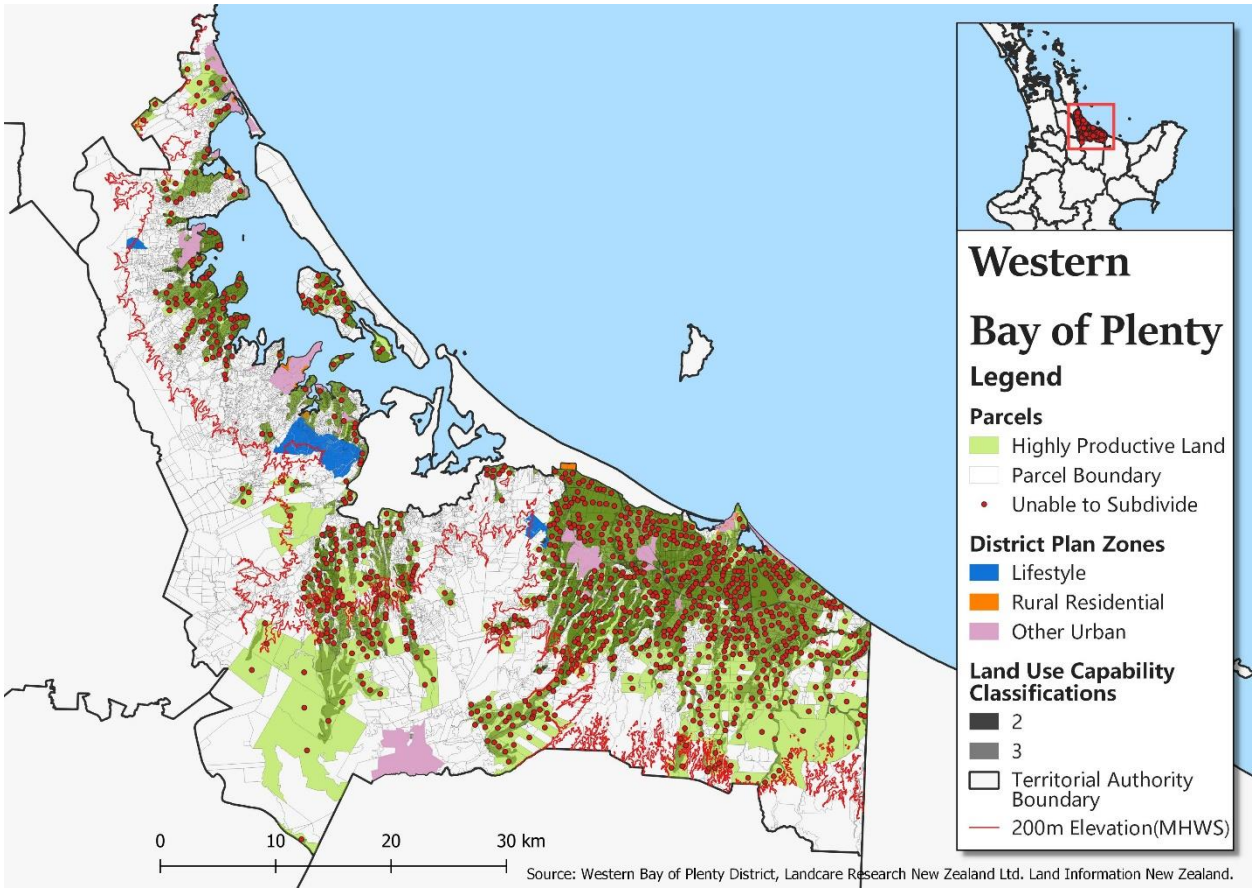
Figure 9.14 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – WBoP



While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. Figure 9.15 identifies those parcels within the defined HPL area that would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 9.14 and Figure 9.12) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

Figure 9.15 – HPL Parcels Unable to Subdivide Under the NPS - HPL High Scenario – WBoP



9.4.3 Projected Growth

WBOP District's medium growth outlook is for a 9% increase in household numbers by 2028, from the current 19,000 to 20,700, with further increases to 2038 (21,600 households) and 2048 (22,500 households). These are shown in Figure 9.16. Over the next three decades, the district as a whole can expect between 500 (low growth outlook) to 7,200 (high growth outlook) additional households.

Figure 9.16 – WBoP District Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	19,500	22,100	24,300	26,700	2,600	4,800	7,200
Medium	19,000	20,700	21,600	22,500	1,700	2,600	3,500
Low	18,600	19,300	19,200	19,100	700	600	500
Growth Rate (%pa)					***Lifestyle Parcels***		
High		1.3%	1.1%	1.1%	1,150	2,120	3,180
Medium		0.9%	0.6%	0.6%	780	1,190	1,600
Low		0.4%	0.2%	0.1%	320	280	230

Source: SNZ 2018; ME 2019

9.4.4 Lifestyle Demand

In WBoP District, there are currently some 8,641 parcels within (7,957) lifestyle properties based on data from CoreLogic, including 7,387 parcels within (6,670) lifestyle properties listed as having improvements (generally a dwelling) and 1,254 parcels within lifestyle properties listed as having no improvements. These make up a large share (39%-45%) of the district's total dwellings. Most (92%) of these are located within the Rural Zone, where they occupy an estimated 25,545ha of land (refer map in Figure 9.11). Mean parcel size of lifestyle properties in the Rural Zone is 3.36ha. The remainder of the lifestyle properties are within the Rural Residential and Lifestyle zones, where they have smaller average parcel sizes of 0.87ha (Rural Residential) to 1.94ha (Lifestyle Zone). A substantial share (29%) of the land in these lifestyle blocks is HPS (7,716ha of the total 26,796ha).

Figure 9.16 further shows the projected increase in demand for lifestyle parcels. This has been estimated on a direct *pro rata* basis, assuming that the number of households on lifestyle properties remains more or less constant with the current share (an implied 45% of total households). The underlying household projections indicate an additional 780 lifestyle properties would be demanded by 2028 in the medium growth future, with 1,200 by 2038, and 1,600 by 2048 (Low 230, High 3,180).

9.4.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based around the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation. The base case outlook is the medium growth projection, with 800 more by 2028, 1,200 by 2038 and 1,600by 2048 (Figure 9.16).

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle properties is driven by existing rules for subdivision (minimum lot sizes) in the Rural zones. Since the yield of potential subdivisions (around 17,400 under current provisions) is greater than the projected demand over the decades, the new parcels have been estimated according to the number of potential parcels, the demand in each period, and the current geography of the lifestyle blocks.

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

9.4.6 Lifestyle Subdivision

Land Fragmentation

Figure 9.17 summarises the subdivision and land use outcomes to accommodate WBOP District's projected lifestyle property demand to 2028, for the without NPS - HPL and with NPS - HPL futures. The total area of rural land taken up would be within a similar order of magnitude in each future, with the larger differences being the extent of the HPS resource occupied, and the location of the new lifestyle properties.

These tables include the total lifestyle properties formed across all zones (i.e. they include the Lifestyle and Rural Residential zones as well as the main rural zones) in order to provide a comprehensive picture of the distribution of lifestyle properties under each scenario. As such, there is a significant number of parcels and land area occurring within the HPS area under all the scenarios. This predominantly occurs within the

Lifestyle and Rural Residential zones which contain some HPS land and to which the NPS - HPL provisions do not apply.

Key medium-term outcomes for land use are (2028):

a. Demand for lifestyle parcels would see around 770-780 additional parcels by 2028, taking up between 1,810 ha and 2,390ha of rural land.

b. Under the Status Quo future, the additional lifestyle parcels would be distributed with 96 (12%) on land containing HPS, and the balance (686) on land without significant HPS resource. The additional parcels would take up a total area of 2,390ha (at an average of 3.1ha per parcel), including 255ha of HPS resource. It is important to note that the modelling assumes there is no reduction in minimum subdivision size over the period, which may arise for example from concern about the substantial areas being taken up for lifestyle properties and desire to reduce that land uptake.

c. Under the Low-Medium Regulatory future, the estimated 777 additional parcels would be distributed across both HPS resource and on land without significant HPS resource. Because the constraints on subdividing the HPL resource would not be completely effective (restricted discretionary) and land zoned already as Rural Residential and Lifestyle is assumed to be not subject to NPS - HPL provisions, the scenario shows around 11% of the new lots indicatively occurring on the HPS resource, with 87 lots taking up some 141ha of HPS land.

d. Under the High Regulatory future, the outcome would be somewhat different, as the more rigorous application of NPS – HPL based provisions would see 72 new lifestyle properties on the HPS resource (although not the HPL resource as not all properties meet the NPS - HPL thresholds as to minimum size and HPL share). The additional 773 parcels would take up around 1,810ha, with only 39ha on HPS land.

Figure 9.17 – WBoP Lifestyle Subdivision and Land Outcomes to 2028 (Medium Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	-	-	-	-	-	-
2	44	78	45	53	40	20
3	52	177	42	88	32	19
4	82	289	86	278	86	256
5	48	46	52	44	54	45
6	360	1,006	365	899	369	813
7	149	512	151	470	155	453
8	47	280	36	195	37	199
TOTAL	782	2,390	777	2,030	773	1,810
HPL Total	**96**	**255**	**87**	**141**	**72**	**39**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

e. The effect of applying the NPS - HPL provisions would reduce the loss of HPS land. Under the two regulatory futures, there would be 9-24 fewer lifestyle parcels on HPS land than would otherwise

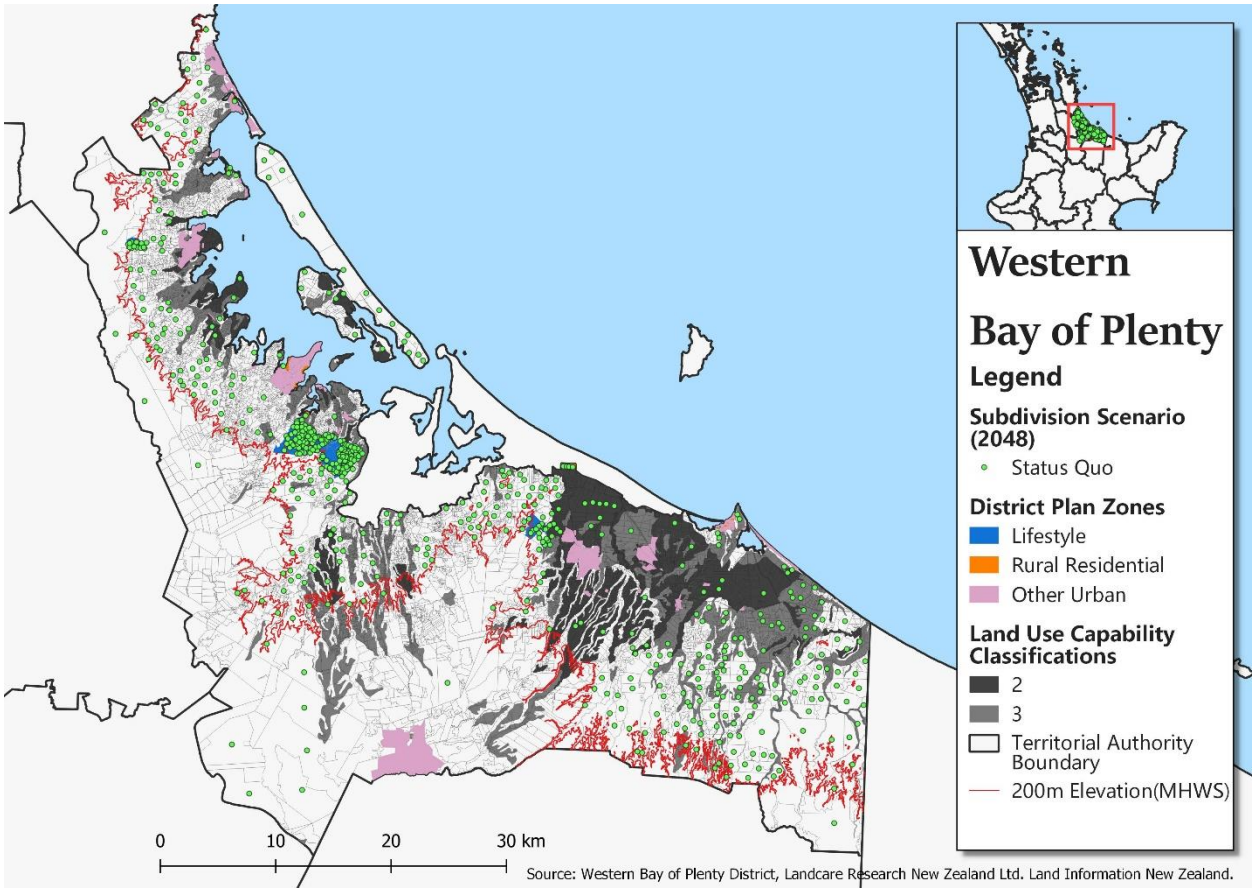
be the case, and 114-216ha of HPS resource retained for primary production by diverting rural subdivision elsewhere.

In the longer term (2048), similar effects are expected:

a. There is a projected long-term demand for an additional 1,590-1,600 lifestyle parcels in WBOP District by 2048. Demand for lifestyle parcels would see the additional parcels taking up between 4,150 and 5,380ha of Rural land (Figure 9.20). The differences in land area are due to differences in the minimum site sizes required with the different location patterns of lifestyle properties under each scenario.

b. Under the Status Quo future, the 1,587 additional parcels would be distributed with 246 (16%) on HPS parcels, and the balance (1,341) on land without significant HPS resource. The additional parcels would take up a total area of 5,380ha, including 836ha of HPS resource (Figure 9.18 and Figure 9.20).

Figure 9.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



c. Under the Low-Medium Regulatory future, 13% of the additional parcels would be distributed across the HPS resource, with most on land without significant HPS resource. The 203 lots on the HPS land would take up some 468ha of HPS land (Figure 9.20).

d. Under the High Regulatory future, the outcome would be somewhat different, with a small number (145) of lots established on HPS, and 1,456 additional parcels distributed on land without significant

HPS resource. The additional parcels would in total take up an area of 4,150ha (Figure 9.19 and Figure 9.20), including 83ha of HPS land.

Figure 9.19 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – High

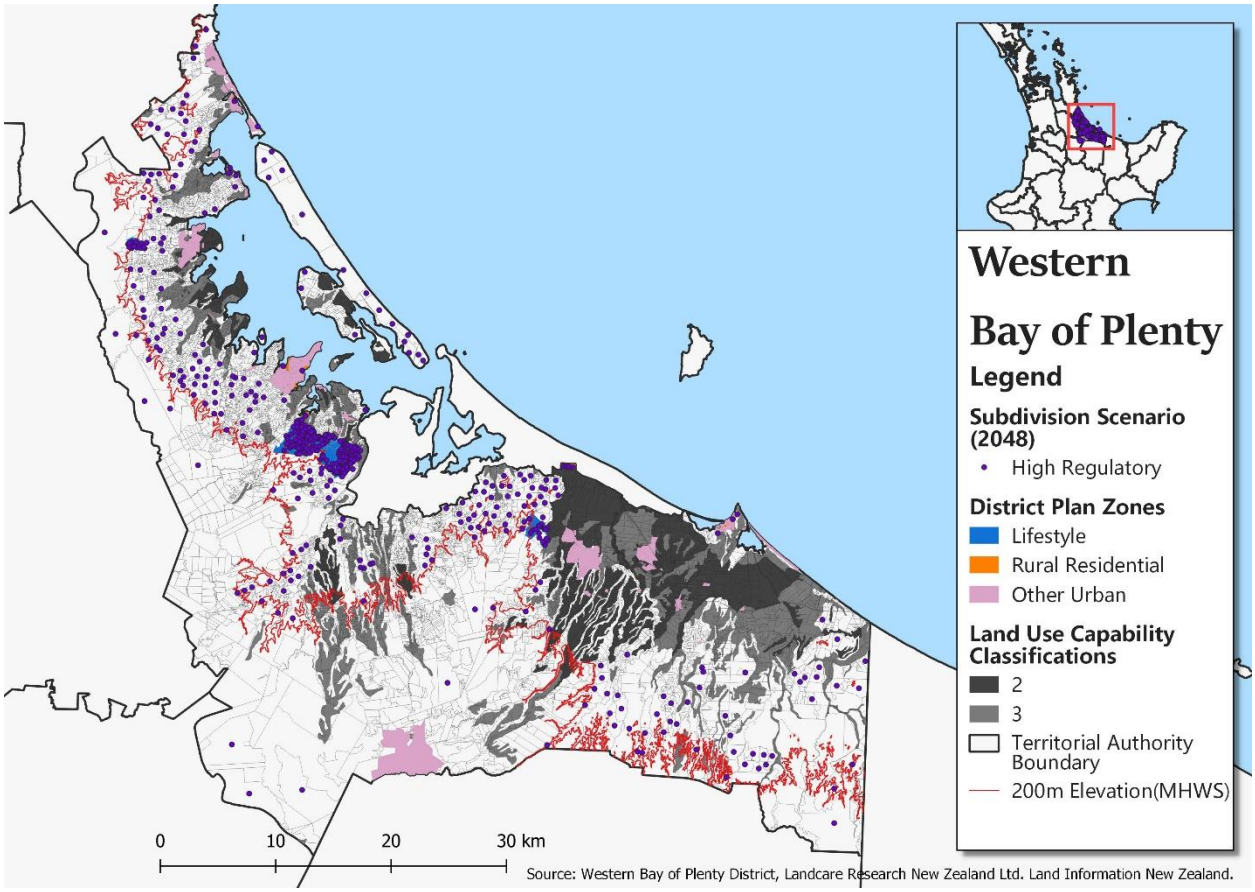


Figure 9.20 – WBoP Lifestyle Subdivision and Land Outcomes to 2048 (Medium Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory[1]	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	-	-	-	-	-	-
2	108	291	104	209	80	40
3	138	546	99	258	65	43
4	167	665	181	656	188	618
5	88	87	100	83	105	87
6	698	2,124	736	1,938	765	1,848
7	298	1,101	315	1,094	323	1,099
8	90	569	67	398	75	417
TOTAL	1,587	5,380	1,602	4,640	1,601	4,150
HPL Total	**246**	**836**	**203**	**468**	**145**	**83**

Note 1: Subdivision possible on HPS parcels if minimum size and HPS share % thresholds not reached.

Source: ME Lifestyle Parcel Model 2019

e. The effect of applying the NPS - HPL provisions would substantially reduce the loss of HPS land over the period to 2048. The High regulatory NPS - HPL future would see 101 fewer lifestyle parcels on HPS land than would otherwise be the case in the Status Quo, and 754ha of HPS resource retained for primary production. The Low-Medium regulatory future would see 43 fewer parcels created on the HPS resource, and 370 fewer ha of HPS land taken up.

Primary Production Gross Output

The analysis for Western Bay of Plenty District excludes any land area used for lifestyle parcel formation within the Rural zone for properties located below the 200m MHWS boundary. This is because the existing operative district plan provisions enable the formation of these properties as productive lots (existing or with a requirement to demonstrate their productive potential). Consequently, for the purpose of the modelling it has been assumed that at least a share of the land area within these newly formed lots will remain within productive uses or become productive over time. The exclusion of these properties substantially decreases any effect on foregone production within the district but reflects the primary production focus of the operative district plan.

The calculation of foregone production also excludes any lifestyle property land area within the Lifestyle and Rural Residential zones (based on the NPS - HPL definitions and approach). In alignment with the NPS - HPL provisions, it is calculated only on the land area taken up as lifestyle lots within the rural zones that are not primarily set aside for consolidated lifestyle development.

Overall, the effect on foregone primary production applies to few potential lifestyle properties created within the district (above 200m above mean high water springs). The key outcomes for primary production gross output are as follows (Figure 9.21).

a. Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $1.1m annually in 2028, $1.5m in 2038 and $2.6m annually in 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $38.4m (undiscounted) including $11.3m on HPS land, and $27m on other land.

c. In PV terms, the reduced output from HPS land would be $3.1m and $10.1 on all land[68].

d. In the Low-Medium NPS - HPL scenario, a smaller share of the subdivision would occur on the HPS land. The total opportunity cost (foregone primary production) would be $29.5m (undiscounted) and $7.3m (discounted) over 30 years to 2048.

e. The opportunity cost on the HPS land would be $3.0m less than in the Status Quo future, but foregone production would be slightly more ($0.2m) on the other land between the Status Quo and Low-Medium NPS - HPL scenario. In net terms, the opportunity cost would be $2.8m less in gross output terms under the Low-Medium NPS - HPL scenario relative to the Status Quo scenario. This includes an estimated $2.1m of labour and resource costs (inputs to production).

f. In the High NPS - HPL scenario, with virtually no subdivision occurring on the HPS land, the total opportunity cost (foregone primary production) would be $27.7m (undiscounted) and $7.0m (discounted) to 2048.

[68] Over 30 years, discounted at 8% pa.

g. The opportunity cost on the HPS land would be $3.1m less than in the Status Quo future, with the foregone production on the other land some $100,000 less. Overall, the foregone production would be $3.2m less in gross output terms in the High NPS - HPL scenario. This includes an estimated $2.4m of labour and resource costs (inputs to production).

h. This represents a small positive economic effect from protecting the HPS resource. The smaller scale of the foregone production values is largely due to a high share of the lifestyle demand being met within the Rural zone (below 200m above mean high water springs) through the formation of smaller productive lots. It is therefore likely that the exclusion of these properties results in an understatement of the foregone production. The approach assumes that all of this land would remain in productive uses or have the potential to be used productively between 2018 and 2048. However, we consider that at least a share of this land is likely to lose its potential for productive uses through the land improvement process and the lesser likelihood that all newly formed lots would be used for productive purposes.

Figure 9.21 – WBoP Long-Term Primary Production Outcomes to 2048 (Medium Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
	($m)								
2028	$ 0.4	$ 0.7	$ 1.1	$ 0.0	$ 0.6	$ 0.7	$ -	$ 0.6	$ 0.6
2038	$ 0.4	$ 1.1	$ 1.5	$ 0.0	$ 1.3	$ 1.3	$ -	$ 1.2	$ 1.2
2048	$ 0.8	$ 1.8	$ 2.6	$ 0.1	$ 1.9	$ 2.0	$ -	$ 1.8	$ 1.8
2018-48	$ 11.3	$ 27.0	$ 38.4	$ 0.5	$ 29.1	$ 29.5	$ -	$ 27.7	$ 27.7
Difference v SQ				-$ 10.9	$ 2.0	-$ 8.8	-$ 11.3	$ 0.7	-$ 10.7
PV (2018-48)	$ 3.1	$ 7.0	$ 10.1	$ 0.1	$ 7.2	$ 7.3	$ -	$ 7.0	$ 7.0
Difference v SQ				-$ 3.0	$ 0.2	-$ 2.8	-$ 3.1	-$ 0.1	-$ 3.2

Source: ME Lifestyle Parcel Model 2019

10 Auckland Region Analysis

This section contains the spatial analysis completed for Auckland. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative Auckland Unitary Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

The geography of Auckland is mixed. Most of the economic activity in the area occurs within the Major urban area, which concords with the earlier defined northern, western, central and southern urban zones[69]. However, there is also activity in the Pukekohe area, defined as a large urban area, as well as activity in smaller towns including Warkworth, Helensville, and Wellsford. Based on the Statistics NZ 2018 definitions, Auckland also includes areas defined as Rural settlements and Rural other. With the Waitakere Ranges dominating the western side of the council area and close to the urban fringe, the largest areas of rural land are found to the north and south.

10.1 HPS Resource

There is a substantial HPS resource in Auckland. It accounts for 25% of the unitary authority area or 123,717ha. There is just over 4,383ha of LUC class 1 land, just over 54,860ha of LUC class 2 land and approximately 64,470ha of LUC class 3 land (Figure 10.1). Excluding the existing urban land use zone area, there is approximately 96,990ha of HPS in the rural environment (inclusive of the Future Urban Zone (New Growth)), indicating that an estimated 26,727ha is covered by urban land use (and not already classified as 'town' area in the LRI database).

Figure 10.1: Summary of Land Use Capability in Auckland (ha)

	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total TA
Area of LUC Class (Ha)	4,383	54,861	64,472	79,449	-	172,475	52,499	11,677	49,185	4,889	493,891
Share of TA Area	1%	11%	13%	16%	0%	35%	11%	2%	10%	1%	100%
Sub-Total LUC 1-3 (Ha)			123,717								
Sub-Total LUC 1-3 (%)			25%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

[69] Statistics NZ 2013/2015 urban boundaries.

Figure 10.2: Auckland HPS Coverage and Rural Environment District Plan Zones

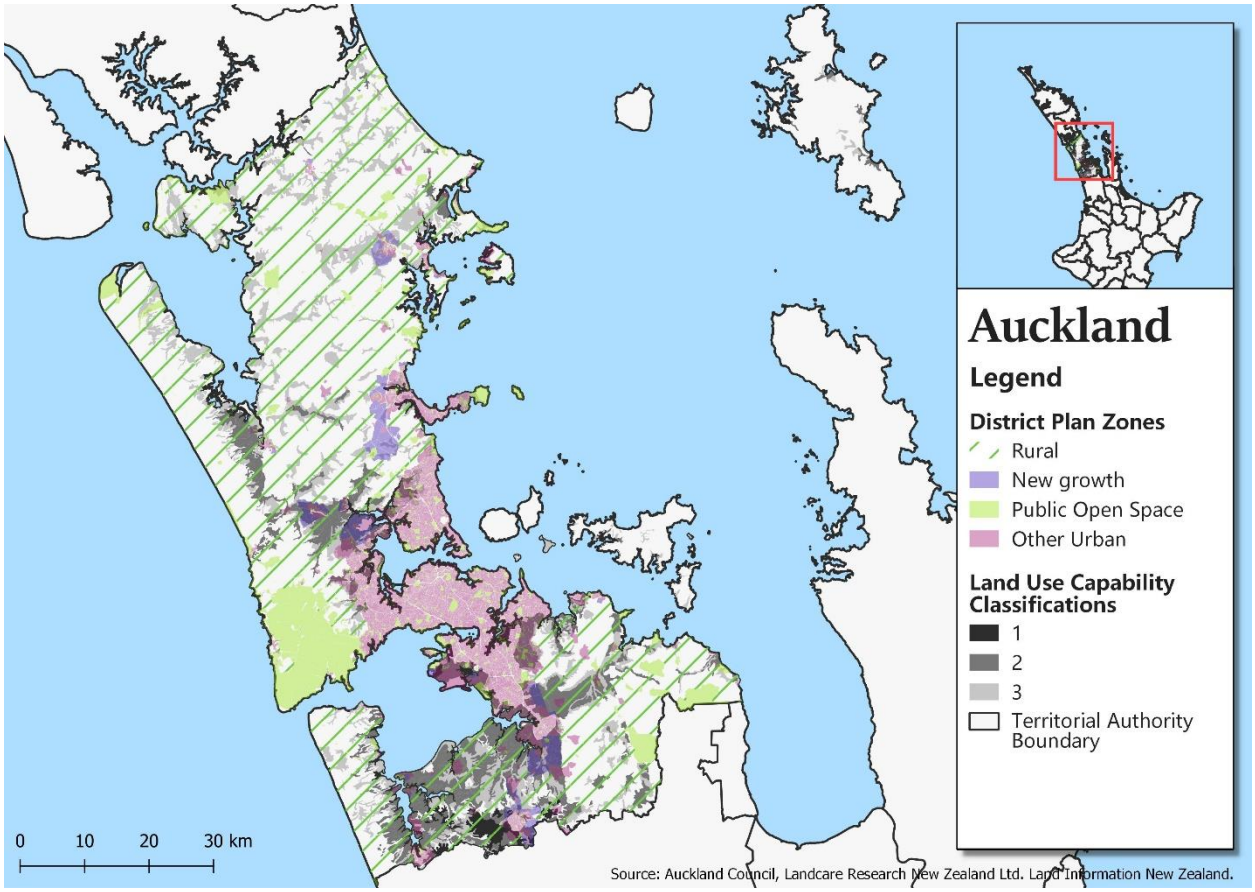


Figure 10.2 shows the location of the HPS resource relative to the urban land use zones (shown in pink). The most significant concentration of HPS is south of Manukau Harbour, extending down to the boundary with Waikato District. There is a band of HPS extending from Takanini, through Ardmore and across to Clevedon. Another concentration around Kumeu, Taupaki and Waimauku and a band extending south from Parakai and Helensville. Throughout the rest of the rural area, there are mostly small isolated areas of LUC class 3 land.

When the HPS resource is intersected with StatisticsNZ meshblock (2013) and urban area (2018) boundaries there are some 1,914 meshblocks which contain HPS, equating to 17% of all meshblocks in the region (Figure 10.3). Of these, 1,336 meshblocks have 75% or more of their total area in HPS, with a further 578 meshblocks having between 25% and 75% of their land area in HPS. Because the geography of the HPS is dispersed, there with a total of 54,944ha in areas where HPS are the dominant soil (75% plus coverage), out of over 123,000ha in total (44%).

The HPS areas, as expected, are predominantly in the rural parts of Auckland. Of the total 123,000 plus ha of HPS, some 98,390ha is in the StatisticsNZ defined Rural Other (non-urban) areas. Of this rural resource, some 35,883ha is in meshblock areas where the HPS is the dominant resource, that is, where it accounts for 75% or more of the land area.

The relative dispersal of HPS is important for land use and other potential policies for the NPS - HPL, because it means that the policy settings will need to cover reasonably dispersed areas across the.

10.2 Baseline Analysis

10.2.1 Population and Households

There is a reasonable overlap between the HPS resource and the population and household patterns. Across the region, approximately 17% of the households are in meshblock areas which show a significant HPS resource (25% or more coverage). These households accommodate around 17% of the population (just over 303,000). Approximately 12% of households occur within areas where HPS accounts for more than 75% of the total (Figure 10.3). However, almost three-quarters of that total occurs within the Major Urban area, that is, within the boundaries of Auckland's urban area. This shows that urban growth has already consumed significant areas of HPS in Auckland.

10.2.2 Household Growth

Auckland is a rapidly growing urban area. Between 2018 and 2038 it is expected to add a further 193,270 households (and dwellings) (Figure 10.3). This is more than the total for Christchurch and Wellington Cities combined. It is inevitable that a portion of this growth will be focused on HPS dominated areas, particularly to the south. Our assessment shows that approximately 25% of this growth in total is projected to occur in meshblocks with significant portions of HPS land (25% or more of meshblock total land area). This comes from a total of 49,000 additional dwellings likely to be developed in these areas. Of this some 35,740 are anticipated in meshblocks with more than 75% of their land area classified as HPS. Most of these new dwellings are expected to be within the Auckland Urban boundaries (around 29,000 dwellings or 63% of the high HPS focused growth).

Some of this 'within urban boundary' growth is projected to come at the expense of horticultural activities currently taking place there (as discussed below). However, the great majority of expected growth over the next 20 years is projected to occur in meshblocks with low concentrations of HPS. In total 144,060 households out of the 193,270 total growth would occur in these areas. Again, most of this growth is expected within the Urban boundaries.

In the Rural Other (non-urban) areas, only 10% of total dwelling growth is expected (18,450 dwellings). Of this only 5,440 households are anticipated in meshblocks with more than 75% of land classified as HPS – or 29% of that total. While the share of growth directed to rural areas seems low, the quantum of growth is significant relative to other council areas in New Zealand, so that rural fragmentation is highly relevant.

As noted, the initial meshblock-level analysis offers an approximation. Nevertheless, *a priori* it does indicate that urban expansion will have some effect on the HPS resource over the next two decades, as will rural development.

Figure 10.3: Auckland Urban-Rural HPS Summary with Socio-Economic Activity Relationship

Auckland	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Major urban area	**9,652**	**14,637**	**60,457**	**84%**	**1,465,970**	**473,300**	**85%**	**153,470**	**79%**	**334**	**1,050**	**31%**	**607**	**400**	**24%**	**784,920**	**92%**	**786,449**	**91%**
HPS > than 75% of MB Area	927	12,248	13,036	8%	164,210	48,770	9%	24,550	13%	100	598	17%	122	164	10%	93,338	11%	94,109	11%
HPS between 50% and 75% of MB Area	132	1,225	1,956	1%	23,980	7,300	1%	3,510	2%	8	19	1%	12	2	0%	8,661	1%	8,682	1%
HPS between 25% and 50% of MB Area	113	775	2,118	1%	20,440	6,040	1%	1,810	1%	6	10	0%	9	3	0%	8,841	1%	8,853	1%
Other LUC Category (4-8/Water/Settlement)	8,480	389	43,346	74%	1,257,340	411,180	74%	123,600	64%	220	423	12%	464	232	14%	674,080	79%	674,804	78%
Large urban area	**365**	**801**	**4,339**	**3%**	**54,960**	**20,470**	**4%**	**7,960**	**4%**	**5**	**2**	**0%**	**36**	**12**	**1%**	**16,541**	**2%**	**16,555**	**2%**
HPS > than 75% of MB Area	54	425	448	0%	8,970	3,380	1%	1,190	1%	-	-	0%	6	0	0%	1,021	0%	1,021	0%
HPS between 50% and 75% of MB Area	21	140	228	0%	2,760	1,070	0%	350	0%	1	-	0%	5	5	0%	1,934	0%	1,939	0%
HPS between 25% and 50% of MB Area	13	95	235	0%	2,590	1,010	0%	730	0%	-	-	0%	-	-	0%	619	0%	619	0%
Other LUC Category (4-8/Water/Settlement)	277	140	3,428	2%	40,640	15,020	3%	5,680	3%	4	2	0%	25	6	0%	12,968	2%	12,977	2%
Medium urban area	**196**	**1,965**	**3,206**	**2%**	**24,780**	**8,730**	**2%**	**3,810**	**2%**	**22**	**96**	**3%**	**64**	**30**	**2%**	**10,726**	**1%**	**10,852**	**1%**
HPS > than 75% of MB Area	66	1,608	1,675	1%	6,860	2,480	0%	1,350	1%	13	78	2%	22	11	1%	3,029	0%	3,118	0%
HPS between 50% and 75% of MB Area	16	171	292	0%	2,070	730	0%	380	0%	2	3	0%	3	4	0%	844	0%	851	0%
HPS between 25% and 50% of MB Area	16	163	468	0%	1,940	660	0%	340	0%	1	8	0%	5	3	0%	204	0%	215	0%
Other LUC Category (4-8/Water/Settlement)	98	24	770	1%	13,910	4,860	1%	1,740	1%	7	7	0%	34	13	1%	6,648	1%	6,668	1%
Small urban area	**367**	**3,360**	**9,707**	**3%**	**48,840**	**18,730**	**3%**	**7,640**	**4%**	**41**	**302**	**9%**	**87**	**44**	**3%**	**15,901**	**2%**	**16,246**	**2%**
HPS > than 75% of MB Area	57	1,441	1,516	0%	8,910	3,160	1%	2,560	1%	6	4	0%	21	21	1%	3,321	0%	3,345	0%
HPS between 50% and 75% of MB Area	21	1,224	1,849	0%	2,780	1,050	0%	490	0%	9	61	2%	15	4	0%	1,081	0%	1,145	0%
HPS between 25% and 50% of MB Area	33	464	1,398	0%	5,030	1,990	0%	960	0%	9	67	2%	7	1	0%	2,197	0%	2,265	0%
Other LUC Category (4-8/Water/Settlement)	256	231	4,944	2%	32,110	12,530	2%	3,640	2%	16	170	5%	44	19	1%	9,303	1%	9,491	1%
Rural settlement	**172**	**4,522**	**12,827**	**1%**	**14,790**	**5,710**	**1%**	**1,940**	**1%**	**26**	**81**	**2%**	**83**	**56**	**3%**	**3,158**	**0%**	**3,296**	**0%**
HPS > than 75% of MB Area	42	3,340	3,373	0%	4,120	1,510	0%	650	0%	7	6	0%	38	16	1%	1,524	0%	1,545	0%
HPS between 50% and 75% of MB Area	8	444	666	0%	890	290	0%	110	0%	5	69	2%	6	9	1%	91	0%	169	0%
HPS between 25% and 50% of MB Area	14	571	1,476	0%	1,920	710	0%	370	0%	3	3	0%	18	24	1%	436	0%	463	0%
Other LUC Category (4-8/Water/Settlement)	108	168	7,313	1%	7,860	3,190	1%	820	0%	11	4	0%	20	8	0%	1,108	0%	1,119	0%
Rural other	**773**	**98,390**	**401,711**	**7%**	**89,360**	**31,210**	**6%**	**18,450**	**10%**	**592**	**1,905**	**55%**	**2,049**	**1,131**	**68%**	**23,228**	**3%**	**26,263**	**3%**
HPS > than 75% of MB Area	190	35,883	38,358	2%	21,110	7,280	1%	5,440	3%	302	1,041	30%	495	408	24%	9,085	1%	10,534	1%
HPS between 50% and 75% of MB Area	81	12,658	20,096	1%	9,480	3,280	1%	1,470	1%	70	246	7%	214	81	5%	2,292	0%	2,619	0%
HPS between 25% and 50% of MB Area	110	25,522	76,877	1%	15,460	5,430	1%	2,960	2%	94	247	7%	517	209	12%	3,753	0%	4,209	0%
Other LUC Category (4-8/Water/Settlement)	392	24,327	266,380	3%	43,300	15,210	3%	8,580	4%	126	370	11%	824	433	26%	8,099	1%	8,901	1%
TOTAL	**11,525**	**123,675**	**492,247**	**100%**	**1,698,700**	**558,150**	**100%**	**193,270**	**100%**	**1,019**	**3,435**	**100%**	**2,927**	**1,673**	**100%**	**854,553**	**100%**	**859,661**	**100%**
HPS > than 75% of MB Area	1,336	54,944	58,406	12%	214,180	66,580	12%	35,740	18%	429	1,727	50%	703	619	37%	111,318	13%	113,672	13%
HPS between 50% and 75% of MB Area	279	15,862	25,087	2%	41,960	13,720	2%	6,310	3%	95	399	12%	255	105	6%	14,902	2%	15,405	2%
HPS between 25% and 50% of MB Area	299	27,590	82,572	3%	47,380	15,840	3%	7,170	4%	112	334	10%	556	239	14%	16,050	2%	16,623	2%
Other LUC Category (4-8/Water/Settlement)	9,611	25,280	326,182	83%	1,395,160	461,990	83%	144,060	75%	384	975	28%	1,412	710	42%	712,205	83%	713,961	83%

Source: Statistics NZ, Landcare, M.E

10.2.3 Horticulture

There are over 1,000 horticultural businesses within Auckland as at 2017 (Figure 10.3). They employ approximately 3,440 workers. These businesses are correlated with the HPS, with 429 businesses (42%) located in meshblocks where HPS makes up more than 75% of the total MB area. These businesses are on average, larger horticultural businesses as they account for over 50% of all horticultural employment. Only 55% of horticultural businesses are in the StatisticsNZ defined Rural Other area, with a very high share located in the Major Urban area (33%)[70]. However, these are mainly in non HPS meshblocks meaning they may not be productive bases[71], or that they run non-soil based horticultural operations (hydroponics or glass houses on raised beds).

The relatively high concentration of horticultural activities in HPS dominated meshblocks points to the key rationale for protecting this resource.

10.2.4 Pastoral farming

While Auckland is dominated by urban activities, there are still almost 3,000 pastoral farming activities within the region in 2017 (Figure 10.3). Collectively they employ 1,670 workers. They are not as concentrated in the high HPS meshblocks as horticultural enterprises with only 24% in meshblocks with 75% of HPS land (703 out of the 2,927 total pastoral businesses). These businesses employ 37% of the pastoral farming workers, meaning they are larger or generally more productive or intensive farms.

Unsurprisingly, the pastoral activities are predominantly rural with 70% occurring in Rural Other.

10.2.5 Other economic activity

Other economic activity covers everything else within the economy. In Auckland's case Other activity makes up 99% of total activity as farming plays a small role in the overall economy of the region. Unsurprisingly, most of this activity occurs in the Major Urban area (92% of the Other economic activity employment). The vast majority of this other employment does not occur on HPS dominated meshblocks. In total, only 13% of other activity occurs in meshblocks with over 75% of land classed as HPS, with a further 4% occurring in meshblocks with between 25% and 75% HPS land. The majority of the 13% that does occur in high HPS meshblocks, does so within the Major Urban area (11% of the total).

10.2.6 Total economic activity

Because in Auckland, horticultural and pastoral activities are a small proportion of total employment and activity, total economic activity mimics the Other economic activity closely. In total 92% of Auckland's economic activity occurs in the Major Urban area, with 3% occurring in Rural Other – the next largest. In total 13% of Auckland's economic activity occurs in meshblocks where HPS accounts for over 75% of the land area.

[70] This share may be slightly overstated due to the inclusion of whole meshblocks in the urban area, even when a share of that meshblock is outside the urban boundary. If not actually in the urban boundary, these businesses may be just outside the boundary (in the fringe).

[71] The business directory identifies businesses based on where they are registered only and may not reflect all areas where that business operates.

This is high, but because the vast majority of highly concentrated HPS land area is in Rural Other (65% of the 75% + HPS meshblocks are in the Rural Other areas), this means that protecting the remainder of the HPS should be able to be achieved relatively easily.

10.2.7 Maori Owned Land

Figure 10.4 – Auckland Summary of HPS by Maori Land and Other Tenure in Rural Zone Area (ha)

Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
Future Urban Zone	6,757	3,663	128	10,548	64%	7%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	6,757	3,663	128	10,548	64%	7%
Green Infrastructure Corridor	7	1	0	8	86%	0%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	7	1	0	8	86%	0%
Rural - Countryside Living Zone	9,396	13,056	78	22,530	42%	10%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	9,396	13,056	78	22,530	42%	10%
Rural - Mixed Rural Zone	19,579	19,499	15	39,094	50%	20%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	158	347	-	505	31%	0%
Other (Non-Maori Land Court) Land	19,421	19,152	15	38,589	50%	20%
Rural - Rural Coastal Zone	17,327	54,793	1,159	73,279	24%	18%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	725	1,947	55	2,727	27%	1%
Other (Non-Maori Land Court) Land	16,602	52,845	1,104	70,552	24%	17%
Rural - Rural Conservation Zone	30	3,039	27	3,095	1%	0%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	30	3,039	27	3,095	1%	0%
Rural - Rural Production Zone	42,926	124,253	573	167,752	26%	44%
General Land Owned by Maori	0	-	-	0	100%	0%
Maori Freehold Land	274	1,059	1	1,334	21%	0%
Other (Non-Maori Land Court) Land	42,651	123,194	572	166,417	26%	44%
Rural - Waitakere Foothills Zone	909	1,956	5	2,871	32%	1%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	909	1,956	5	2,871	32%	1%
Rural - Waitakere Ranges Zone	59	3,080	2	3,141	2%	0%
General Land Owned by Maori	-	-	-	-	0%	0%
Maori Freehold Land	-	-	-	-	0%	0%
Other (Non-Maori Land Court) Land	59	3,080	2	3,141	2%	0%
Total Rural Zones *	96,990	223,339	1,988	322,317	30%	100%
General Land Owned by Maori	0	-	-	0	100%	0%
Maori Freehold Land	1,157	3,353	56	4,566	25%	1%
Other (Non-Maori Land Court) Land	95,833	219,986	1,932	317,751	30%	99%

Source: Auckland Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

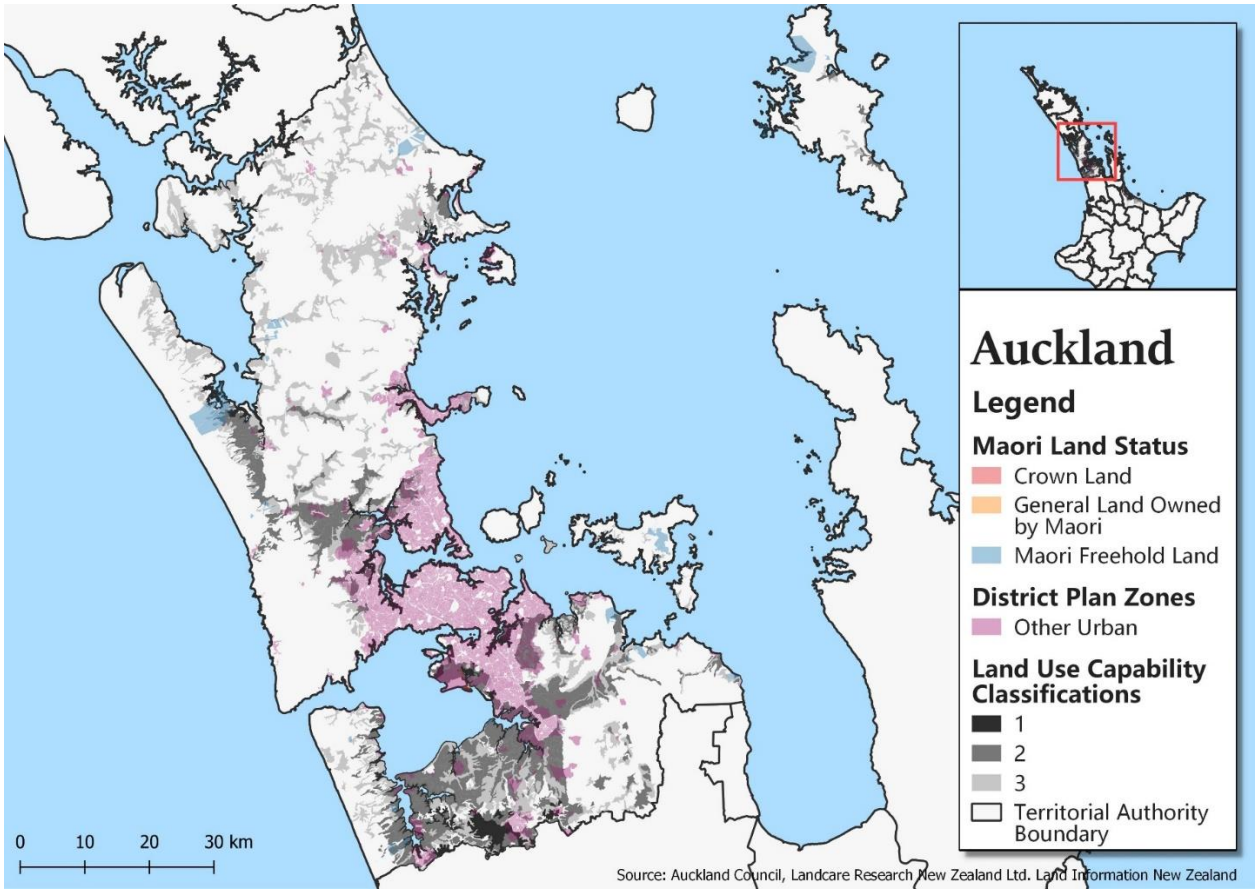
** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Figure 10.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in Auckland in combined rural zones (and including the New Growth/Future Urban zone). We have not shown any Maori owned land in urban zones.

In total there is an estimated 4,566ha of Maori Freehold Land in the rural environment and 25% of this contains HPS. Of the total Maori Freehold land, 11% is located in the Mixed Rural Zone (where 31% contains HPS), 60% is in the Rural Coastal Zone (where 27% contains HPS) and 29% is in the Rural Production Zone (where 21% contains HPS). At an average coverage of 25%, Maori land has a lower incidence of HPS than for all other tenures (30%). Other tenures account for the majority of HPS land in quantum terms (99%).

While difficult to see at a district scale, Figure 10.5 shows the location of Maori Land relative to the HPS resource. The largest pockets of Maori Freehold land can be seen on Great Barrier Island, Waiheke Island, near Pakiri, South of Shelly Beach and near Maretai.

Figure 10.5: Auckland HPS Coverage and Land Tenure



10.2.8 District Plan Zoning

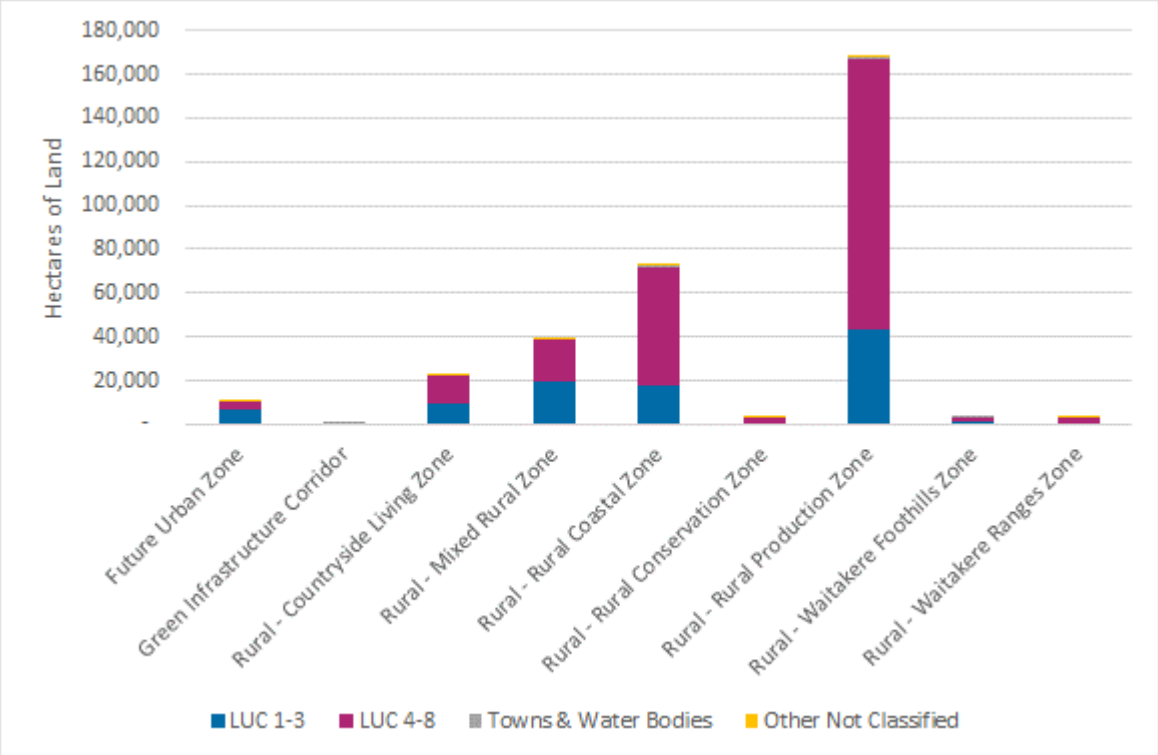
The Auckland rural zones identified for the purpose of this analysis include the Rural Countryside Living Zone which is approximately 22,530ha, the Mixed Rural Zone (approximately 39,094ha), the Rural Coastal Zone (73,279ha), the Rural Conservation Zone (3,095ha), the Rural Production Zone (162,752ha), The Waitakere Foothills Zone (2,871ha), the Waitakere Ranges Zone (3,141ha). We have also included the very

small Green Infrastructure Corridor Zone (8ha) and for interest, the Future Urban Zone (10,548ha) – on the basis that it is likely to be in rural land use at present (Figure 10.4 and summarised in Figure 10.6).

While the Rural Countryside Living Zone accounts for just 7% of the combined rural environment, 42% of it contains HPS (9,396ha). The HPS resource in this zone accounts for 10% of the total HPS resource in the rural areas. The Mixed Rural Zone makes up 12% of the rural land area but the HPS resource in this zone (which covers 50% of zone area) accounts for 20% of the total rural HPS resource. The Rural Coastal Zone is almost twice as large again and accounts for 23% of the rural land area. HPS account for 24% of the zone area and this makes up 18% of the total rural HPS resource. The Rural Production Zone is the dominant zone, accounting for 52% of the rural land area. On average, 26% of this zone contains HPS, but given its size, this makes up 44% of the total rural HPS resource.

It is relevant to note that the Future Urban Zone (a.k.a. New Growth Zone) is small relative to the total rural area identified (3%), but a significant 64% of this zone contains HPS. It makes up 7% of the total rural HPS resource. This indicates that potentially, the presence of HPS was not a key factor in the location of these growth areas (else HPS were considered and were determined to be unfeasible to avoid). Given that the NPS - HPL excludes areas already zoned from consideration when identifying HPL, this 7% of rural HPS (6,757ha) is already a sunk cost.

Figure 10.6 – Land Capability by Rural Zone – Auckland



In the case of Auckland, if the definition of HPL was limited (through the direction of the NPS - HPL) to the Rural Production Zone, a significant amount of the HPS resource would be left unprotected. It is therefore important that the Mixed Rural Zone and Rural Coastal Zone are also included in the evaluation of what land should be identified as HPL.

10.2.9 Land Cover

Figure 10.7 contains an analysis of the Land Cover Database data as it relates to the location of HPS. Based on the categories of land cover in that dataset, the top two land covers occupying HPS are as follows:

1. High Producing Exotic Grassland – this land cover includes 80,125ha of HPS. The HPS resource makes up 40% of all land with this land cover in Auckland, meaning that 60% is located on other soils. The presence of HPS appears to play only a moderate role in the location of this activity (all else being equal). However, this land cover is significant as it makes up 83% of the total HPS resource in the combined rural area of Auckland.

Figure 10.7 – Auckland Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	80,125	40%	83%
Short-rotation Cropland	7,163	92%	7%
Exotic Forest	2,487	5%	3%
Orchard, Vineyard or Other Perennial Crop	2,320	88%	2%
Indigenous Forest	1,781	6%	2%
Manuka and/or Kanuka	770	4%	1%
Built-up Area (settlement)	653	61%	1%
Urban Parkland/Open Space	414	85%	0%
Broadleaved Indigenous Hardwoods	356	5%	0%
Forest - Harvested	209	5%	0%
Deciduous Hardwoods	144	42%	0%
Gorse and/or Broom	117	7%	0%
Mangrove	85	27%	0%
Lake or Pond	84	24%	0%
Herbaceous Saline Vegetation	67	30%	0%
Herbaceous Freshwater Vegetation	47	9%	0%
Surface Mine or Dump	46	35%	0%
Mixed Exotic Shrubland	45	19%	0%
Estuarine Open Water	26	30%	0%
Low Producing Grassland	17	2%	0%
Sand or Gravel	9	1%	0%
River	7	51%	0%
Transport Infrastructure	6	11%	0%
n.e.c	4	1%	0%
Flaxland	3	22%	0%
Matagouri or Grey Scrub	3	100%	0%
Fernland	0	0%	0%
Gravel or Rock	-	0%	0%
Total HPS Area Within Rural Zones * (ha)	96,990	30%	100%

Source: Auckland Council (Zones), LCDB, LUCB - Landcare.

** As defined by M.E for the purpose of the study.*

2. Short Rotation Cropland - this land cover includes 7,163ha of HPS. The HPS resource makes up 92% of all land with this land cover in Auckland, meaning that only a very minor share (8%) is located on other soils. The presence of HPS plays an extremely

significant role in the location of this activity (all else being equal) and this land use accounts for 58% of all LUC class 1 land in the rural area (although just 7% of total LUC 1-3 class land). That is, highly productive short rotation cropland businesses require highly productive land and especially LUC class 1 land.

Other land covers account for only minor shares of the HPS resource. Orchard, Vineyard or Other Perennial Crop land for example makes up just 2,320ha of HPS (2% of the total). This is however is also highly concentrated on HPS land (88%) suggesting a high dependency on that resource (or at least significant advantages). This primary production output should also be protected from urban expansion or rural fragmentation and reverse sensitivity effects.

10.2.10 Land Use (Rural Environment)

The following analysis relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types[72]. This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 10.4. The data also contains a breakdown of property types for rural properties (other than lifestyle). This helps form a profile of the rural property estate in Auckland. We note, the data was provided for the legacy council areas of Auckland so includes total Franklin District. This extent is therefore slightly greater than the Auckland regional boundary.

In total, the CoreLogic data identifies 28,347 lifestyle or rural properties (Figure 10.8). Lifestyle defined properties account for 90% of the total (25,504 current estimate including total Franklin District). An estimated 4,436 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 17% of total lifestyle properties and 16% of all lifestyle and rural properties.

In terms of Horticultural and Farming properties – there are an estimated 2,673 of these – and they make up 9% of all properties in the dataset. Pastoral Finishing properties dominate this group (38% or 1,029). This is followed by Dairy Farms (26% or 687), Horticultural – market gardens (12% of 327), Pastoral Grazing (8% or 217) and Horticultural - glasshouses (6% or 148). There are an estimated 142 forestry properties, and just over three quarters of these are exotic forests. Last, there are 28 mining related properties.

[72] This definition is not limited to the definition provided in the NPS – HPL (i.e. may include a broad range of property sizes at the upper end).

Figure 10.8 – Count and Structure of Total Auckland Rural and Lifestyle Properties (2018)

Property Type Category	Total Count *	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Bare	1,844	7%	7%
Lifestyle - Improved	19,224	68%	75%
Lifestyle - Vacant	4,436	16%	17%
Sub-Total Lifestyle	25,504	90%	100%
Dairying - Milk	687	2%	26%
Horticulture - Berry fruit	7	0%	0%
Horticulture - Citrus	13	0%	0%
Horticulture - Flowers	20	0%	1%
Horticulture - Glasshouse	148	1%	6%
Horticulture - Kiwifruit	61	0%	2%
Horticulture - Market garden	327	1%	12%
Horticulture - Mixed/Other	57	0%	2%
Horticulture - Pip fruit	21	0%	1%
Horticulture - Stone fruit	27	0%	1%
Horticulture - Vineyards	59	0%	2%
Pastoral - Finishing	1,029	4%	38%
Pastoral - Grazing	217	1%	8%
Sub-Total Horticulture & Farming	2,673	9%	100%
Forestry - Exotic	108	0%	76%
Forestry - Indigenous	31	0%	22%
Forestry - Protected	2	0%	1%
Forestry - Vacant	1	0%	1%
Sub-Total Forestry	142	1%	100%
Mining - Limestone quarries	2	0%	7%
Mining - Mixed/unknown	2	0%	7%
Mining - Rock/shingle/sand	24	0%	86%
Sub-Total Mining	28	0%	100%
Total Rural & Lifestyle Properties	28,347	100%	

*Source: CoreLogic 2019, MPI. * Includes total legacy Franklin District.*

10.2.11 Lifestyle Properties

Figure 10.9 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for Auckland[73]. It shows a rapid increase between 1993 and 1995. After this period, growth has been slow but steady through to 2014. The 2015 data shows a slight decline to 18,836 (inclusive of total Franklin District) or 14,388 (exclusive of Franklin District). This may indicate conversion of lifestyle properties for other property types (but presumably residential properties). Our latest data shows a count of 19,224 improved lifestyle blocks (inclusive of Franklin District), so there has been an estimated increase of 388 lifestyle properties between 2015 and 2019.

Figure 10.10 provides a map of current lifestyle properties according to CoreLogic. It shows that they have concentrated in the west of the urban area (west of Henderson and Massey), in the north west (Taupaki, Kumeu and Riverhead), north of the urban area (Coatesville, Dairy Flat, Waiktoi and Wainui), south of the Manukau Harbour and around Beachlands and Clevedon.

[73] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

Figure 10.9 – Growth of Lifestyle Properties in Auckland 1993-2015

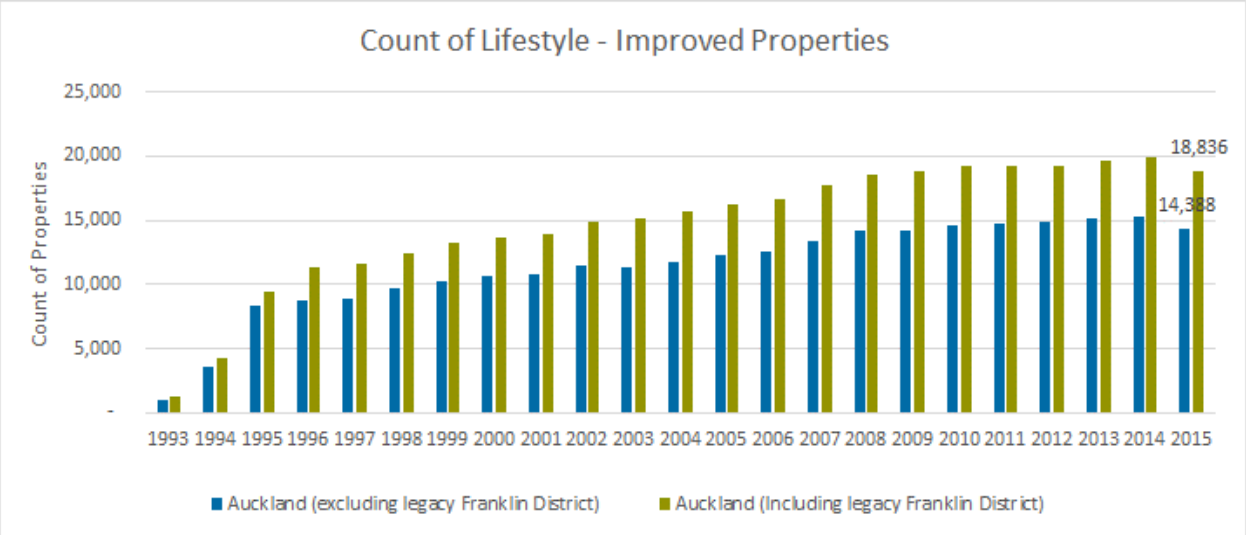
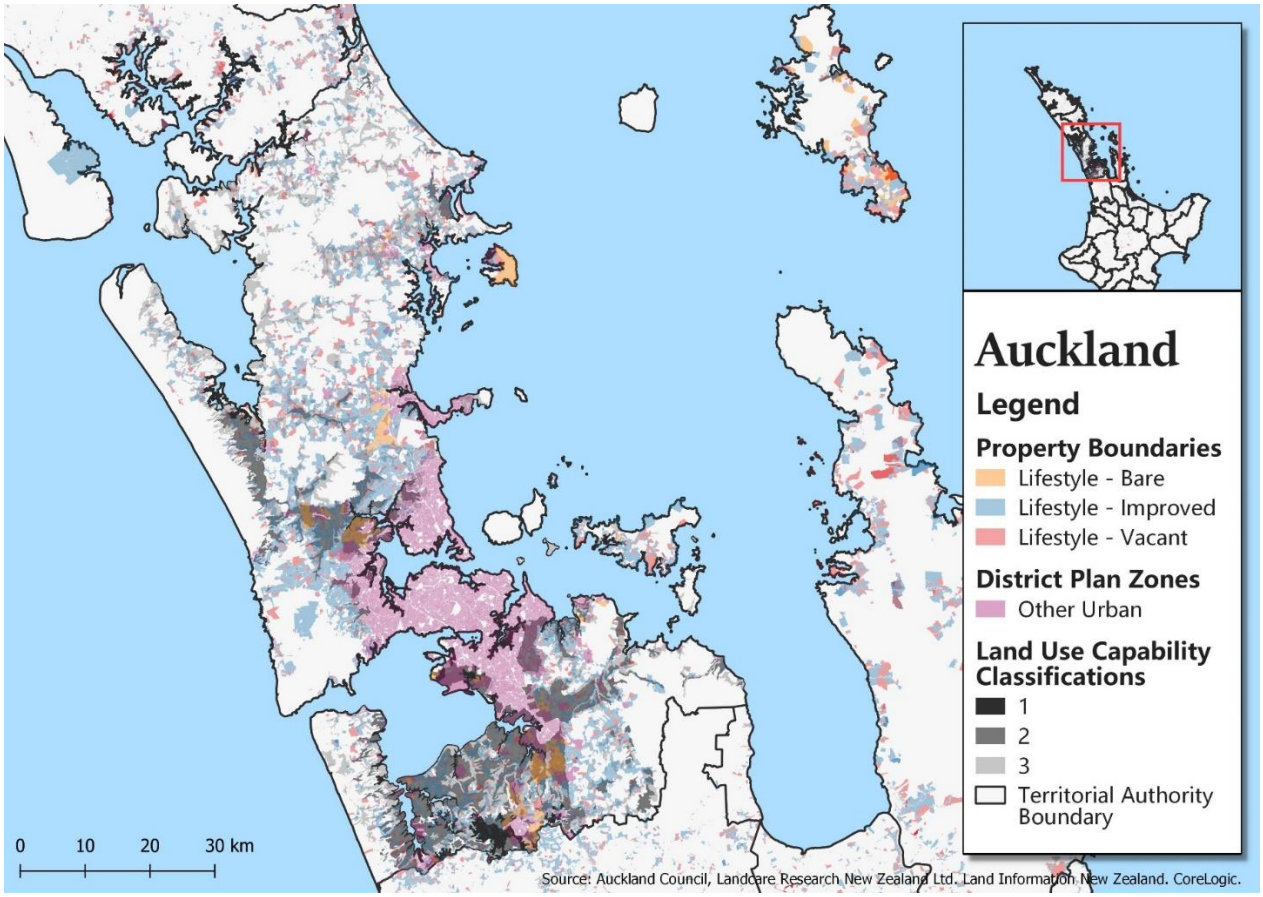


Figure 10.10: Auckland HPS Coverage and Rural Lifestyle Property Patterns (2018)



10.4 Planning Approach Relevant to HPL

Auckland Council's approach to land with high productive potential is encapsulated in Objective B9.3.1 of the RPS:

> *(1) Land containing elite soils is protected through land management practices to maintain its capability, flexibility and accessibility for primary production.*
>
> *(2) Land containing prime soil is managed to enable its capability, flexibility and accessibility for primary production.*
>
> *(3) The productive potential of land that does not contain elite or prime soil is recognised.*

Policy B9.3.2 (2) encourages activities that do not depend on using land containing elite and prime soil to locate outside these areas. Clause (3) recognises the productive potential of land that does not contain elite or prime soil and encourages the continued use of this land for rural production. Rural enterprises which may include post-harvest facilities can locate on elite or prime soils where there are economic and operational benefits in doing so.

The key focus on elite (LUC class 1 land) and prime soils (LUC class 2 and 3 land) represents existing alignment with the NPS - HPL approach to defining HPL.

Approach to urban expansion

The Auckland Unitary Plan (Operative in Part) identifies the need for urban growth to be managed through integrated planning approaches, that optimise the efficient use of existing urban areas and maintains opportunities for rural production. Objective B2.2.1 (1) (f) of the RPS specifically anticipates a quality compact urban form that enables better "*maintenance of rural character and rural productivity*". Clause (2) anticipates that urban growth is "*primarily accommodated within the urban area 2016*" and clause (4) anticipates that "*urbanisation is contained within the Rural Urban Boundary, towns, and rural and coastal towns and villages*".

The policy that gives effect to Objective B2.2.1 (policy B2.2.2) further clarifies that:

Development capacity and supply of land for urban development:

(1) Include sufficient land within the Rural Urban Boundary that is appropriately zoned to accommodate at any one time a minimum of seven years' projected growth in terms of residential, commercial and industrial demand and corresponding requirements for social facilities, after allowing for any constraints on subdivision, use and development of land.

(2) Ensure the location or any relocation of the Rural Urban Boundary identifies land suitable for urbanisation in locations that:

> *(a) promote the achievement of a quality compact urban form (among other things)*
>
> *While:*
>
> *(j) avoiding elite soils and avoiding where practicable primary soils which are significant for their ability to sustain food production.*

The Auckland Council (through the Auckland Plan 2050) has provided a Future Urban Zone within the Rural Urban Boundary that is anticipated to accommodate the next stage of urban expansion. It indicates that this provides capacity for a minimum of 7 years growth, when combined with other provisions that seek a compact urban form and intensification of some urban land. In all cases urban areas are to be expanded via a structure plan process.

The Plan does provide for further expansion beyond these zones in the future by moving the Rural Urban Boundary. This must be via a plan change that gives effect to all the objectives and policies of the RPS. This process will avoid elite soils (LUC class 1)[74] and may avoid prime soils (LUC class 2 and 3) but only if practicable. Outside the rural urban boundary, expansion of rural and coastal towns and villages similarly requires that elite soils are avoided, and prime soils are avoided where practicable.

Approach to rural residential and lifestyle development

The RPS recognises the issue associated with reverse sensitivity effects which rural residential development can have on rural production activities as well as the need to manage opportunities for countryside living in rural areas while minimising the loss of rural production land.

Policy B92.2.2 (2) (a) prevents sensitive activities (such as countryside living) from establishing in areas where rural production activities could be adversely affected. Policy B9.3.2 (1) avoids new countryside living subdivision, use and development on land containing elite soil and discourages them on land containing prime soil. To help achieve these policies the Plan provides a Countryside Living Zone. This approach is consistent with the recommendations implicit in the proposed NPS – HPL, although the location of countryside living generally (this zone, future zones or out of zone development) will not take account of LUC class 3 soils under the RPS/Unitary Plan.

The issue of rural subdivision relating to rural lifestyle development is addressed in RPS objective B9.4.1:

> *(1) Further fragmentation of rural land by sporadic and scattered subdivision for urban and rural lifestyle living purposes is prevented.*

This is supported by Policy B9.4.2:

> *(3) Provide for and encourage the transfer of the residential development potential of rural sites to Countryside Living zones to reduce the impact of fragmentation of rural land from in-situ subdivision, as well as the rearrangement of site boundaries to:*
>
> > *(a) promote the productivity of rural land;*
> >
> > *(b) manage the adverse effects of population growth across all rural areas;*
> >
> > *(c) improve environmental outcomes associated with the protection of identified areas of high natural values;*
> >
> > *(d) improve the management of reverse sensitivity conflicts; and*

[74] Elite soil must only be avoided where it is significant to provide food production (as per B.2.2.1), as determined in the Crater Hill Environment Court decsiion.

(e) avoid unplanned demand for infrastructure in remote areas, or across areas of scattered development.

(4) Provide for new rural lifestyle subdivision in locations and at scales and densities so as to:

(a) avoid areas that would undermine the integrity of the Rural Urban Boundary or compromise the expansion of the satellite towns of Warkworth and Pukekohe, and rural and coastal towns and villages;

(c) avoid land containing elite soil;

(d) avoid where practicable land containing prime soil;

(g) avoid the potential for reverse sensitivity effects that could hinder the continued operation or growth of existing rural activities, or the establishment of new rural activities;

(5) Provide the amalgamation and transfer of rural sites to Countryside Living zones to remedy the impact of past fragmentation of rural land from in-situ subdivision.

In addition to the approach to elite and prime soils, the anticipated environmental outcomes of this planning framework dealing with lifestyle living is largely aligned with the objectives of the proposed NPS - HPL.

Approach to rural development and subdivision

The Auckland RPS identifies not only outward expansion of urban areas on rural environments (and specifically elite soils), but people's *"lifestyle choices*". Specific resource management issues for Auckland include "*managing subdivision to prevent undue fragmentation of large sites in ways that restrict rural production activities*". There planning framework demonstrates a sound understanding of the costs and benefits of protecting highly productive land for primary production. This is evident in the following objective in the RPS:

Objective B9.2.1 states the following regarding rural activities:

(1) Rural areas make a significant contribution to the wider economic productivity of, and food supply for, Auckland and New Zealand.

(2) Areas of land containing elite soil are protected for the purpose of food supply from inappropriate subdivision, urban use and development.

(3) Rural production and other activities that support rural communities are enabled while the character, amenity, landscape and biodiversity values of rural areas, including within the coastal environment, are maintained.

(4) Auckland's rural areas outside the Rural Urban Boundary and rural and coastal towns and villages are protected from inappropriate subdivision, urban use and development

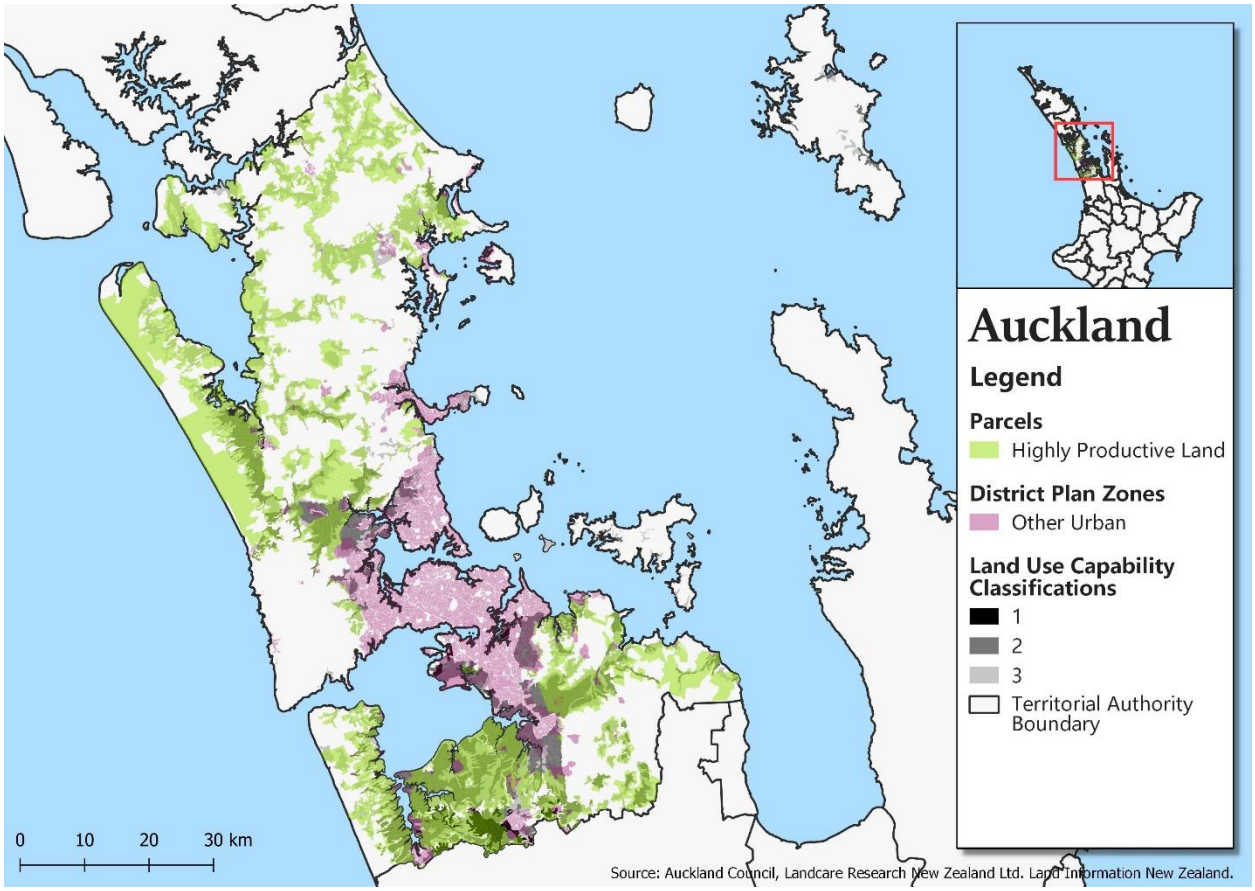
10.5 Modelling of Rural Lifestyle Development Outcomes

This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in Auckland's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

10.5.1 Definition of Highly Productive Land under the NPS – HPL

Figure 10.11 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or greater coverage of LUC class 1-3 land or 4ha or greater of LUC class 1-3 land). The HPL is limited to the rural zones (Rural Production, Mixed Rural, Rural Coastal, Rural Conservation, Waitakere Ranges and Waitakere Foothills). The Large Lot Residential Zone and Countryside Living Zone have been included in the analysis of supply as it has large minimum lot sizes which cater for a significant component of the Auckland lifestyle property demand.

Figure 10.11 – Map of Indicative HPL (Default Definition) Auckland



In total, this HPL area captures 16,767 parcels of Rural and Large Lot Residential zoned land. The largest share (41%) of these are within the Rural Production Zone and Mixed Rural Zone (21%), with just under one-quarter (24%) of parcels within the zones anticipated for lifestyle development (Residential Large Lot and Countryside Living). Of these HPL parcels, 1,013 parcels are able to be subdivided under current provisions. These parcels that are able to be subdivided total 44,161ha, and include 12,608ha of LUC class

1-3 land. This area represents 14% of the total HPS (LUC class 1-3) area of 90,680ha in the rural zones and peri-urban areas in Auckland.

10.5.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

M.E has examined the land parcels in Auckland's rural area that could be further subdivided under the operative minimum lot size provisions. Figure 10.12 summarises the operative minimum lot sizes we have adopted for this analysis. These subdivision rules have been simplified for the purpose of our modelling.

Figure 10.12 – Simple Minimum Lot Size Assumptions by Peri-Urban/Rural Zone – Auckland

District	Relevant Rural Zones	Min Lot Size (Subdivision)	Notes
Auckland	Rural Production Zone	100 (min average)	These rules exclude transferable development rights and other concessions for subdivision.
	Mixed Rural Zone	50 (min average)	
	Rural Coastal Zone	50 (min average)	
	Rural Conservation	20 (min average)	
	Rural Waitakere Ranges Zone	4 (min average)	
	Rural Waitakere Foothills Zone	4 (min average) – assume not clear	
	Rural Countryside Living	2 (min lot size)	
	Large Lot Residential	0.4 (min lot size)	Included here for the purpose of demand modelling but not otherwise included as a 'rural envrionment' zone.

Figure 10.13 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – Auckland

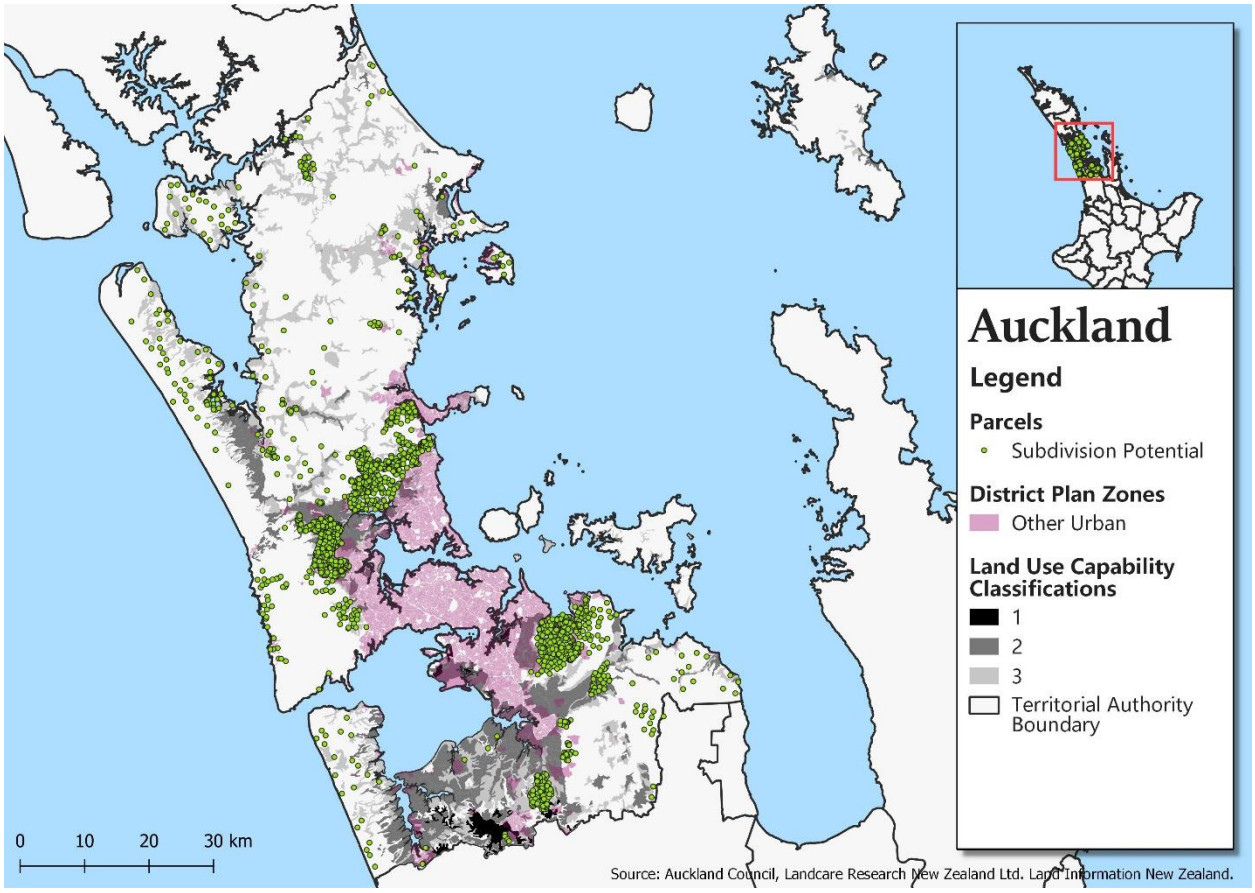
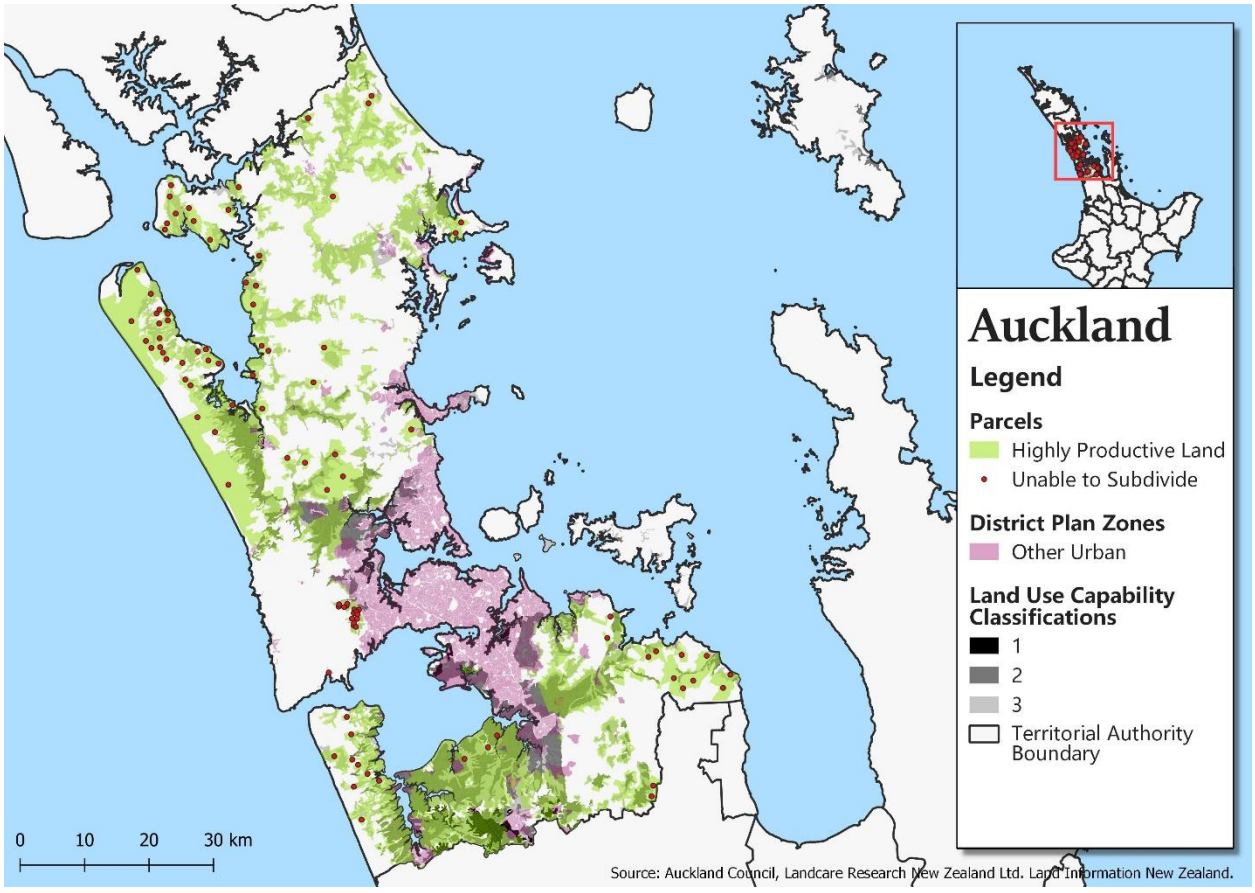


Figure 10.13 identifies the location of existing parcels that may be able to be subdivided (assuming no policy or physical constraints) to create one or more additional lots under the status quo (it does not reveal the yield of additional lots explicitly).

Figure 10.13 highlights that there is significant indicative potential for further land fragmentation (based purely on application of minimum lots sizes) in areas with HPS (LUC class 1-3 land). LUC class 1-3 land makes up around 18% of the land within parcels that able to be subdivided under current provisions. Just over half of this land is within the Countryside Living Zone where lifestyle properties are provided for. Equally, there are areas where subdivision can occur that do not contain HPS.

While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. Figure 10.14 identifies those parcels within the defined HPL area that would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 10.13 and Figure 10.11) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Figure 10.14 – HPL Parcels Unable to Subdivide Under the NPS - HPL High Scenario – Auckland



Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels

to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

10.5.3 Projected Growth

Auckland's medium growth outlook is for an 18% increase in household numbers by 2028, from the current 558,700 to 659,800, with further increases to 2038 (752,100 households) and 2048 (857,300 households) (StatisticsNZ). These are shown in Figure 10.15. Over the next three decades, the region as a whole can expect between 178,500 (low growth outlook) to 421,600 (high growth outlook) additional households.

Figure 10.15 – Auckland Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	573,400	707,800	839,200	995,000	134,400	265,800	421,600
Medium	558,700	659,800	752,100	857,300	101,100	193,400	298,600
Low	543,800	611,300	664,500	722,300	67,500	120,700	178,500
Growth Rate (%pa)					***Lifestyle Parcels***		
High		2.1%	1.9%	1.9%	4,500	7,200	11,400
Medium		1.7%	1.5%	1.4%	3,500	5,100	7,800
Low		1.2%	1.0%	1.0%	2,400	3,600	5,400

Source: SNZ 2018; ME 2019

10.5.4 Lifestyle Demand

In Auckland, there are currently some 23,324 parcels within lifestyle properties based on data from CoreLogic[75], including 19,259 parcels within lifestyle properties listed as having improvements (generally a dwelling) and 4,065 parcels within lifestyle properties listed as having no improvements. The largest share (40%) of these are located within the Rural Production zone where they occupy an estimated 45,943ha of land. Mean parcel size is 4.21ha. The next largest share (29%) of lifestyle properties are located within the Residential Large Lot and Rural Countryside Living zones, where they occupy 17,082ha, with a smaller average lot size of 2.49ha. A substantial share of the land in these lifestyle blocks is HPS (35,780ha of the total 95,717ha) (refer map in Figure 10.10).

Figure 10.15 further shows the projected increase in demand for lifestyle properties. This has been estimated on a direct pro rata basis, assuming that the number of households on lifestyle properties remains more or less constant with the current share (an implied 3.4% of total households). The underlying household projections indicate an additional 3,500 lifestyle properties would be demanded by 2028 in the medium growth future, with 7,800 by 2048 (Low 5,400, High 11,400).

10.5.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based around the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation. The base case outlook is the medium growth projection, with 3,500 more by 2028, 6,700 by 2038 and 10,300 by 2048 (Figure 10.15).

[75] Includes all of the legacy Franklin District.

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle parcels is driven by existing rules for subdivision (minimum lot sizes) in the Rural zones. Since the yield of potential subdivisions suitable for lifestyle blocks is greater than the projected demand to 2028, the new parcels have been estimated according to the number of potential parcels, the demand in each period, and the current geography of the lifestyle blocks. As the yield of suitably sized and located lifestyle parcels is not sufficient to meet long-term demand (based on current estimates), new parcels have been estimated in the same way, until all such capacity is exhausted (at which point the demand is constrained and potentially redirected to other zone or other locations).

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

10.5.6 Lifestyle Subdivision

Land Fragmentation

Figure 10.16 summarises the subdivision and land use outcomes to accommodate Auckland's projected lifestyle property demand to 2028, for the without NPS - HPL and with NPS - HPL futures. The total area of rural land taken up would be within a similar order of magnitude in each future, with the larger differences being the extent of the HPS resource occupied, and the location of the new lifestyle properties.

These tables include the total lifestyle properties formed across all zones (i.e. they include the Countryside Living and Large Lot zones as well as the main rural zones) in order to provide a comprehensive picture of the distribution of lifestyle properties under each scenario. As such, there is a significant number of parcels and land area occurring within the HPS area under all the scenarios. This predominantly occurs within the Countryside Living and Large Lot Residential zones to which the NPS - HPL provisions for protecting HPL do not apply.

Key medium-term outcomes for land use are (2028):

a. Demand for lifestyle parcels would see some 3,450 to 3,480 additional parcels by 2028, taking up between 6,200ha and 7,440ha of Rural land.

b. Under the Status Quo future, the 3,480 additional lifestyle parcels would be distributed with 1,404 (40%) on HPS land, and the balance (2,078) on land without significant HPS resource. The additional parcels would take up a total area of 7,440ha (at an average of 2.1ha per parcel), including 2,657ha of HPS resource. It is important to note that the modelling assumes there is no reduction in minimum subdivision size over the period, which may arise for example from concern about the substantial areas being taken up for lifestyle properties and desire to reduce that land uptake.

c. Under the Low-Medium Regulatory future, the estimated 3,480 additional parcels would be distributed across both HPS resource and on land without significant HPS resource. This occurs because the constraints on subdividing the HPL resource would not be completely effective (70% redirected), and because a substantial share of growth will be accommodated in the Countryside Living zone which contains HPS and would not be subject to the constraints of the NPS - HPL. The scenario shows around 40% of the new lots indicatively occurring on the HPS resource, with 1,402 lots taking up some 2,623ha of HPS land.

d. Under the High Regulatory future, the outcome would be slightly different, as the more rigorous application of NPS – HPL based provisions would see a slight reduction in the number of new lifestyle properties on the HPS resource. The additional 3,470 parcels would take up around 6,240ha, with some 1,394 on HPS land.

e. The effect of applying the NPS - HPL provisions would not materially constrain lifestyle demand but would slightly reduce the loss of HPS land. Under the two regulatory futures, there would be 3-10 fewer lifestyle parcels on HPS land than would otherwise be the case, and 34-125ha of HPS resource retained for primary production by diverting rural subdivision elsewhere.

Figure 10.16 – Auckland Lifestyle Subdivision and Land Outcomes to 2028 (Medium Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory[1]	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	2	3	2	3	2	3
2	618	1,179	617	1,177	617	1,166
3	784	1,475	783	1,443	775	1,363
4	940	1,614	935	1,583	930	1,473
5	-	-	-	-	-	-
6	1,086	2,520	1,086	2,317	1,079	2,011
7	49	557	46	424	42	196
8	3	90	3	69	2	28
TOTAL	3,482	7,440	3,472	7,020	3,447	6,240
HPL Total	**1,404**	**2,657**	**1,402**	**2,623**	**1,394**	**2,532**

Note 1: Subdivision possible on HPS parcels if minimum size and HPS share % thresholds not reached.
Source: ME Lifestyle Parcel Model 2019

In the longer term (2048), similar limited effects are expected:

a. There is a projected long-term demand for an additional 7,770 lifestyle parcels within Auckland by 2048. While this demand could be met under the status quo provisions, it is likely that a small share of the demand would be unable to be met if the NPS - HPL regulatory options applied (i.e. a small share of long-term demand will be constrained). The modelling shows the creation of an additional 7,425 to 7,618 lifestyle lots under the High and Low-Medium Regulatory futures, leaving a difference to the underlying demand of around 150 to 340 lifestyle properties. However, it is likely that a share of this demand could be met in any case through the development of some of the 4,065 or so existing unimproved lifestyle properties.

b. Growth in demand for lifestyle parcels would see between 7,425 to 7,768 additional parcels by 2048. (Figure 10.15).

c. Under the Status Quo future, the 7,768 additional parcels would be distributed with 2,390 (31%) on HPS parcels, and the balance (5,378) on land without significant HPS resource (Figure 10.17 and Figure 10.19).

d. Under the Low-Medium Regulatory future, around one-third (31%) of the additional parcels would be distributed across the HPS resource, with most on land without significant HPS resource. The 2,371 lots on the HPS land would take up some 5,517ha of HPS land (Figure 10.19).

e. Under the High Regulatory future, the outcome would be different, with a slightly smaller number (2,323) of lots established on HPS, and 5,102 additional parcels distributed on land without significant HPS resource. The additional parcels would in total take up an area of 21,420ha (Figure 10.18 and Figure 10.19), including 3,896ha of HPS land. The smaller land area is a combination of fewer parcels due to the constraints on parcel subdivision under the regulatory scenarios, as well as the deterrence of parcel formation within the rural zones with larger minimum lot sizes under the regulatory scenarios.

Figure 10.17 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo

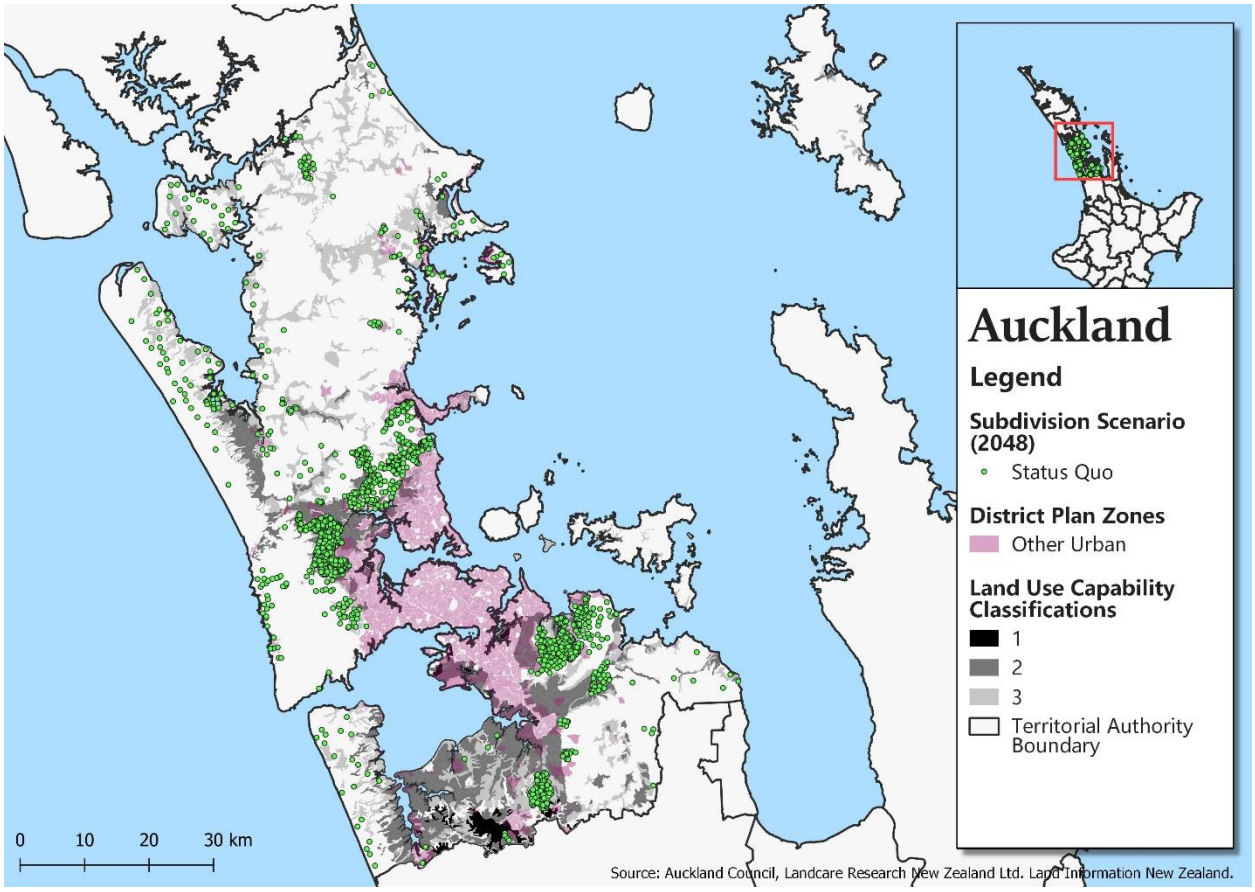
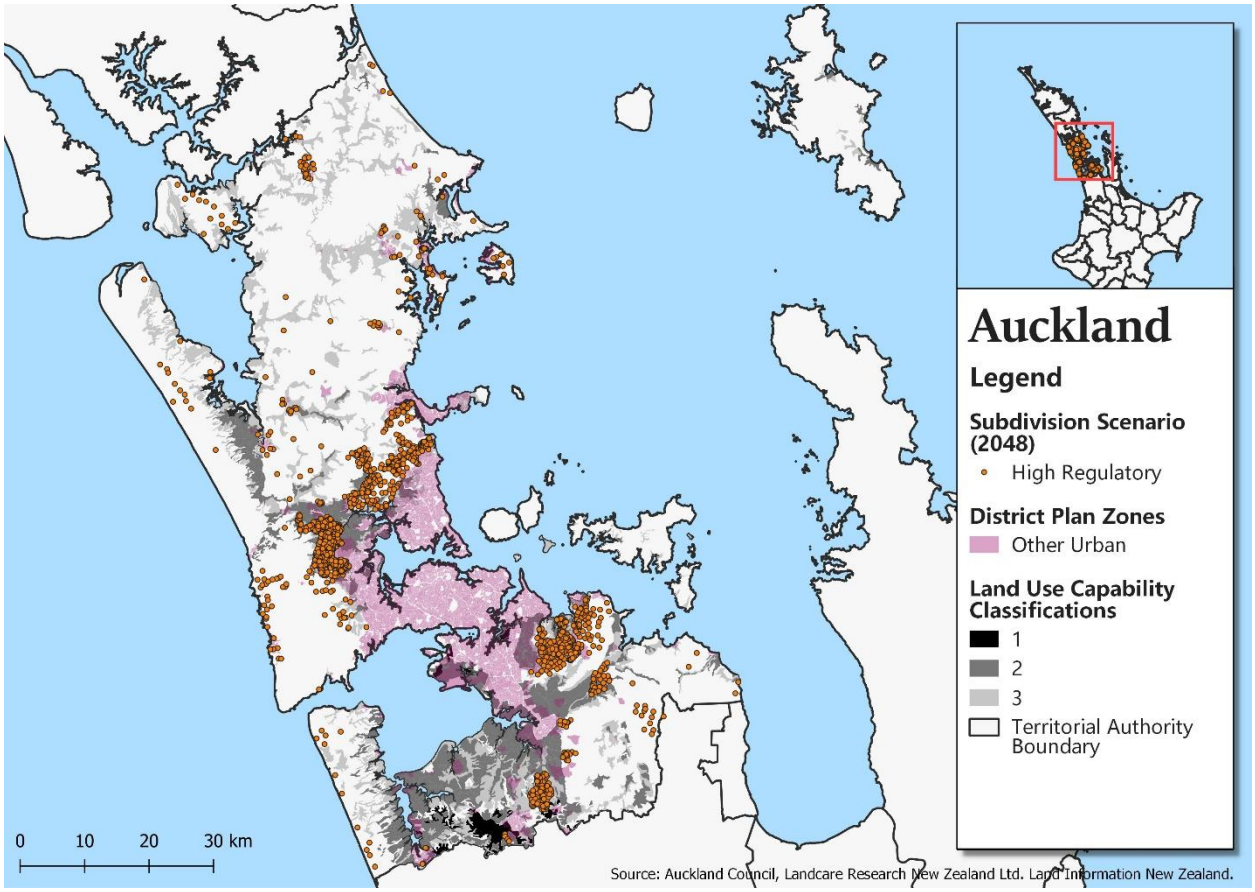


Figure 10.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – High



f. The effect of applying the NPS - HPL provisions would substantially reduce the loss of HPS land over the period to 2048. The High regulatory NPS - HPL future would see 67 fewer lifestyle parcels on HPS land than would otherwise be the case in the Status Quo, and 2,444ha of HPS resource retained for primary production. The Low-Medium regulatory future would see 19 fewer parcels created on the HPS resource, and 823 fewer ha of HPS land taken up. The remaining parcels and land area within the HPS resource under the regulatory scenarios is due to the lifestyle properties that form within the Countryside Living and Large Lot Residential zones that are not subject to the NPS - HPL provisions. The effect of the provisions is to reduce the formation of lifestyle properties within the HPL within the rural zones.

Figure 10.19 – Auckland Lifestyle Subdivision and Land Outcomes to 2048 (Medium Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory[1]	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	2	3	2	3	2	3
2	1,009	2,075	1,006	1,986	1,000	1,700
3	1,379	4,262	1,363	3,528	1,321	2,194
4	2,320	5,312	2,304	4,902	2,274	3,836
5	-	-	-	-	-	-
6	2,740	15,877	2,667	11,908	2,607	9,968
7	286	7,386	250	5,489	203	3,289
8	32	1,111	26	852	18	431
TOTAL	7,768	36,030	7,618	28,670	7,425	21,420
HPL Total	**2,390**	**6,340**	**2,371**	**5,517**	**2,323**	**3,896**

Note 1: Subdivision possible on HPS parcels if minimum size and HPS share % thresholds not reached.
Source: ME Lifestyle Parcel Model 2019

Primary Production Gross Output

The calculation of foregone production excludes any lifestyle property land area within the Countryside Living and Large Lot residential zones. In alignment with the NPS - HPL provisions, it is calculated only on the land area taken up as lifestyle lots within the rural zones that are not primarily intended for lifestyle development.

Key outcomes for primary production gross output are as follows (Figure 10.20).

a) Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $2.0m annually in 2028, $9.4m in 2038 and $32.2m annually in 2048.

b) Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $275.0m (undiscounted) including $78.8m on HPS land, and $72m on other land.

c) In Present Value terms, the reduced output from HPS land would be $14.7m and $50.4m on all land[76].

d) In the Low-Medium NPS - HPL scenario, a smaller share of the subdivision would occur on the HPS land. The total opportunity cost (foregone primary production) would be $184.8m (undiscounted) and $33.6m (discounted) over 30 years to 2048.

e) The opportunity cost on the HPS land would be $5m less than in the Status Quo future, and on the other land would be some $12m less. Overall, the foregone production would be $17m less in gross output terms in the Low-Medium future. This includes an estimated $12.7m of labour and resource costs (inputs to production).

[76] Over 30 years, discounted at 8% pa.

f) In the High NPS - HPL scenario, with virtually no subdivision occurring on the HPL, the total opportunity cost (foregone primary production) would be $80.4m (undiscounted) and $13.6m (discounted) to 2048.

g) The opportunity cost on the HPS land would be $14m less than in the Status Quo future, and on the other land would be some $23m less. Overall, the foregone production would be $37m less in gross output terms in the High NPS - HPL scenario. Part of this effect is due to the smaller number of parcels that would be formed under the High NPS - HPL scenario. This includes an estimated $27.5m of labour and resource costs (inputs to production).

h) This represents a substantial positive economic effect from protecting the HPS resource. It is important to note that part of the difference in effect of lost production from applying the regulatory futures occurs through an overall reduction in the additional number of lifestyle properties formed through the constraints on subdivision from the Low-Medium and High Regulatory futures in the long-term.

Figure 10.20 – Auckland Long-Term Primary Production Outcomes to 2048 (Medium Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
	($m)								
2028	$ 0.5	$ 1.5	$ 2.0	$ 0.4	$ 1.1	$ 1.5	$ 0.0	$ 0.5	$ 0.5
2038	$ 2.6	$ 6.8	$ 9.4	$ 1.5	$ 4.1	$ 5.6	$ 0.0	$ 2.0	$ 2.0
2048	$ 9.5	$ 22.7	$ 32.2	$ 6.3	$ 16.4	$ 22.8	$ 0.1	$ 10.9	$ 11.0
2018-48	$ 78.8	$ 196.2	$ 275.0	$ 50.3	$ 134.5	$ 184.8	$ 1.0	$ 79.4	$ 80.4
Difference v SQ				-$ 28	-$ 62	-$ 90	-$ 78	-$ 117	-$ 195
PV (2018-48)	$ 14.1	$ 36.3	$ 50.4	$ 9.0	$ 24.7	$ 33.6	$ 0.2	$ 13.4	$ 13.6
Difference v SQ				-$ 5	-$ 12	-$ 17	-$ 14	-$ 23	-$ 37

Source: ME Lifestyle Parcel Model 2019

11 Waipa District Analysis

This section contains the spatial analysis completed for Waipa District. It covers an assessment of the current baseline in terms of the scale and geography of the HPS resource and the incidence of economic and social activity, and other physical attributes on that resource. The current planning framework contained in the operative Waipa District Plan is discussed in relation to provisions that manage urban expansion, rural residential/lifestyle demand and rural fragmentation. This is followed by an analysis of the indicative extent of HPL and the potential implications of redirecting rural lifestyle subdivision to other parts of the district over the next 30 years.

The geography of Waipa is relatively uniform. Most of the district is productive rural land that surrounds the southern parts of Hamilton City. Hamilton provides most of the high order activities used by Waipa residents (i.e. retail, services, hospitality, entertainment, recreation and medical services or facilities not provided for locally or provided at a more modest scale) and employs workers from Waipa in higher order jobs. While most of the economic activity in the area occurs within the Medium Urban areas (Cambridge and Te Awamutu) as defined by StatisticsNZ (2018), there is significant levels of economic activity in the rural area. While the majority of urban activity occurs on non HPS land (to the extent the LUC maps provide coverage of those areas), most of the activity in the rural area occurs on HPS land.

11.1 HPS Resource

HPS resource makes up a significant 53% of total area within Waipa District (approximately 77,560ha). There is approximately 9,070ha of LUC class 1 land, just over 47,210ha of LUC class 2 land and 21,280ha of LUC class 3 land (Figure 11.1).

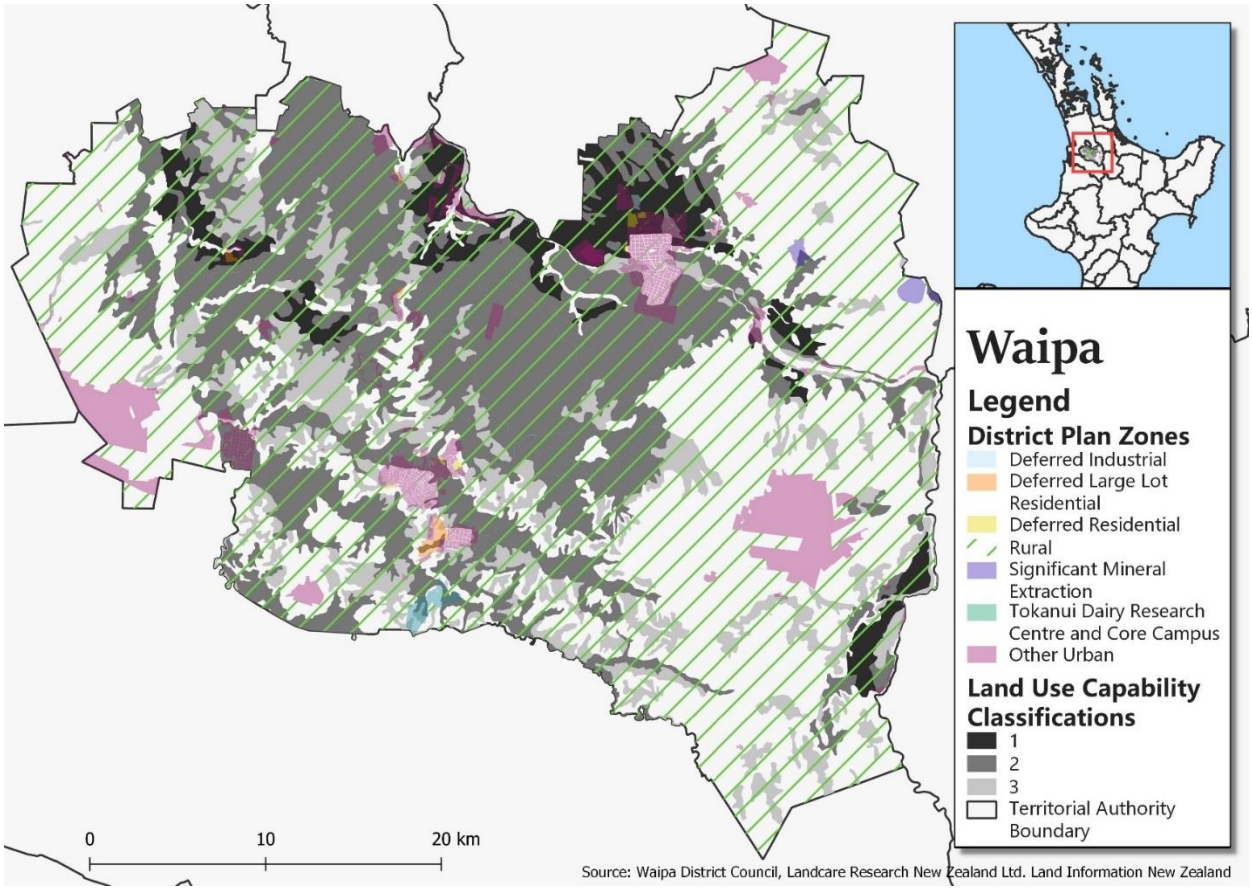
Figure 11.1: Summary of Land Use Capability Data in Waipa District (ha)

	1	2	3	4	5	6	7	8	Towns & Water Bodies	TA Area Not included in LUC Map	Total District
Area of LUC Class (Ha)	9,069	47,214	21,280	24,141	-	37,867	4,289	905	2,269	94	147,128
Share of TA Area	6%	32%	14%	16%	0%	26%	3%	1%	2%	0%	100%
Sub-Total LUC 1-3 (Ha)			77,563								
Sub-Total LUC 1-3 (%)			53%								

Source: Land Resource Inventory, Landcare. Includes all land including road area and area defined by District Plan zones.

Figure 11.2 shows the location of the HPS resource relative to the urban land use zones which include residential, business and industrial and other special purpose zones (shown in pink). The most significant concentration of HPS is in the central and northern areas. The LUC class 1 soils surround the northern fringe of Cambridge. A significant length of the district border with Hamilton City and Waikto District contains HPS. There is also an area of LUC class 1 soils in the south east, around Arapuni.

Figure 11.2: Waipa District HPS Coverage and Rural Environment District Plan Zones



We have intersected the HPS resource with StatisticsNZ meshblock (2013) and urban area (2018) boundaries. In total, 166 meshblocks out of a total of 492 meshblocks have more than 75% of their land area as HPS (LUC 1-3). A further 109 meshblocks have between 25% and 75% of their area as HPS. In total, 56% of all meshblocks have HPS in reasonably significant quantities (greater than 25% by area). The geographic concentration of the HPS is significant, with a total of 49,344 ha in areas where HPS are the significant soil (i.e. >75% of the total), out of just over 77,000ha in total (64%).

The HPS areas, as expected, are predominantly in the rural areas. Of the total 77,461 ha of HPS[77], some 74,651 is in Rural Other (non-urban) based on the StatisticsNZ 2018 rural-urban boundaries (96%). Of this rural resource, some 47,305ha is in meshblock areas where the HPS is the dominant resource accounting for almost 63% of the HPS area. This geographic concentration is important for land use and other potential policies for the NPS - HPL, because it allows the policy settings to be very focussed geographically in the Rural Other (non-urban) areas in Waipa.

[77] Very minor variations in in the area of total HPS occurs between tables due to the way they are generated in GIS.

11.2 Baseline Analysis

11.2.1 Population and Households

Within the urban areas of Waipa, residential dwellings are mostly on non HPS land (7,748ha out of the 11,933ha in the Medium Urban areas). This means that the extent of the 'town' areas in the LUC database is smaller than the extent of these urban areas and soil capability has been mapped for those areas. In the Rural Other area, there are currently approximately 7,000 households (and dwellings) in total of which 3,930 are in meshblocks with high shares of HPS classified land (Figure 11.3). The majority of these will be rural farmhouses – but a substantial portion are likely to be rural lifestyle dwellings on the edges of both Hamilton City, and the Medium Urban areas (Cambridge and Te Awamutu). This is a potential cause for concern that requires a degree of careful planning in application of policy.

In total, in Waipa, 56% of dwellings are in meshblocks with more than 25% land as HPS – 33% of dwellings in the District reside in meshblocks with more than 75% of land classified as HPS. These households accommodate 56% of the district population in total – 33% in meshblocks with more than 75% land classified as HPS.

11.2.2 Household Growth

Of more significance for the future, 50% of total future household growth to 2038 is expected to occur in meshblocks with more than 75% of HPS land (StatisticsNZ, medium growth series[78]). This will substantially increase pressure on this resource in Waipa District. Total growth is weighted to the Rural Other and Rural Settlement areas which make up 54% of total projected growth over this timeframe. The majority of the growth (63%) in the Rural Other areas occurs in meshblocks with more than 75% land area classified as HPS (Figure 11.3).

This means that in future there is likely to be significantly more overlap between residential and lifestyle land uses and HPS (and associated pressure for rural fragmentation). This has the potential to reduce output and utilisation of these soils for productive purposes. As noted, the initial meshblock-level analysis offers an approximation. Nevertheless, *a priori* it does indicate that population and household growth – presumably from around the fringes of Hamilton - may have material effect on the HPS resource over the next two decades.

11.2.3 Horticulture

Given that the HPS soils in Waipa support mostly pastoral activities, horticultural businesses are limited in number. There are only 126 in the district employing approximately 760 MECs or workers (2017). These businesses are highly correlated with the HPS, with over 89 businesses (70%) located in meshblocks where HPS makes up more than 75% of the total meshblock area (Figure 11.3). These businesses are the larger horticultural businesses as they account for over 92% of all horticultural employment. Horticultural businesses in Waipa are heavily concentrated in the Rural other areas (94%) with a very small share in the urban areas (6% in the Medium Urban areas)[79].

[78] StatisticsNZ CAU level projections, pro-rated to meshblocks by M.E.

[79] Due to the limitations of meshblock analysis, these businesses may be located just outside the urban boundary rather than in it.

Figure 11.3: Waipa Urban-Rural HPS Summary with Socio-Economic Activity Relationship

Waipa District	Count of MBs (2013)	Area of HPS in MBs	Total MB Area	Dis-tribution of MB Count	Total MB Population	Total MB Households	Total MB Households %	Projected Household Growth 2018-38	Projected Household Growth 2018-38 %	Horti-culture Geos	Horti-culture MECs	Horti-culture MECs %	Pastoral Farming Geos	Pastoral Farming MECs	Pastoral Farming MECs %	All Other Activity MECs	All Other Activity MECs %	Total Activity MECs	Total Activity MECs %
HPS = LUC 1 - 3																			
Medium urban area	**265**	**1,844**	**3,236**	**54%**	**29,470**	**11,570**	**57%**	**1,420**	**35%**	**14**	**45**	**6%**	**194**	**159**	**10%**	**13,066**	**67%**	**13,270**	**61%**
HPS > than 75% of MB Area	50	1,506	1,592	10%	6,220	2,240	11%	590	14%	6	41	5%	54	28	2%	2,493	13%	2,563	12%
HPS between 50% and 75% of MB Area	15	140	214	3%	1,890	750	4%	70	2%	-	-	0%	5	5	0%	1,055	5%	1,060	5%
HPS between 25% and 50% of MB Area	22	159	404	4%	2,670	1,060	5%	110	3%	2	0	0%	14	17	1%	1,648	8%	1,666	8%
Other LUC Category (4-8/Water/Settlement)	178	38	1,027	36%	18,690	7,510	37%	640	16%	7	4	1%	122	109	7%	7,869	40%	7,982	36%
Small urban area	**21**	**530**	**996**	**4%**	**2,970**	**1,100**	**5%**	**360**	**9%**	**1**	**-**	**0%**	**19**	**4**	**0%**	**340**	**2%**	**344**	**2%**
HPS > than 75% of MB Area	2	169	178	0%	260	100	0%	80	2%	-	-	0%	3	1	0%	56	0%	58	0%
HPS between 50% and 75% of MB Area	3	208	344	1%	460	170	1%	70	2%	-	-	0%	5	3	0%	28	0%	32	0%
HPS between 25% and 50% of MB Area	6	149	354	1%	850	310	2%	140	3%	1	-	0%	7	-	0%	75	0%	75	0%
Other LUC Category (4-8/Water/Settlement)	10	3	119	2%	1,400	520	3%	70	2%	-	-	0%	4	0	0%	180	1%	180	1%
Rural settlement	**11**	**436**	**527**	**2%**	**1,750**	**630**	**3%**	**170**	**4%**	**2**	**3**	**0%**	**12**	**7**	**0%**	**291**	**1%**	**301**	**1%**
HPS > than 75% of MB Area	9	364	387	2%	1,430	520	3%	140	3%	2	3	0%	9	6	0%	254	1%	262	1%
HPS between 50% and 75% of MB Area	1	47	71	0%	220	80	0%	30	1%	-	-	0%	-	-	0%	15	0%	15	0%
HPS between 25% and 50% of MB Area	1	26	69	0%	100	40	0%	-	0%	-	-	0%	3	2	0%	22	0%	24	0%
Other LUC Category (4-8/Water/Settlement)	-	-	-	0%	-	-	0%	-	0%	-	-	0%	-	-	0%	-	0%	-	0%
Rural other	**195**	**74,651**	**142,260**	**40%**	**19,710**	**7,000**	**34%**	**2,140**	**52%**	**109**	**708**	**94%**	**1,334**	**1,380**	**89%**	**5,915**	**30%**	**8,003**	**37%**
HPS > than 75% of MB Area	105	47,305	51,691	21%	11,160	3,930	19%	1,340	33%	81	653	86%	667	786	51%	4,137	21%	5,576	25%
HPS between 50% and 75% of MB Area	35	12,729	20,967	7%	3,130	1,120	6%	300	7%	12	34	5%	219	207	13%	576	3%	816	4%
HPS between 25% and 50% of MB Area	26	9,156	28,364	5%	2,650	950	5%	250	6%	10	19	3%	216	222	14%	587	3%	829	4%
Other LUC Category (4-8/Water/Settlement)	29	5,461	41,237	6%	2,780	1,000	5%	260	6%	6	2	0%	232	165	11%	616	3%	782	4%
TOTAL	**492**	**77,461**	**147,019**	**100%**	**53,900**	**20,300**	**100%**	**4,090**	**100%**	**126**	**757**	**100%**	**1,560**	**1,550**	**100%**	**19,612**	**100%**	**21,919**	**100%**
HPS > than 75% of MB Area	166	49,344	53,849	34%	19,070	6,790	33%	2,150	53%	89	697	92%	733	821	53%	6,941	35%	8,459	39%
HPS between 50% and 75% of MB Area	54	13,124	21,596	11%	5,700	2,120	10%	470	11%	12	34	5%	229	215	14%	1,675	9%	1,923	9%
HPS between 25% and 50% of MB Area	55	9,490	29,191	11%	6,270	2,360	12%	500	12%	13	20	3%	240	241	16%	2,332	12%	2,593	12%
Other LUC Category (4-8/Water/Settlement)	217	5,503	42,383	44%	22,870	9,030	44%	970	24%	13	6	1%	357	274	18%	8,665	44%	8,944	41%

Source: Statistics NZ, Landcare, M.E

The high concentration of horticultural activities in HPS dominated meshblocks points to the key rationale for protecting this resource – even though it is a relatively small economic sector in Waipa.

11.2.4 Pastoral farming

Waipa District is mostly pastoral farms. In total there are 1,560 pastoral farming businesses employing 1,550 people or MECs (2017). The pastoral farms are mostly located in meshblocks coded to the Other Rural areas (86%) and they are split evenly between areas of very high concentration of HPS land (75% of more) and the rest (Figure 11.3). Only 232 out of the 1,334 farms in Rural Other areas are in meshblocks with very low shares of HPS zoned land (17%).

Of the 194 pastoral farms in the Medium Urban areas, 122 are in low HPS land meshblocks – out numbering the 54 in meshblocks with 75% or more land as HPS.

11.2.5 Other economic activity

Other economic activity covers everything else within the economy. In Waipa, 67% of this activity occurs in the Medium Urban areas, 30% in the Rural Other (non-urban) areas, 2% in Small Urban areas and 1% in Rural Settlements. In the Medium Urban areas this activity is concentrated in the meshblocks with low levels of HPS (accounting for 60% of the Medium Urban other economic activity or 40% of Waipa total other activity).

As with all activity in Rural Other areas in Waipa District, Other activity in Rural Other is heavily concentrated in meshblocks with a very high share of HPS land. In total 4,137 out of the 5,94150 MECs in Rural Other are in meshblocks with 75% of more HPS classified land (70%).

11.2.6 Total economic activity

In Waipa District, 41% of all economic activity occurs in meshblocks with low shares of HPS. Partially this is due to the area being mainly rural and rural production (and thereby employment) occurring in meshblocks with high proportions of land area classified as HPS. The Medium Urban areas account for around 61% of total economic activity, the Rural Other accounts for 37% with the Small Urban areas and Rural Settlements accounting for only 3% of activity between them (Figure 11.3).

Overall 39% of employment occurs in meshblocks with 75% or more land area classified as HPS. A Further 21% occurs in meshblocks with between 25% and 75% classified as HPS. This leaves around 41% occurring in meshblocks with little or no HPS classified land area – the majority of this in the Medium urban areas.

In Waipa, the key issue with respect to HPS land is the proportion of future growth that appears to be directed to areas with high shares of HPS. As discussed above, this is likely to be the areas around the Hamilton City fringe – but also may be Cambridge and Te Awamutu expanding onto highly productive land.

11.2.7 Maori Owned Land

Figure 11.4 summarises the extent of Maori owned land (as defined by the Maori Land Court) in Waipa District in combined rural zones. We have not shown any Maori owned land in urban zones.

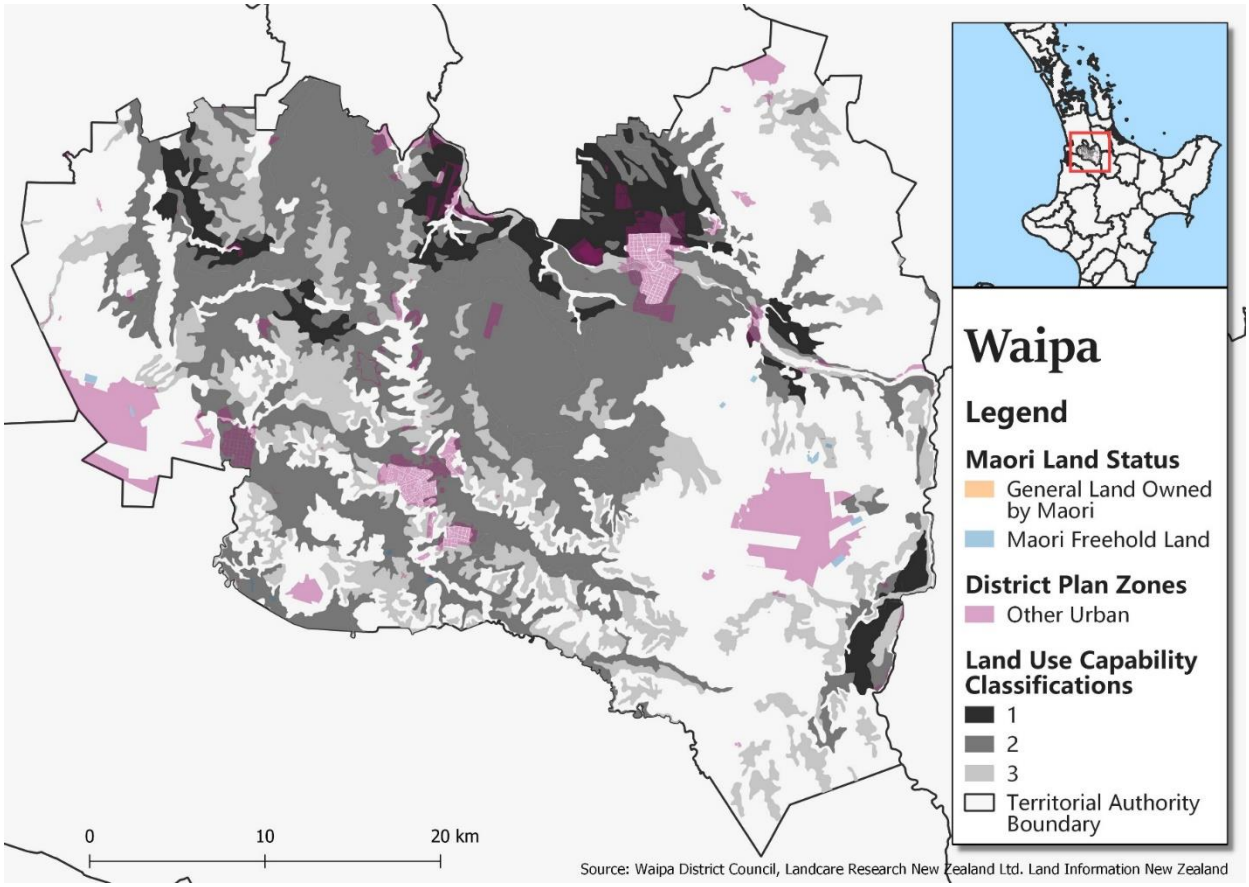
Figure 11.4 – Waipa Summary of HPS by Maori Land and Other Tenure in Rural Zone Area (ha)

Rural Zone / Tenure	HPS (ha)	LUC 4-8 (ha)	Towns & Water Bodies	Total Area	HPS Share of Total Area	Tenure Share of HPS Area
Tokanui Dairy Research Centre Zone	174	161	0	336	52%	0.2%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	0	0	-	0	10%	0.0%
Other (Non-Maori Land Court) Land	174	161	0	336	52%	0.2%
Rural Zone	74,061	61,129	1,291	136,482	54%	99.4%
General Land Owned by Maori	27	536	-	564	5%	0.0%
Maori Freehold Land	868	1,264	0	2,133	41%	1.2%
Other (Non-Maori Land Court) Land	73,165	59,329	1,291	133,785	55%	98.2%
All Other Rural Zones	298	398	6	701	42%	0.4%
General Land Owned by Maori	-	-	-	-	0%	0.0%
Maori Freehold Land	-	-	-	-	0%	0.0%
Other (Non-Maori Land Court) Land	298	398	6	701	42%	0.4%
Total Rural Zones *	74,533	61,689	1,297	137,519	54%	100.0%
General Land Owned by Maori	27	536	-	564	5%	0.0%
Maori Freehold Land	868	1,264	0	2,133	41%	1.2%
Other (Non-Maori Land Court) Land	73,638	59,888	1,297	134,822	55%	98.8%

Source: Waipa Distict Council (Zones), Ministry of Justice (May 2017), LUCB - Landcare.

** As defined by M.E for the purpose of the study. Treaty Settlement Land included with Other.*

Figure 11.5: Waipa District HPS Coverage and Land Tenure



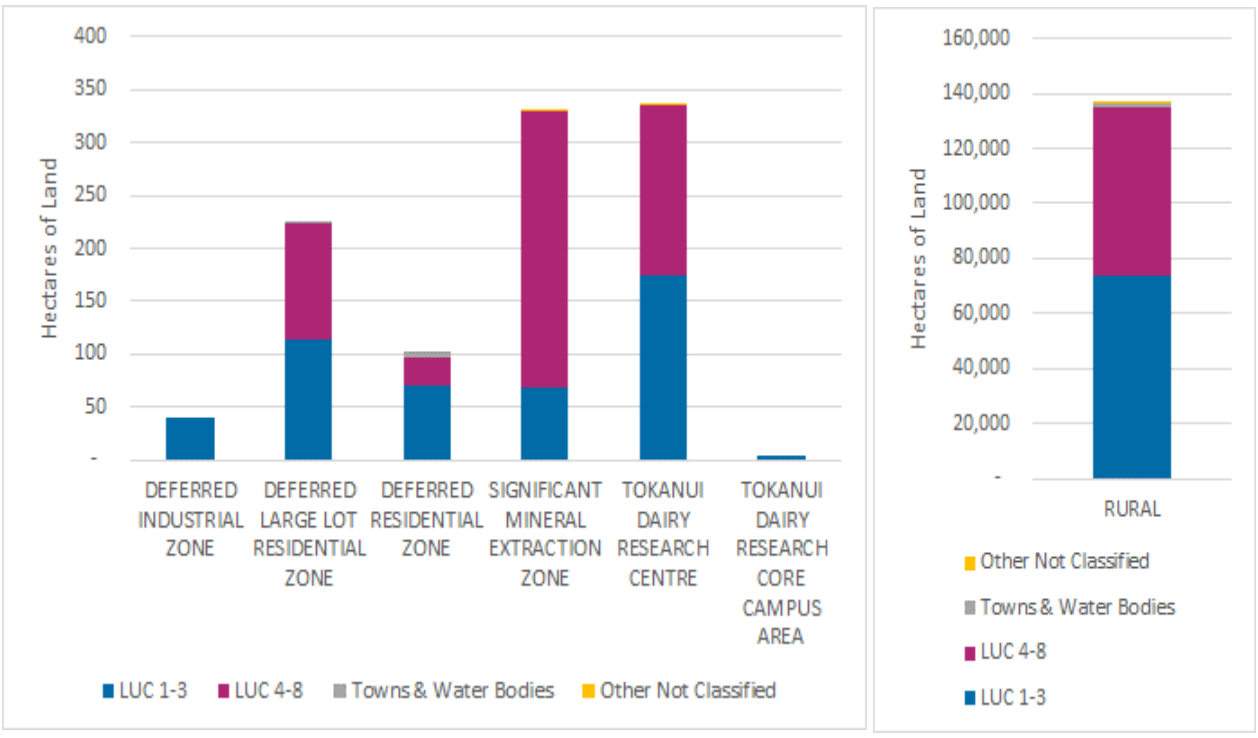
In total there is an estimated 564ha of General Land Owned by Maori land in the rural zone and just 5% of this contains HPS. There is a further 2,133ha of Maori Freehold Land and 41% of this contains HPS, again almost all of this is in the Rural Zone. Overall, 33% of Maori land contains HPS – this is a lower incidence that for all other tenures (55%), however other tenures account for nearly all of HPS land in quantum terms (99%). While difficult to see at a district scale, Figure 11.5 shows the location of Maori Land relative to the HPS resource.

11.2.8 District Plan Zoning

The Waipa rural land use zones included for this analysis are the Rural Zone, which dominates the rural area at approximately 136,482ha. We have also, for interest, included the Deferred Industrial Zone (40ha), the Deferred Large Lot Residential Zone (225ha), the Deferred Residential Zone (103ha), the Significant Mining Extraction Zone (329ha) and the Tokanui Dairy Research Zones (341ha combined) as these fall within the rural environment and provide relevant context for the broader issue of future strategic growth planning (and recognition of HPL) as required under the NPS - HPL. Figure 11.2 provides a map of these rural zones relative to the HPS resource.

While most select zones in the rural area are very small relative to the Rural Zone, the Deferred Industrial Zone is located 100% on HPS. The Deferred Large Lot Residential Zone is made up of 51% of HPS. The Deferred Residential Zone is made up of 68% HPS (Figure 11.6). When these zones are developed in future, there will be a loss of HPS. However, the aggregate effect is important - the HPS in these three deferred zones makes up just 0.3% of what is in the rural area, so is an immaterial loss of resource relative the benefits these zones will provide for community social and economic wellbeing.

Figure 11.6 – Land Capability by Selected Rural Area Zones – Waipa District



The extensive Rural Zone contains 74,064ha of HPS – this makes up an average of 54% of the zone and accounts for 99% of the total HPS resource in the rural environment. This means that targeting, in the first instance, rural productive zones for the definition of HPL in the NPS - HPL (and excluding zones already set aside for urban use now and in the future), will be an appropriate approach, in the context of Waipa.

11.2.9 Land Cover

Figure 11.7 contains an analysis of the Land Cover Database data as it relates to the location of HPS. Based on the categories of land cover in that dataset, the top-ranking land cover occupying HPS is High Producing Exotic Grassland – this land cover includes 70,015ha of HPS. The HPS resource makes up 57% of all land with this land cover in Waipa's rural area, meaning that 43% is located on other soils. The presence of LUC 1-3 soils appears to play a strong role in the location of this activity (all else being equal) but the sector is certainly not totally dependent on it (although it may make a material difference in terms of output per hectare). However, this land cover is significant as it makes up 94% of the total HPS resource in the combined rural area of the district. Other land covers account for only minor shares of the HPS resource.

Figure 11.7 – Waipa Summary of HPS by Land Cover 2012/13 in Rural Zone Area (ha)

Land Cover (2012/13)	HPS (ha)	HPS Share of Total Area	Land Cover Share of HPS Area
High Producing Exotic Grassland	70,015	57%	93.9%
Short-rotation Cropland	925	94%	1.2%
Orchard, Vineyard or Other Perennial Crop	631	92%	0.8%
Exotic Forest	498	18%	0.7%
Indigenous Forest	427	10%	0.6%
Built-up Area (settlement)	344	50%	0.5%
Urban Parkland/Open Space	302	82%	0.4%
Deciduous Hardwoods	290	52%	0.4%
Lake or Pond	277	28%	0.4%
River	221	64%	0.3%
Broadleaved Indigenous Hardwoods	219	21%	0.3%
Manuka and/or Kanuka	135	13%	0.2%
Herbaceous Freshwater Vegetation	73	99%	0.1%
Surface Mine or Dump	46	32%	0.1%
Low Producing Grassland	31	19%	0.0%
Gorse and/or Broom	31	6%	0.0%
Forest - Harvested	29	16%	0.0%
Flaxland	22	99%	0.0%
Mixed Exotic Shrubland	15	38%	0.0%
Gravel or Rock	1	100%	0.0%
n.e.c	0	0%	0.0%
Total HPS Area Within Rural Zones * (ha)	74,533	54%	100.0%

Source: Waipa Distict Council (Zones), LCDB, LUCB - Landcare.

** As defined by M.E for the purpose of the study.*

11.2.10 Land Use (Rural Environment)

The following analysis relies on data from CoreLogic which includes a breakdown of 'Lifestyle' property types[80]. This data is relevant given the strong link between lifestyle block development and rural land fragmentation and loss of primary production and is examined in more detail in section 11.4. The data also contains a breakdown of property types for rural properties (other than lifestyle). This helps form a profile of the rural property estate in Waipa.

In total, the CoreLogic data identifies 6,967 lifestyle or rural properties. Lifestyle defined properties account for 81% of the total (5,624 current estimate). An estimated 839 lifestyle properties do not contain a dwelling and are classified as vacant. They make up 15% of total lifestyle properties and 12% of all lifestyle and rural properties (Figure 11.8).

Figure 11.8 – Count and Structure of Total Waipa District Rural and Lifestyle Properties (2019)

Property Type Category	Total Count	Share of Total Rural & Lifestyle Properties	Share of Sub-Category
Lifestyle - Improved	4,785	69%	85%
Lifestyle - Vacant	839	12%	15%
Sub-Total Lifestyle	5,624	81%	100%
Dairying - Milk	989	14%	76%
Horticulture - Berry fruit	18	0%	1%
Horticulture - Flowers	5	0%	0%
Horticulture - Glasshouse	12	0%	1%
Horticulture - Kiwifruit	29	0%	2%
Horticulture - Market garden	6	0%	0%
Horticulture - Mixed/Other	16	0%	1%
Horticulture - Pip fruit	6	0%	0%
Horticulture - Vineyards	2	0%	0%
Pastoral - Finishing	225	3%	17%
Pastoral - Grazing	1	0%	0%
Sub-Total Horticulture & Farming	1,309	19%	100%
Forestry - Exotic	4	0%	13%
Forestry - Indigenous	22	0%	73%
Forestry - Protected	4	0%	13%
Sub-Total Forestry	30	0%	100%
Mining - Mixed/unknown	1	0%	25%
Mining - Rock/shingle/sand	3	0%	75%
Sub-Total Mining	4	0%	100%
Total Rural & Lifestyle Properties	6,967	100%	

Source: Core Logic 2019, MPI

[80] This definition is not limited to the definition provided in the NPS – HPL (i.e. may include a broad range of property sizes at the upper end).

In terms of Horticultural and Farming properties – there are an estimated 1,309 of these – and they make up 19% of all properties in the dataset. Dairy farms dominate this group (76% or 989). This is followed by Pastoral Finishing farms (17% or 225). There are a small number of kiwifruit orchards (29% or 2% of total horticultural and farming properties). There are an estimated 30 forestry properties, although very few (4 or 13%) are exotic forests. Last, there are 4 mining related properties.

11.2.11 Lifestyle Properties

The CoreLogic data also contains a description of dominant land use for each property type. There is generally a strong correlation between both type and land use, but Lifestyle blocks in particular have diverse uses, including productive use at a lifestyle property scale. Figure 11.9 provides a matrix of Waipa lifestyle properties from that dataset. It shows that the land use of 84% of lifestyle properties is primarily for a single residential dwelling. A further 16% have been coded as multi-use lifestyle blocks which we understand means both a place of residence and another use (mostly some form of primary production). This data provides some evidence of the loss of productive capacity when rural land is subdivided for lifestyle blocks.

Figure 11.9 – Count and Land Use of Total Waipa District Lifestyle Properties (2019)

Land Use Category (Corelogic)	Lifestyle - Bare	Lifestyle - Improved	Lifestyle - Vacant	Sub-Total Lifestyle	Share of Total by Land Use
Residential, Single Unit, Bach	-	4,724	3	4,727	84%
Lifestyle, Multi Use Lifestyle	-	61	834	895	16%
Horticulture & Farming	-	-	2	2	0%
Total Count	-	4,785	839	5,624	100%
Share of Total by Type	0%	85%	15%	100%	

Source: Core Logic 2019, MPI

Figure 11.10 – Growth of Lifestyle Properties in Waipa 1993-2015

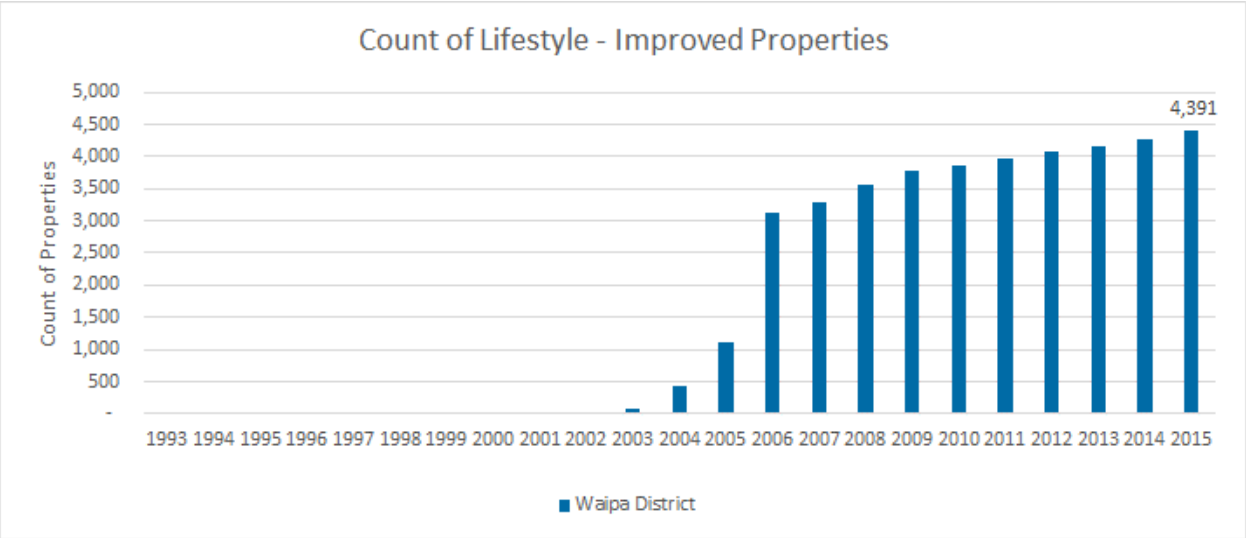
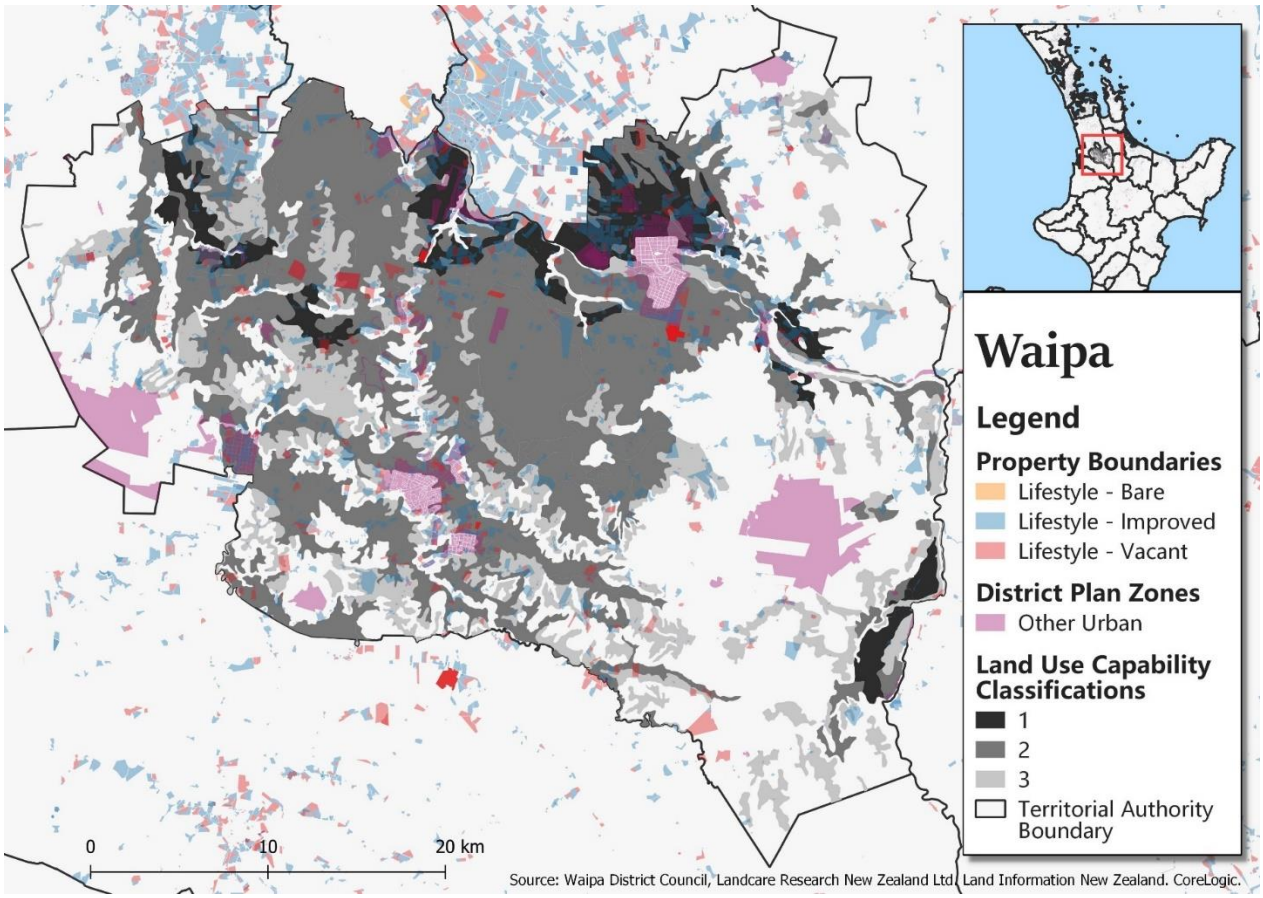


Figure 11.10 plots the growth of improved lifestyle properties based on a time series CoreLogic dataset for

Waipa District[81]. It shows an exponential increase in 2006 followed moderate and steady growth through to 2015 when the count reached 4,391. Our latest data shows a count of 4,785 improved lifestyle properties, so there has been an estimated increase of 394 lifestyle properties between 2015 and 2019.

Figure 11.11 provides a map of current lifestyle properties according to CoreLogic. It shows that they have concentrated in the north of the district, including on LUC class 1 soils. The extensive areas of lifestyle blocks both east of Hamilton City (Matamata Piako District) and west of Hamilton (Waikato District) stand out and the lifestyle development areas in Waipa are a continuation (spill over) of that trend. The proximity to Hamilton City (i.e. commuting distance) is a key driver, and as a result there has been much less demand for lifestyle properties in the south of Waipa.

Figure 11.11: Waipa District HPS Coverage and Rural Lifestyle Property Patterns (2019)



11.3 Planning Approach Relevant to HPL

The strategic policy framework in the operative district plan begins with the key challenge faced by an expected doubling of the population by 2050. "*Where and how the District's growing population is accommodated is a key issue for the District Plan*". At the same time, the Plan identifies that the "*economic wealth and prosperity in the District is largely derived from the land. Its soils support an exceptionally*

[81] M.E assumes a consistent approach is applied to defining Lifestyle properties by CoreLogic over this time period.

productive rural sector including dairying, dry stock farming and the equine industries. The District also has significant mineral resources including aggregate, sand and lime. In the future it is anticipated that primary based industries will remain the key economic sector in the District".

This confirms that Waipa needs to manage the conflict between urban expansion and protection of rural resources and primary production activity. This is highlighted by acknowledgement that in the past, "*high class soils have been subdivided for housing and industrial use*" while "*agricultural land use has also intensified*". This means that urban growth is bringing these two conflicting land uses closer together in a geographic sense.

Approach to managing urban expansion

The operative district plan contains the new targets required by the NPS – UDC on providing sufficient, feasible development capacity for housing. In total, the target is to provide for 13,900 dwellings by 2046. This means that growth areas need to be zoned or identified. As part of this, the regional policy statement requires Waipa to set urban limits and densities in the deferred zones and future growth areas while also protecting rural land. Added to this, the Future Proof Strategy provides a coordinated approach for managing growth. This is implemented locally via the Waipa District Growth Strategy. The operative district plan is therefore a product of the NPS – UDC, RPS and Future Proof Strategy (and the way in which these all work together). The anticipated output of these strategic planning approaches is that 80% of future growth in the district is encouraged in urban areas. It is notable that the very first strategic outcome identified is:

(a) *The protection of high class soils, natural resources, significant natural areas, heritage buildings and sites and landscapes along with the promotion of forest, river or stream corridors;*

If appears to M.E that Waipa's operative district plan (which is dated November 2016), is already well aligned with the requirements of the NPS - HPL to strategically manage urban growth. There are a range of strategic objectives and policies that guide urban growth patterns, including the following relevant policy:

- *Policy - Subdivision and development within the Rural Zone - 1.3.1.5 To ensure that the natural resources of the Rural Zone, including high class soils, continue to be used for rural activities by (selected):*
- *(a) Avoiding residential developments and dwellings that are at a density greater than that anticipated by the Rural Zone; and*
- *(b) Avoiding commercial activities and industrial activities, except for rural based industries and nature tourism; and*
- *(c) Ensuring that development and subdivision activities within the Rural Zone do not reduce the area of land available for farming activities in the District; and*
- *(f) Avoiding sensitive subdivision, use and development that could result in reverse sensitivity effects on rural activities or existing lawfully established rural based industries.*

Approach to managing rural residential development

The operative Waipa district plan provides a specific zone for large lot or rural residential development. This is also an approach that policies in the proposed NPS – HPL recommend. "*The name 'Large Lot Residential' reflects the predominantly residential nature of the zone, which has a lower density and a more rural feel than in the Residential Zone. The areas covered in the previous Waipa District Plan by the Rural Residential Policy Area have been incorporated into this zone along with the smaller villages and some proposed new areas. People living in this zone are generally seeking to live in a semi-rural environment, while remaining within commuting distance to urban centres*".

These areas are defined in response to the need to protect high class soils, rural character, reduce the potential for reverse sensitivity and manage infrastructure. Most Large Lot Residential Zones are focused around existing towns or rural villages that have been identified in the Growth Strategy as areas for future growth.

The Waipa operative district plan contains the following policy regarding rural residential (large lot) development. They seek to support existing primary production on the land for as long as possible and manage reverse sensitivity at the interface with the rural zone.

- *Policy - Large Lot Residential - 1.3.1.3 To maintain the natural and physical resources of the rural area and rural character by focusing:*
- *(a) Large lot residential developments into Large Lot Residential Zones;*
- *Policy - Reverse sensitivity effects on farming and electricity generation activities - 3.3.2.1 The potential for reverse sensitivity effects on farming or electricity generation activities by large lot residential activities adjoining the Rural Zone or Hydro Power Zone is minimised by requiring minimum setback distances for buildings.*
- *Policy - Farming Activities prior to land development - 3.3.2.2 To provide for farming activities on undeveloped land within the Large Lot Residential Zone provided that the best practicable option to minimise effects is adopted.*

Approach to managing rural development and subdivision

The introduction to the Rural Zone in the operative district plan states that 37% of the District is classified as containing high class soils. The plan's definition of high class soils is "*those soils of land use capability classes I and II (excluding PEAT SOILS), and soils of land use capability class IIIe1 and IIIe5 classified as Allophanic Soils using the New Zealand soil classification".* Based on M.E's analysis this does not capture the full extent of LUC classes 1-3, so is a narrower definition of HPS. The Council understands that the "*exceptionally productive rural sector*" arises because of the existence of high class soils. "*Maintaining this resource for rural production is of critical importance to the District*". Again, there is strong alignment between the objectives of the NPS – HPL and Waipa's existing priorities.

> *"The intention of this section is to set the framework to enable continued use of the Rural Zone for a wide range of rural productive activities while continuing to*

emphasise the need to internalise adverse effects and avoid cumulative adverse effects of land use activities on the environment."

"The dairy industry is extremely important to the economic and social well-being of the District, the Region and New Zealand. The dairy farms in the District are highly productive and are significant contributors to the total volume of milk produced in the Waikato Region."

"There is a need to protect the rural land resource, including high class soils, peat soils, and other rural resources (including water bodies) from activities that are not directly reliant on these resources."

The policies and rules in the Plan seek to find a balance between economically driven farming practice and amenity, landscape, biological, cultural and social values. The plan contains the following (selected) policies regarding rural development.

- *Policy - Protect the rural soil resource - 4.3.1.4 The versatility and life supporting capacity of the District's rural land and soil resource, particularly high class soils and peat soils, are protected from development, subdivision or activities that would prevent its future use for primary production, or its ability to maintain the District's ecological/biodiversity values.*
- *Policy - Management of rural resources - 4.3.2.1 Manage rural resources so that farming activities can continue to establish and operate.*
- *Policy - Rural environment - 4.3.2.2 Recognise and protect the continued operation of the Rural Zone as a pastoral working environment.*
- *Policies - Rural dwellings - 4.3.7.6 To maintain the rural character and to meet the anticipated future settlement pattern in the Rural Zone by limiting the number of dwellings in the Rural Zone.*
- *Policies - Non-farming activities - 4.3.12.1 To limit non-farming activities in rural areas except for activities that:*
- *(a) Have a functional and compelling reason to establish in a rural area; and*
- *(b) Do not result in any further loss of land from primary production purposes; and*
- *(c) Maintain rural character.*

  Activities that do not meet these criteria should be accommodated in urban areas

Subdivision rules – namely minimum lot sizes in the rural zone – are identified as a key mechanism through which rural productivity can continue to be supported and versatile soils can be retained. Ensuring that large lots are retained helps provide for a wide range of rural productive activities. The following policies are especially relevant to the objectives of the proposed NPS – HPL. We note that rural subdivision is a restricted discretionary activity:

- *Policy - Maintaining productive potential of the rural land - 15.3.5.1 To ensure the productive potential of the Rural Zone is retained by:*

  (a) Maintaining a minimum rural lot size of 40ha; and

  (b) Limiting and controlling the location of smaller lots.

- *Policy - Ensuring boundary relocations and amalgamations maximise the productive potential of the zone and do not fragment rural land - 15.3.5.2 Boundary relocations and amalgamations, shall not:*

  (a) Increase the number of dwellings (excluding farmer workers dwellings) on the holding

  beyond one dwelling per 40ha; and

  (b) Create a lot layout that reduces the productivity of the land; and

  (c) Create ad-hoc, ribbon or residential cluster development; and

  (d) Create a demand for public infrastructure; and

  (e) Result in reverse sensitivity effects on adjacent rural activities.

- *Policy - High class soils - 15.3.5.3 To protect high class soils from fragmentation by:*

  (a) Ensuring that rural lot sizes can accommodate a range of farming activities; and

  (b) Allowing limited adjustment or relocation of title boundaries within a holding or

  between holdings, that result in more efficient use of high class soils; and

  (c) Ensuring that subdivision rights transfer to non-sensitive locations as specified in this

  Plan; and

  (d) Restricting the use of high class soils for activities other than primary production; and

  (e) Restricting the level of impermeable surfaces on high class soils; and

  (f) Facilitating and encouraging the amalgamation of small titles.

Having reviewed the latest operative district plan, Waipa District Council has already achieved a lot of what the NPS – HPL might require of district Councils. One area of difference is the need to include a map of highly productive land and link provisions specifically to that area. Given that the Council already protects the total rural zone to a large degree for the purpose of primary production, it will be interesting to see whether they would define a smaller area as HPL or maintain a total rural zone approach. We consider the default definition of HPL using LUC 1-3 for Waipa District in Section 11.4.

11.4 Modelling of Rural Lifestyle Development Outcomes

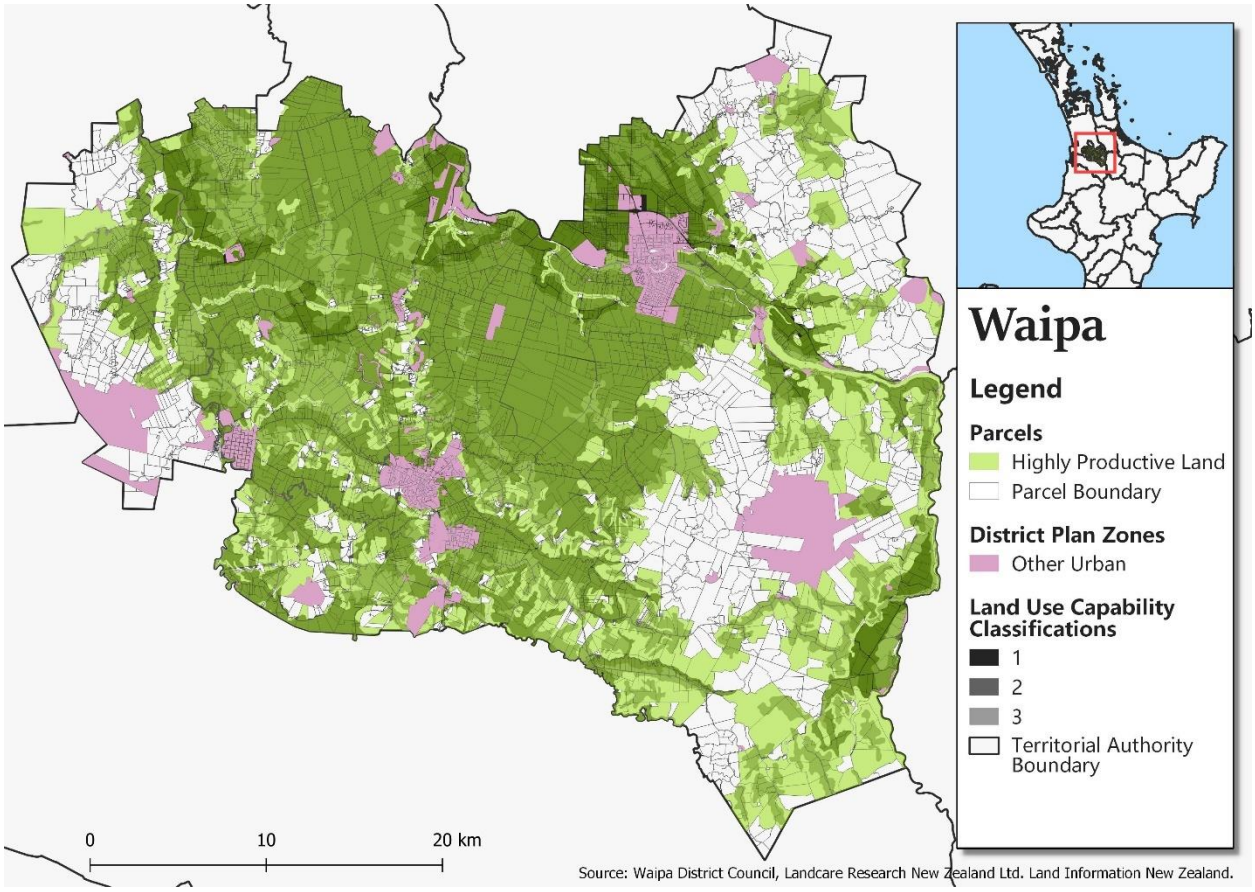
This section details the spatial analysis completed to inform the potential effects of projected rural fragmentation (subdivision) to meet demand for rural lifestyle development in Waipa's rural area, both under the status quo scenario and under the NPS - HPL scenarios.

11.4.1 Definition of Highly Productive Land under the NPS – HPL

Figure 11.12 maps the parcels that qualify as HPL according the NPS - HPL default definition (50% or greater coverage of LUC class 1-3 land or 4ha or greater of LUC class 1-3 land). The HPL is limited to the Rural zone of Waipa District. The Large Lot Residential zone (3,211 ha) and Deferred Large Lot Residential zone (232 ha) are not included.

In total, this HPL area captures 7,407 parcels of Rural zoned land which meet the NPS - HPL thresholds. Of these, 194 parcels are able to be subdivided under current provisions. These parcels total 25,982ha, and include 14,167ha of LUC 1-3. This area represents 14% the total HPS area of 74,487ha in the district and 19% of the 65,951ha of HPS in the Rural zone.

Figure 11.12 – Map of Indicative HPL (Default Definition) Waipa District



11.4.2 Status Quo Subdivision Potential Under Operative Minimum Lot Sizes

M.E has examined the land parcels in Waipa's rural area that could be further subdivided under the operative minimum lot size provisions. The focus is on subdivision potential in only the Rural zone. We have not examined additional dwelling capacity in the Large Lot Residential zone. The Plan provisions prescribe a minimum parcel size of 40ha in the Rural zone, which would represent a very large lifestyle property (and is intended as a general deterrent to lifestyle development).

Figure 11.13 identifies the location of existing parcels that may be able to be subdivided to create one or more additional lot under the status quo (it does not reveal the yield of additional lots explicitly).

Figure 11.13 – Parcels with Potential Subdivision Capacity (Simple Unconstrained) – Waipa

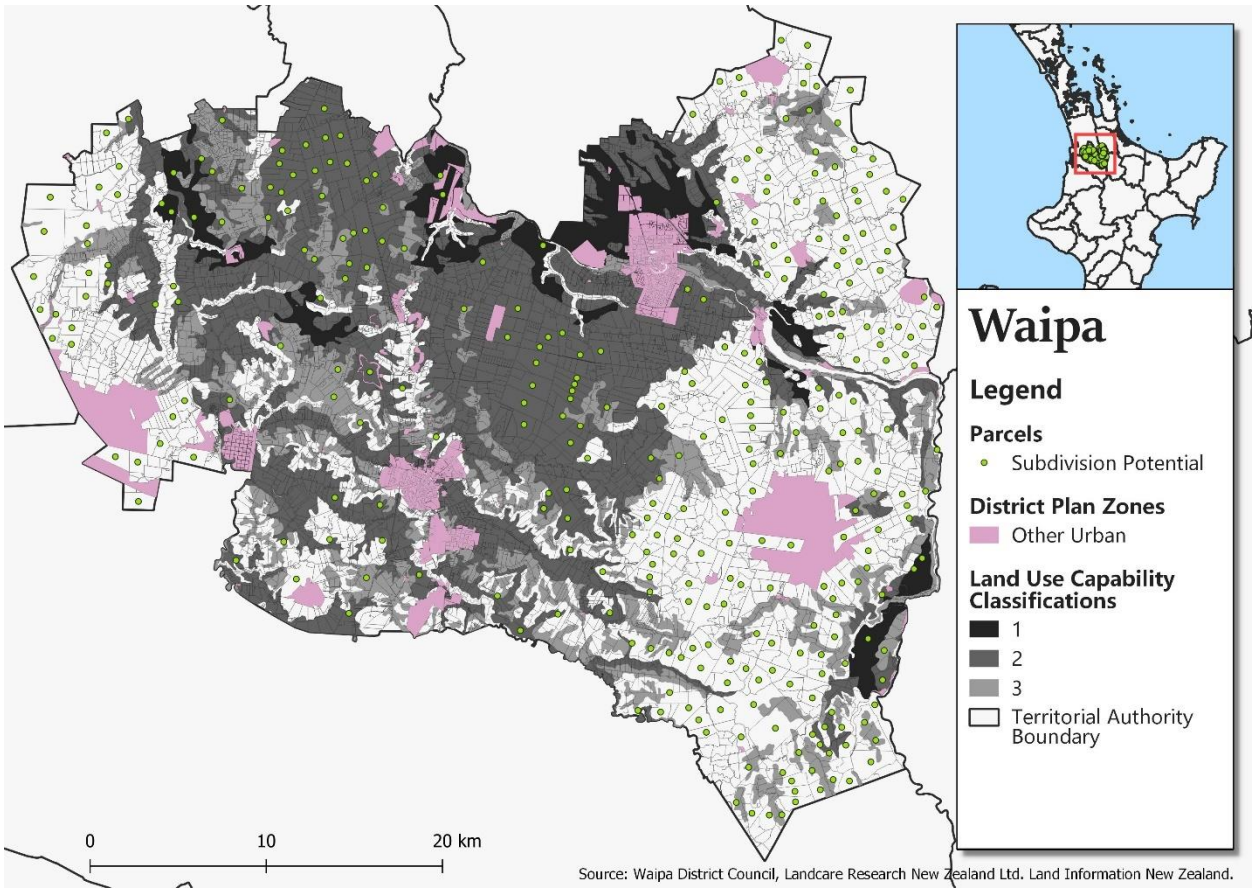
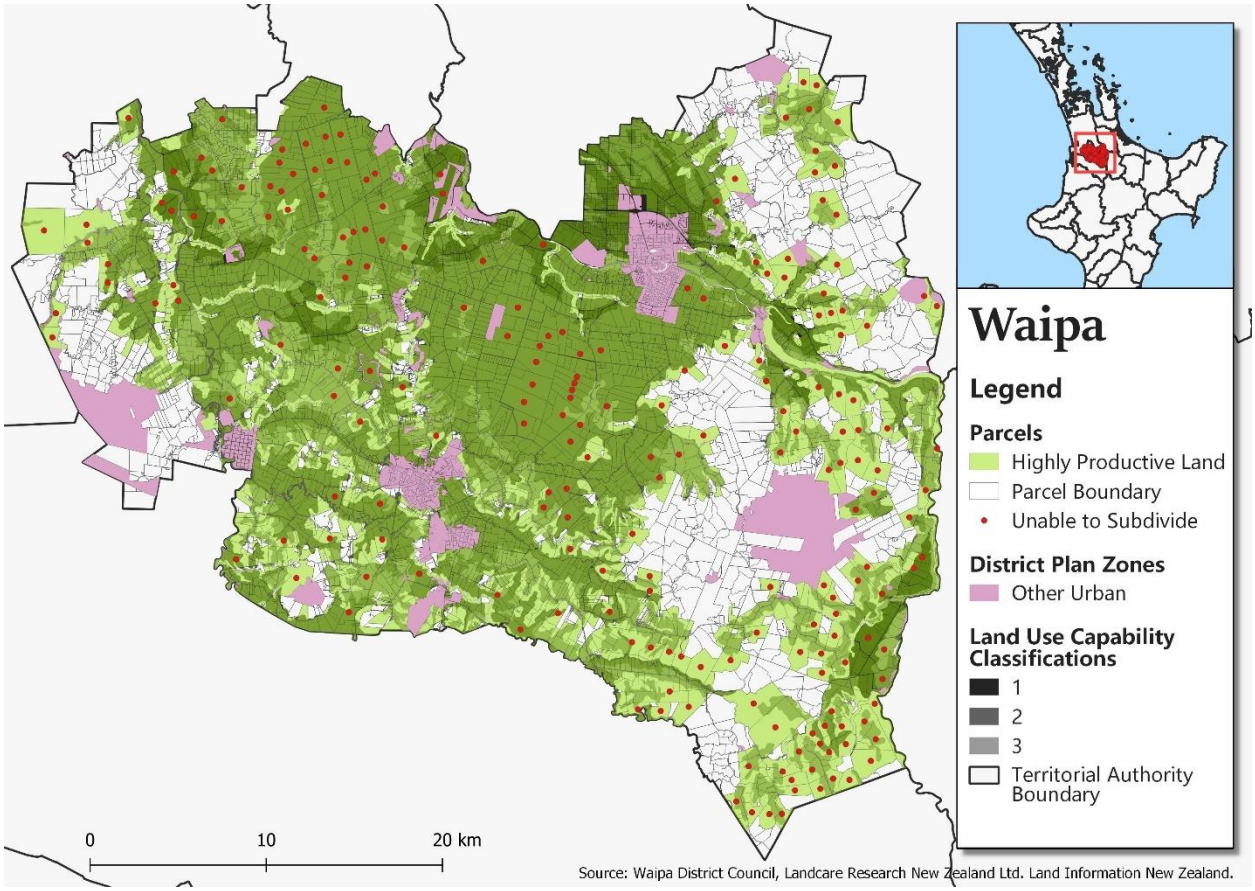


Figure 11.13 highlights that there is limited potential indicated for further fragmentation of the Rural zone (based on application of minimum lots sizes), including in areas with significant HPS (LUC class 1-3). In total there are 293 Rural parcels with potential to subdivide, which could yield 560 parcels of the minimum 40ha size. Of these, 216 of those Rural parcels with potential to subdivide are within the HPL thresholds, with capacity to create an additional 370 parcels.

While not all subdivision will be for the purpose of rural lifestyle development, under our 'with NPS - HPL' High Regulatory Response, we have assumed that 100% of subdivision on HPL parcels is deterred and deflected elsewhere to non-HPL. Figure 11.14 identifies those parcels within the defined HPL area that

would otherwise qualify for subdivision (other constraints not withstanding) under the status quo (i.e. the intersection of Figure 11.13 and Figure 11.11) and that would no longer be subdivided under the NPS - HPL High Regulatory Response scenario. This is the spatial representation of the opportunity cost of subdivision for landowners in areas mapped as HPL.

Figure 11.14 – HPL Parcels Unable to Subdivide Under the NPS - HPL High Scenario – Waipa



Under the Low-Medium Regulatory Response scenario we assume that 70% of subdivisions for rural lifestyle development are deterred and deflected to other non-HPL areas. This gives some scope for parcels to qualify for subdivision in HPL areas. This is not mapped here as the location of the 30% approved subdivision depends on a range of factors. This is analysed further below.

11.4.3 Projected Growth

Waipa's medium growth outlook is for a 12% increase in household numbers by 2028, from the current 20,300 to 22,700, with further increases to 2038 (24,400 households) and 2048 (26,200 households) (StatisticsNZ). These are shown in Figure 11.15. Over the next three decades, the district as a whole can expect between 2,400 (low growth outlook) to 5,900 (high growth outlook) additional households.

Figure 11.15 – Waipa Household Growth Outlook 2018 to 2048 (StatsNZ)

	2018	2028	2038	2048	2018-28	2018-38	2018-48
Households							
High	20,700	24,000	26,800	29,900	3,300	6,100	9,200
Medium	20,300	22,700	24,400	26,200	2,400	4,100	5,900
Low	19,800	21,400	22,200	23,000	1,600	2,400	3,200
Growth Rate (%pa)					***Lifestyle Parcels***		
High		1.5%	1.3%	1.2%	520	1,110	1,680
Medium		1.1%	0.9%	0.9%	500	760	1,100
Low		0.8%	0.6%	0.5%	330	460	610

Source: SNZ 2018; ME 2019

11.4.4 Lifestyle Demand

In Waipa, there are currently some 6,308 parcels within (5,624) lifestyle properties based on data from CoreLogic, including 5,408 parcels within (4,785) lifestyle properties listed as having improvements (generally a dwelling) and 901 parcels within lifestyle properties listed as having no significant improvements. Of these, some 4,250 (3,672 improved) are in the Rural zone, where they occupy an estimated 12,604ha of land (with another 1,338 in the Large Lot Residential and Deferred Residential zones). Mean parcel size is 3.0ha. These lifestyle parcels in the Rural zone are predominantly on HPS (see map in Figure 11.11), where they occupy 6,851ha of HPS. This represents 9% of the total HPS resource in Waipa District (as defined here) so relatively small in that context.

Figure 11.15 further shows the projected increase in demand for lifestyle properties. This has been estimated in part from growth in the Waipa District population, but also taking account the rate of growth expected in the Hamilton City population. This is because Waipa District adjoins Hamilton City, and a substantial share of the lifestyle properties relate to the Hamilton urban economy. Into the future, Waipa is expected to attract a substantial share of demand for lifestyle properties from the Hamilton population.

The underlying household projections indicate an additional 500 lifestyle properties would be demanded by 2028 in the medium growth future, with 760 by 2038, and 1,100 by 2048 (Low 610, High 1,680).

11.4.5 Scenarios of Rural Lifestyle Subdivision

The future scenarios are based on the projected increase in lifestyle parcels as this is a key focus for the proposed policy around avoiding land fragmentation. The base case outlook is the medium growth projection (500 more by 2028, 800 by 2038 and 1,100 by 2048) (Figure 11.15). However, current operative district plan rules mean that subdivision of rural land is constrained, with a minimum size of 40ha for any new parcel. This large minimum size is likely to have a substantial effect on curbing demand for lifestyle properties, especially given the more liberal provisions in neighbouring Waikato District which also off good proximity to Hamilton City. On that basis, the 2028 scenarios are based on an additional 250 lifestyle properties, and the 2048 future is based on up to 640 additional properties (both well short of projected demand of 500 and 1,100 respectively).

The Status Quo future is based on continuation of current subdivision patterns, where the creation of lifestyle properties is driven by existing rules for subdivision (minimum lot sizes) in the Rural zone.

Unlike other districts, the yield of potential subdivisions is less than the projected demand over the decades, even under the status quo. Total capacity is estimated at 500 parcels, which would be more than the projected demand of 250 to 2028, and less than the projected demand to 2038 and 2048. The projected demand in each period reflects the current geography of the lifestyle blocks. This pattern may be expected to persist in the short term, other things being equal, although in the longer-term available opportunity will determine the pattern as projected demand exceeds supply.

The core output for each scenario from this process is an estimated number of lifestyle properties (newly subdivided parcels) in each rural location (meshblock) within Waipa District for 2028 and 2048. In this process, the subdivision yield is calculated for each scenario.

For the two 'with NPS - HPL' scenarios, the estimates exclude the parcels which would not qualify for subdivision within the HPL area (100% of subdivision deflected from HPL under the High scenario and 70% deflected from HPL under the Low-Medium scenario), and the unsatisfied demand is re-directed to other parcels which are not affected by the NPS - HPL restrictions. The operative minimum lot size provisions in the Rural Zones are assumed to remain in place. The incidence of new parcels is estimated according to the subdivision provisions, and current demand patterns for lifestyle parcels.

It is noted that no allowance has been made for any planning response to alter the current large minimum parcel size (40ha) for subdivision. That means the effect of subdivision represents a maximum level – total parcels demanded are at the minimum 40 ha size – rather than allowing for smaller parcels to be created.

11.4.6 Lifestyle Subdivision

Land Fragmentation

Figure 11.16 summarises the subdivision and land use outcomes to accommodate Waipa's projected lifestyle property demand to 2028, for the without NPS - HPL and with NPS - HPL futures.

Key medium-term outcomes for land use are (2028):

a. Demand for lifestyle parcels would see up to 250 additional parcels by 2028.

b. Under the Status Quo future, the 250 additional parcels would be distributed with 90 (36%) on parcels containing HPS, and the balance (160) on land without significant HPS resource. The additional parcels would take up a total area of 10,080ha, including 3,635ha of HPS resource. These additional parcels are all in the Rural zone.

c. Under the Low-Medium Regulatory future, the same number of subdivisions would be enabled. Because the constraints on subdividing the HPS resource would not be completely effective (70% redirected), the scenario shows around 29% of the new lots indicatively occurring on the HPS resource. 75 lots would take up some 3,012ha of HPS land.

d. Under the High Regulatory future, the outcome would be different. The more rigorous application of NPS – HPL based provisions would see no new lifestyle properties on the HPS resource, while not all demand is likely to be met on other locations. There would be 211 parcels taking up around 8,440ha in the Rural zone (40 fewer lots created compared to the status quo).

e. The effect of applying the NPS - HPL provisions would reduce the loss of HPS land. Under the two regulatory futures, there would be 15-90 fewer lifestyle parcels on HPS land than would otherwise be the case, and 610ha to 3,600ha of HPS resource would be retained for primary production by

diverting elsewhere and preventing rural subdivision (and projected growth). A significant share of this would arise from the overall 16% reduction in total supply for lifestyle properties

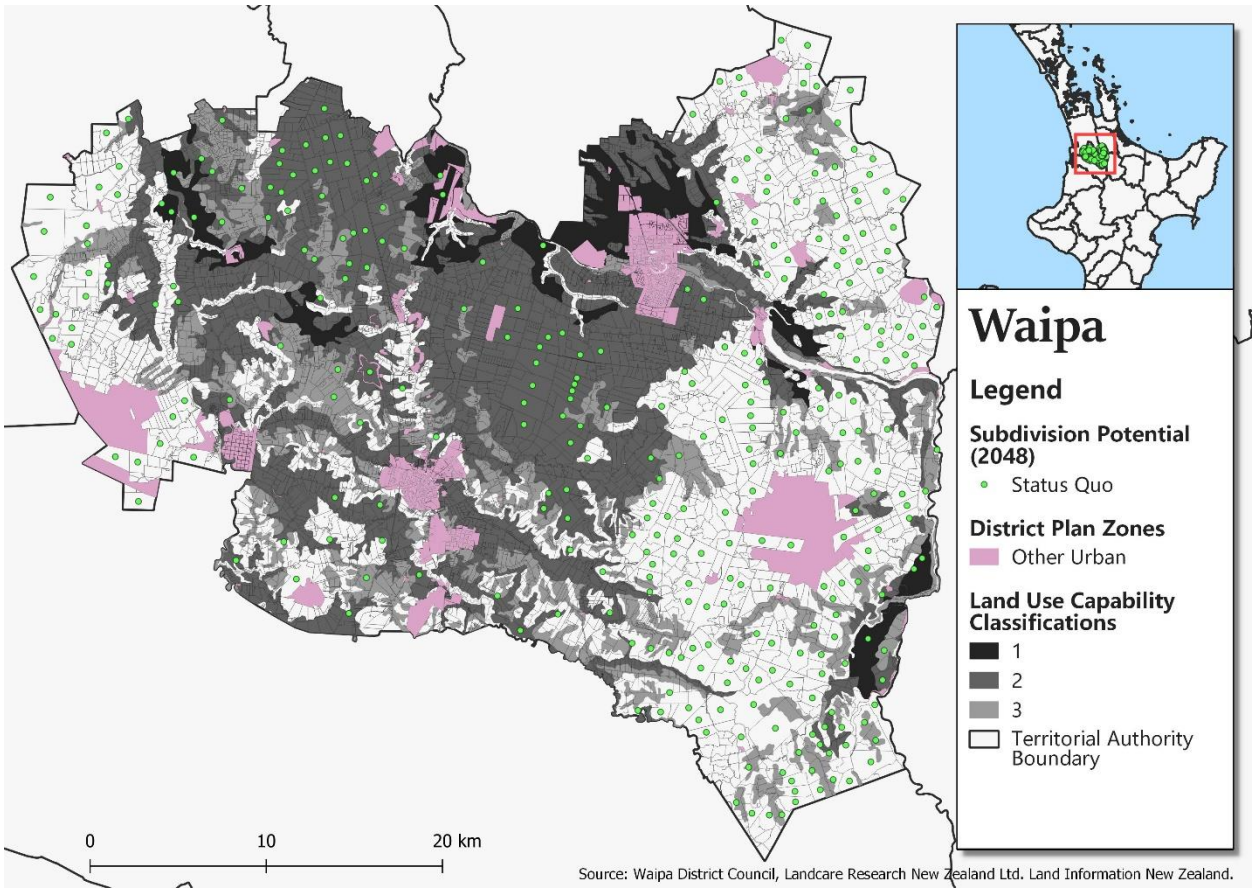
Figure 11.16 – Waipa Lifestyle Subdivision and Land Outcomes to 2028 (Medium Growth)

HPL (LUC Class)	Status Quo to 2028		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	11	457	8	333	-	1
2	52	2,089	48	1,919	-	11
3	27	1,080	19	760	-	14
4	36	1,454	40	1,592	42	1,665
5	-	-	-	-	-	-
6	119	4,747	137	5,478	164	6,544
7	5	201	5	213	4	149
8	1	54	1	26	1	58
TOTAL	251	10,080	258	10,320	211	8,440
HPL Total	**90**	**3,625**	**75**	**3,012**	**-**	**25**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

Figure 11.17 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



In the longer term (2048), the effects would be similar. The total capacity in the district would be taken up by around 2035 in any case. With the NPS - HPL in place, capacity would be taken up well before 2028, and unless there were changes to plan provisions there would be no further change to 2048:

a. Demand for lifestyle properties would be in the order of 635 parcels by 2048, which is close to the total currently enabled capacity in the Rural zone (Figure 11.19).

b. Under the Status Quo future, the 635 additional parcels would be distributed with 233 (37%) on parcels containing HPS, and the balance (402) on land without significant HPS resource. The additional parcels would take up a total area of 25,360ha, including 9,281ha of HPS resource (Figure 11.17 and Figure 11.19).

c. Under the Low-Medium Regulatory future, there would be only some 427 parcels created, allowing for the combined effects of the plan provisions and NPS - HPL provisions. Of this, some 27% would be on the HPS resource. The 117 lots on the HPS land would take up some 4,707ha of HPS resource (Figure 11.19).

d. Under the High Regulatory future, the outcome would be the same as the shorter term (2028) outcome. There would be 211 additional parcels on land without significant HPS resource, taking up an area of 8,440ha (Figure 11.18 and Figure 11.19).

Figure 11.18 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – High

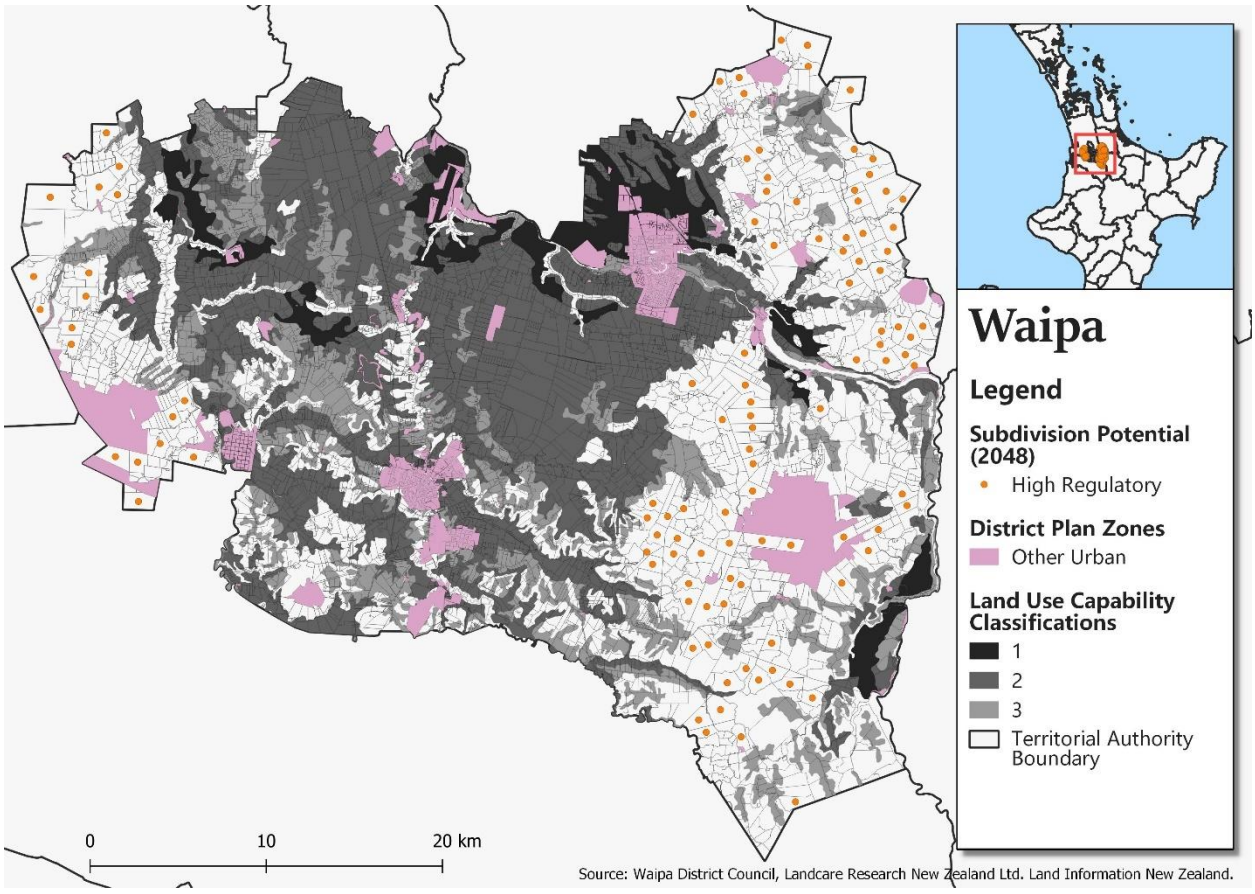


Figure 11.19 – Waipa Lifestyle Subdivision and Land Outcomes to 2048 (Medium Growth)

HPL (LUC Class)	Status Quo to 2048		Low-Med Regulatory		High Regulatory	
	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)	New Lifestyle Parcels	Area (ha)
1	19	741	12	498	-	1
2	138	5,512	70	2,812	-	11
3	76	3,029	35	1,397	-	14
4	101	4,056	76	3,023	42	1,665
5	-	-	-	-	-	-
6	282	11,281	222	8,893	164	6,544
7	15	592	10	418	4	149
8	4	150	2	79	1	58
TOTAL	635	25,360	427	17,120	211	8,440
HPL Total	**233**	**9,281**	**117**	**4,707**	**-**	**25**

Note 1: Subdivision possible on HPL parcels if minimum size and HPL share % thresholds not reached

Source: ME Lifestyle Parcel Model 2019

e. The effect of applying the NPS - HPL provisions would keep down the loss of HPS land over the period to 2048. The High regulatory NPS - HPL future would see 194 fewer (arguably very large) lifestyle parcels on HPS land than would otherwise be the case in the Status Quo future, and 7,750ha of HPS resource retained for primary production. The Low-Medium regulatory future would see some 83 fewer parcels created on the HPS resource, and 3,310 fewer ha of HPS land taken up.

Primary Production Gross Output

Key outcomes for primary production gross output are as follows (Figure 11.20).

a. Under the Status Quo future, the additional parcels taken up for lifestyle properties would otherwise have been generating primary production in the order of $36m annually in 2028, $63m annually in 2038 and $91m annually by 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $1.446bn (undiscounted) including $667m on HPS land, and $664m on other land.

c. In PV terms, the reduced output from HPS land would be $171m and $372m on all land[82].

d. In the Low-Medium NPS - HPL scenario, fewer parcels would be subdivided, and from the late 2030s the opportunity cost of foregone primary production would be correspondingly lower, in the order of $1.291bn (undiscounted) and $355m (discounted) over 30 years to 2048.

e. The opportunity cost on the LUC 1-3 land would be in Present Value terms be $46m less than in the Status Quo future, but foregone production on the other land would be some $15m more. In total, the foregone production would be $31m less in gross output terms in the Low-Medium future. This includes an estimated $23.0m of labour and resource costs (inputs to production).

[82] Over 30 years, discounted at 8% pa.

f. In the High NPS - HPL scenario, with no subdivision occurring on the HPS land, the total opportunity cost (foregone primary production) would be $757m (undiscounted) and $234m (discounted) to 2048.

g. The opportunity cost in the High NPS - HPL future in total would be $171m less in gross output terms than in the Status Quo future. This includes an estimated $127.0m of labour and resource costs (inputs to production). However, this large difference is driven mainly by the smaller number of subdivisions possible, as distinct from the difference in productivity between the HPS resource and other land. These results also apply within Waipa District – no allowance is made for unsatisfied demand from Waipa to divert to other locations.

Figure 11.20 – Waipa Long-Term Primary Production Outcomes to 2048 (Medium Growth)

Year	Status Quo			Low-Medium Regulatory			High Regulatory		
	HPL	Other	Total	HPL	Other	Total	HPL	Other	Total
	($m)								
2028	$ 16	$ 17	$ 36	$ 13	$ 19	$ 37	$ 0	$ 22	$ 30
2038	$ 30	$ 28	$ 63	$ 21	$ 33	$ 61	$ 0	$ 22	$ 30
2048	$ 41	$ 42	$ 91	$ 21	$ 33	$ 61	$ 0	$ 22	$ 30
2018-48	$ 667	$ 664	$ 1,446	$ 446	$ 681	$ 1,291	$ 3	$ 553	$ 757
Difference v SQ				-$ 221	$ 17	-$ 203	-$ 664	-$ 111	-$ 775
PV (2018-48)	$ 171	$ 172	$ 372	$ 124	$ 186	$ 355	$ 1	$ 171	$ 234
Difference v SQ				-$ 46	$ 15	-$ 31	-$ 170	-$ 1	-$ 171

Source: ME Lifestyle Parcel Model 2019

12 Summary and Conclusions

This section draws together identified costs and benefits of section 4 and the analysis included in sections 5 through to 11 to inform the assessment of scale and significance of selected costs and benefits. The focus is on the net benefits and costs of the NPS – HPL compared to the status quo scenario.

12.1 Summary of Benefits

The key benefits of the NPS – HPL are largely associated with natural capital (unquantified), economic and social (unquantified) outcomes. Cultural benefits arising from the NPS - HPL are less significant (in order of magnitude) relative to these and are not featured in the summary below (Figure 12.1), although are identified in the more detailed CBA in section 4.

The key benefit of the NPS – HPL over and above the Status Quo is the greater protection that is given to HPL and ensuring that this remains accessible for primary production today and for future generations. While this benefit is directed first and foremost to primary producers operating on HPL, the benefit is much wider – and supports general economic and social wellbeing.

A key outcome of the NPS – HPL objectives and policies is allocative efficiency. It does not seek to stop rural or urban growth, rather, it seeks to ensure that it occurs in locations not best protected for primary production activities. The modelling indicates that this is mostly feasible under operative provisions, particularly in the case of rural subdivision for lifestyle property demand where in Selwyn, WBoP and Horowhenua there is generally sufficient capacity on non-HPL to cater for demand. In Auckland, the NPS - HPL creates a shortfall that would not have been anticipated under the status quo by 2048 but there is sufficient rural capacity to meet demand in the medium term. In Ashburton and Waipa, there would have been a long-term shortfall of capacity for rural lifestyle demand even under the status quo, but the NPS - HPL exacerbates that to a degree. In all these cases, there may be other capacity not specifically modelled within the district that may satisfy a portion of demand for lifestyle living (including the uptake of currently vacant lifestyle lots and larger lot residential zones if available). Furthermore, councils can be expected to provide for additional capacity (in appropriate locations) by making changes to the operative district plan. This response is not modelled but is anticipated to ensure that there is no net loss of projected household growth over time. This response will be particularly relevant in Waipa to meet growing demand for lifestyle properties.

The reallocation or transfer of activity is relevant to the overall assessment of net costs and net benefits (relative to the status-quo). For example, while there are benefits from retaining rural character in HPL areas by avoiding further land fragmentation and land use change, we find that the fragmentation is directed elsewhere, so those areas will experience a reduction in rural character. These costs and benefits cancel each other out at the district level (although not always equally and cumulative effects are also relevant). The same applies to opportunity costs to subdivide land to meet demand for rural lifestyle

development. While the costs fall to those landowners on HPL, the benefits of subdividing land accrue to those landowners on non-HPL (where growth is not constrained).

We have taken the approach of measuring the benefit of greater protection of HPL for primary through avoided loss of gross output from primary production land that may have been expected (under the status quo) to be subdivided to meet demand for rural lifestyle properties. As explained earlier in the report, the certainty of additional urban expansion by 2048 in the case study councils is low given that they have all provided zones for growth recently and the capacity of those zones to accommodate future urban growth is complex to measure. Further, while some council areas are likely to occupy HPL if and when they next expand the urban boundary due to limited or no other options, others have options on whether that expansion occupies HPL or not. Evaluating alternative options for growth requires a detailed analysis of opportunities and physical constraints, that is not feasible in the scope of this CBA.

Relative to continuous demand for land extensive rural lifestyle demand, any losses of HPL (and primary production output) as a result of urban expansion are expected to be small in each district (and infrequent over the long term). As such, the benefits expected to arise from the NPS - HPL policy which requires consideration of the values of HPL in strategic growth planning exercises will be more apparent in the medium-long-term. For the six case study areas, this combined benefit is estimated to be of moderate significance (weighted heavily towards Auckland). However, if all growth councils across the country were taken into account, this cumulative benefit would be of high significance

The avoided loss of primary production output (whether from redirecting urban expansion or rural lifestyle development) is a year on year benefit that accumulates over time so is significant, even when the costs of inputs to produce that level of output are factored in. The benefits arising from redirecting rural lifestyle development are more significant than reported in this CBA, as we have estimated only the avoided loss of primary production output over the next 30 years. The greater protection of HPL is likely to endure over a longer period (i.e. beyond 2048) and so the full benefit to future generations is not captured here but should be taken into account.

Social benefits are also key and arise as a consequence of economic benefits. Protecting rural employment opportunities benefits both rural and urban workforces. Those primary production incomes have flow on effects to the wider economy through personal and household spending. Similarly, the owners of primary production businesses can retain their earning potential and spending by these businesses and households flows through the wider economy, helping to sustain both urban and rural businesses. Having places to work and being part of the workforce contributes to social wellbeing. The primary production sector plays a key role in many districts and therefore helps sustain communities and the social connections, cultural identify, earning potential etc that comes with that. These benefits arising from the NPS - HPL, while unquantified, are considered to be significant.

Other benefits of the NPS - HPL arise from greater consistency of resource management practice across New Zealand, better information on the benefits and costs of urban expansion and rural fragmentation on the productive capacity of land (which leads to better decision making) and greater certainty for primary producers. Better management of reverse sensitivity effects through strategic planning processes and strengthened provisions focussed on primary production activities on HPL are also key benefits.

Figure 12.1 – Summary of Net Benefits

Stakeholder/ resource	Benefits	Description / Explanation
Natural Capital/ Biophysical Benefits	Reduced loss of ecosystem services provided by the HPS resource, including the productive capacity of HPS for food production through greater consideration of HPL when expanding urban areas and greater protection of HPL from rural fragmentation and land use change. Less land is required for primary production because the most productive land is better protected for primary production activities.	Unquantified benefits. These are sustained benefits (year on year) over the long-term. The relative scale and significance of these benefits is high.
Economic		
District Councils	Better quality and more efficient decision making as a result of clear policy direction and improved evidence base. Better consideration of aggregate costs and benefits and cumulative effects. Improved urban form efficiencies through coordinated strategic growth planning.	Unquantified benefit. The relative scale and significance of these benefits is low. This is a marginal (unquantified) benefit as the majority of case study councils experiencing urban growth already undertake strategic growth planning. The relative scale and significance of this benefit is low.
Government	Collaboration benefits (working with Regional and District Councils)	Unquantified benefit. The relative scale and significance of this benefit is low.
Landowners / primary producers	Reverse sensitivity effects on primary production activities are better managed. Greater potential for primary producers to expand land use and achieve economies of scale.	Unquantified benefit. The relative scale and significance of this benefit is low when considered across all primary production properties. Unquantified benefit. The relative scale and significance of this benefit is low.

Stakeholder/ resource	Benefits	Description / Explanation
Wellbeing (wider economy)	The productive capacity of land is better protected for future generations, through redirecting rural subdivision for lifestyle demand to non-HPL locations.	The avoided present value loss of primary production gross output over the next 30yrs (to 2048) in the six case study areas is estimated at between $85-328m on HPL and between $71-266m on all rural land as a result of the NPS - HPL (Low-Medium and High Regulatory Response scenarios respectively).
	Reduced loss of HPL to urban expansion where feasible locations on non-HPL exist and greater weight is given to avoiding HPL in decision making.	Partially quantified but insufficient certainty on existing capacity for growth to determine additional rural land requirements over and above operative zones (including future growth zones) in next 30 years (say). Requires detailed analysis of growth location options. Relative to rural land fragmentation driven by lifestyle property demand, the rate of loss of HPL to urban expansion is slower and sporadic (infrequent). The relative scale and significance of this benefit in the case study council is estimated to be moderate.
	The upstream and downstream supply chain of the primary production sector is sustained over the long term (avoided reduction in demand and output).	Unquantified significant indirect and induced benefit but arises from the benefits quantified above. The relative scale and significance of these benefits is high.
	New Zealand's primary production food supply and export earnings are sustained over the long term (avoided reduction in output)	Unquantified significant indirect and induced benefits but arises from the benefits quantified above. The relative scale and significance of this benefit is high.
Other		
Social	Rural and urban businesses and therefore communities are sustained when primary production employment (and associated spending) is protected – supporting social wellbeing including	Unquantified benefit. The relative scale and significance of this benefit is high.

Stakeholder/ resource	Benefits	Description / Explanation
	social connections, cultural identify, and earnings potential.	
Certainty	Greater certainty for where urban growth will occur. Greater certainty for primary producers in managing growth and investment on HPL. Potential for reduced litigation costs going forward.	Unquantified benefit. The relative scale and significance of this benefit is low. Unquantified benefit. The relative scale and significance of this benefit is low. Unquantified benefit. The relative scale and significance of this benefit is low.
Consistency	Greater consistency of how HPL is managed across New Zealand. Greater consistency for growers operating in multiple regions. Reduced advocacy costs.	Unquantified benefit. The relative scale and significance of this benefit is low. Unquantified benefit. The relative scale and significance of this benefit is low.
Total Monetised Benefits Only	**Discount rate of 8%**	**PV of $71 (Low-Medium Regulatory Response Scenario) - $266m (High Regulatory Response Scenario) 2018-2048**

12.2 Summary of Costs

The key costs of the NPS – HPL are also largely associated with natural capital (unquantified) and economic outcomes. Social and cultural costs arising from the NPS - HPL are less significant (in order of magnitude) relative to these and are not featured in the summary below (Figure 12.2), although are identified in the more detailed CBA in section 4.

The key cost of the NPS – HPL over and above the Status Quo is implementation costs for central government, regional councils and district councils. These costs are generally common to all national policy instruments and are ultimately passed onto taxpayers and rate payers.

Implementation costs may be considered one-off and short-term costs. We have taken the approach that any future updates of changed sections in regional policy statements and district plans will be captured as part of the normal review cycle, although maintenance and monitoring costs may be ongoing and have not been quantified.

It appears from this examination of six case study areas that most councils have operative provisions that recognise the importance of primary production and the finite soil resource. This is not surprising given that the case studies selected have either moderate or high land coverage in HPS. All have taken a strategic approach to planning for urban growth (although not all will have factored HPL into their option assessment). All have provided zones for rural residential or lifestyle living (or large lot living). The impact of the NPS - HPL is then focussed on strengthening existing provisions, shifting the weight or priority given to certain activities, being specific about where HPL is located, and in several cases widening the scope of provisions that seek to protect or manage HPS to include (potentially) LUC class 3 land where not already done so.

The degree to which Council's need to make changes over and above their operative planning framework has a direct influence on the cost of implementation. Some Councils will need to make substantial changes and others will not. The timing of the NPS – HPL is also relevant to implementation costs. Standalone plan changes are likely to cost Council's more, but there may be opportunities to time the implementation of the NPS - HPL within existing plan review programmes (with potential cost savings). Addressing a number of new national policy instruments at the same time (potentially) stretches the capacity of council resources. This may add costs if it increases the need for external support but may also help reduce costs if multiple national policy instruments can be addressed efficiently at one time (reduced costs).

As discussed above, a key outcome of the NPS – HPL objectives and policies is allocative efficiency. It does not seek to stop rural or urban growth, rather, it seeks to ensure that it occurs in locations not best protected for primary production activities. As a consequence of the NPS - HPL, it may exacerbate long term shortfalls in rural lifestyle capacity in some locations (over and above the status quo) but this may not lead to a net loss of household growth if alternative living options can satisfy demand and Councils can respond in a timely manner to ensure sufficient capacity. The NPS - HPL is also forward looking, so is focussed on ensuring best practice going forward rather than undoing zoning (for example) that is already operative.

Opportunity costs for landowners in HPL is identified as a cost in section 4 in the 'with NPS - HPL' scenario. However, the modelling shows that through reallocation (transfer) of activity (particularly lifestyle property development), what is an opportunity cost for certain landowners, becomes an opportunity gained for other landowners (although not always equally). While this is not the case in all case studies over the long term, these costs and benefits of the NPS - HPL can be considered to more or less offset each other at a district level when projected growth is not constrained. For that reason, and because the market value of subdivided lots will differ for each site and is difficult to project robustly over time, opportunity costs to landowners is not featured in the summary of costs below.

Other costs of the NPS - HPL arise from the externalities of primary production on the environment and additional costs for consent applicants seeking to subdivide HPL. We have assumed that consent processing and fees would be similar under the status quo, so have focussed on the net additional requirement for site-specific land use capability assessments. There may also be an opportunity cost for other land use activities on HPL when HPL is prioritised for primary production. Any potential costs and inefficiencies associated with redirecting urban or rural growth to non-HPL areas is recognised but not quantified.

Last, given the focus on avoided loss of primary production gross output (the benefit arising from redirecting rural lifestyle development to non-HPL where operative minimum lot sizes allow), it is relevant to acknowledge the cost of generating primary production gross output. We have separately identified benefits of retaining upstream and downstream economic activity (jobs and gross output) sustained by primary production in the 'with NPS - HPL' scenario. The upstream activity includes (but is not limited to) the resources that are directly used/consumed by primary producers. The value of resources and labour form part of gross output of the primary production sector, so double counts a share of the upstream benefits. To counteract this, the costs of production must be included on the cost side of the CBA ledger, effectively converting primary production gross output to net output (akin to gross domestic product (GDP)). Given that labour is a key input, the time cost of labour should also be included (i.e. time spent working that could otherwise be spent doing something else). Excluding these costs would overstate the net benefits of retaining primary production activity on HPL. This cost is quantified and included below.

Figure 12.2 – Summary of Net Costs

Stakeholder/ resource	Costs	Description / Explanation
Natural Capital/ Biophysical Benefits	Continued degradation of soils health and waterways from continued use of land for primary production (if not managed effectively through other planning instruments).	Unquantified cost. This cost may be expected to diminish over time as farm practices improve as a result of greater regulation on farm run-off etc. As such, the scale and significance of this cost is estimated to be low.
Economic		
Regional Councils	Costs to collate suitable datasets to inform the identification of HPL.	Partially unquantified cost, noting that there is insufficient certainty on whether S-Map costs are relevant to apply to the case study councils in the CBA at this stage. The scale and significance of this cost is estimated to be moderate.
	Costs associated with the process of identifying HPL, including technical work, stakeholder engagement, public consultation.	Unquantified cost. This is expected to be a one-off cost, but some ongoing maintenance of GIS maps/data is likely to be required. The scale and significance of this cost is estimated to be moderate.
	Costs associated with a plan change to the regional policy statement.	Estimated one off cost as future changes likely to be captured in general RPS review. Present value estimates for case study areas of $7.68m (average PV cost x 5 regional councils).

Stakeholder/ resource	Costs	Description / Explanation
District Councils	Costs associated with a plan change to the district plan. Some associated costs with upskilling and training staff on new regulation and decision making. Costs associated with strategic spatial planning that manages the location of urban expansion with specific regard to avoiding HPL where feasible.	Estimated one off cost as future changes likely to be captured in general district plan review. Present value estimates for case study areas of $7.19m (average PV cost x 5 district councils). This is a marginal (unquantified) cost as the majority of councils experiencing urban growth already undertake strategic growth planning. As such, the scale and significance of this cost is estimated to be low.
Government	Costs associated with providing technical support and guidance to councils on the NPS - HPL. Costs to review and monitor effectiveness of NPS - HPL.	Unquantified cost. The scale and significance of this cost is estimated to be low.
Landowners / primary producers	Additional costs for resource consents for subdivision on HPL to provide land use capability assessments. Costs associated with gross output of the primary production sector (i.e. resources used/consumed in the economy to generate gross output).	Estimated PV costs for all six case study areas over next 30 years (to 2048) of $2.24m (average cost of $250/ha x 29,853ha of projected subdivided lots in HPL). Excludes GST and assumes constant rate over time. We have used the information in the Annual Enterprise Survey to estimate what share of total sales is a cost to primary production businesses. We have also drawn from the NZ Treasury guidelines (outlined in the CBAx Tool User Guidance[83]) to adjust the cost to sales rates for displacement effects and opportunity costs of labour. Estimated PV costs for all six case study areas over the next 30 years (to 2048) of $53-198m.
Wellbeing (wider economy)	Due to the prioritisation given to primary production activity on HPL, there may be opportunity costs when the HPL may have alternative uses which deliver benefits other than those from primary production, and which may at a site level,	Unquantified cost. The scale and significance of this cost is estimated to be moderate.

[83] https://treasury.govt.nz/publications/guide/cbax-tool-user-guidance

Stakeholder/ resource	Costs	Description / Explanation
	or at the aggregate level, outweigh the benefits of primary production. Rural community growth may be directed to less efficient locations. Existing rural communities in HPL areas will have little or no further growth. Rural lifestyle development growth is constrained due to insufficient subdivision capacity in non-HPL.	Unquantified cost. Refer spatial analysis of lifestyle subdivision with and without the NPS - HPL in sections 6-11. The scale and significance of this cost is estimated to be low. These effects were identified Ashburton, Auckland and Western Bay of Plenty in the long term. The CBA has not considered a planning response in this situation where more restrictive provisions in HPL are balanced by less restrictive provisions on non-HPL. Such a response would remedy or mitigate this cost. The scale and significance of this cost is estimated to be low.
Total Monetised Costs Only	**Discount rate of 8%**	**PV of $70 (Low-Medium Regulatory Response Scenario) - $215m (High Regulatory Response Scenario) 2018-2048**

12.3 Discount Rates

In presenting all values in the same time period (i.e. current), the choice of discount rate(s) is important. The choice of discount rate(s) is essentially subjective, with a smaller rate implying future generations enjoy more equal value with the current. High discount rates tend to return lower results (benefits) for project with relatively high upfront costs and long-term payback of benefits. This is often the case for projects generating environmental outcomes that take time to become established.

The standard discount rates that are used for CBA range between 4% and 8%. But lower rates are often applied to projects with large environmental outcomes. Six percent is the default rate as suggested by NZ Treasury[84], but we have used the higher discount rate of 8% in Sections 5-11 and in the summary above. This reflects a conservative position. Importantly, using a lower discount rate has a positive impact on the cost benefit ratio (CBR) but the main effects are seen when considering the net benefits in $-terms.

[84] A description of discount rates as well as a technical document outlining how they are determined can be found at http://www.treasury.govt.nz/publications/guidance/planning/costbenefitanalysis/currentdiscountrates (Date accessed: 19/06/2018).

12.4 Monetised Results

Only a limited number of economic costs and benefits have been able to be monetised in this indicative CBA. Not all implementation costs for councils have been estimated. The key gap is the cost for regional councils to identify and map HPL, including any potential data costs needed for that exercise (which may be substantial depending on what data source is preferred as the base standard). Following public consultation, feedback from regional councils on this potential cost can be incorporated.

The benefit of redirecting urban expansion away from HPL (where feasible alternatives exist) has not been quantified. The difficulties and uncertainties of quantifying this mean that is likely to remain unquantified in any future updates. If anything, including this benefit is likely to increase the net benefits of the NPS – HPL summarised below.

Of the costs and benefits that have been monetised, they apply over a 30-year time period and only to the six case study areas (combined). The estimated benefits relate to the primary production gross output retained on HPL as a result of the NPS – HPL (i.e. the loss avoided by redirecting demand for rural lifestyle development). The estimated costs include both regional policy statement and district plan changes as well estimated consent application costs (assessments of effects). The cost of primary production is also captured, limited to the costs of inputs (resources, labour and the time cost of labour) associated with the amount of primary production gross output retained on HPL.

Comparing the present value[85] of those costs and benefits (using a conservative discount rate[86] of 8%) suggests that the NPS – HPL returns a net benefit and a benefit cost ratio (BCR[87]) of 1.01-1.24 (for the Low-Medium and High regulatory response scenarios respectively). Figure 12.3 tests two alternative discount rates. At a 4% discount rate, the NPS – HPL returns a BCR of 1.12-1.28 respectively. Under a lower discount rate again (2%), the BCR is 1.16-1.29 respectively.

Figure 12.3 – Results of the 'With NPS - HPL' Scenario

		Discount Rate					
		8%		4%		2%	
		L-M (Total)	High (Total)	L-M (Total)	High (Total)	L-M (Total)	High (Total)
PV of Cost ($m)	*Plan Change and Consent Applicant Costs*	$ 17	$ 17	$ 20	$ 20	$ 23	$ 23
	*Cost of resources used **	$ 53	$ 198	$ 100	$ 375	$ 142	$ 533
	Sub-total PV Costs	$ 70	$ 215	$ 120	$ 396	$ 165	$ 556
PV of Benefits ($m)	*Future production protected*	$ 71	$ 266	$ 135	$ 505	$ 191	$ 717
PV of Net Benefit ($m)		**$ 1**	**$ 51**	**$ 14**	**$ 109**	**$ 26**	**$ 161**
Benefit Cost Ratio		**1.01**	**1.24**	**1.12**	**1.28**	**1.16**	**1.29**

*Source: M.E * Cost of inputs to production to procude primary production gross output.*

12.5 Conclusions

The current analysis of monetised costs and benefits of the six case study councils suggests a net positive outcome for the NPS – HPL – that is the long-term net benefits outweigh the long-term net costs when

[85] Refer Appendix 1 – Glossary of Terms.

[86] Ibid.

[87] Ibid.

expressed in present value terms. It is important that consideration is also given to costs and benefits that have not been quantified in these council areas (including additional implementation costs and non-market environment costs and benefits among others).

In several of the case study councils, the retained long-term primary production ($m) was not significant as a result of the NPS - HPL (i.e. very little gross output was saved over and above the status quo). This applies mainly in Horowhenua and WBoP. Several factors drive this result including the rate of demand growth (i.e. very little growth projected in Horowhenua based on StatisticsNZ projections) and the nature and location of primary production activity, given that there is a significant range in output per hectare between horticulture and sheep farming for example. In some cases, the locations where demand was deflected also included primary production activity, even though it does not occupy HPL. This offset the gains on HPL to some degree. Furthermore, the nature of the operative subdivision rules resulted in less foregone primary production – particularly in WBoP where some provisions stimulate additional primary production as a result of subdivision.

The remaining subdivision capacity within targeted rural lifestyle (or similar) zones is however key. Where there is vacant capacity, this is anticipated to attract a lot of projected future demand and the NPS - HPL has only a marginal effect over and above the status quo, given that any losses of HPS in these zones is a sunk cost. If anything, this highlights how effective these zones are in minimising ad-hoc rural lifestyle subdivision when used in combination with larger minimum lot sizes in rural productive zones. To be effective, these minimum lot sizes need to be set well above the typical range of lot sizes sought by the lifestyle market. The Waipa operative district plan is a good example of how this can deter lifestyle development and is particularly apparent when you look at the significant development that has occurred just outside its boundary where subdivision rules are more permissive. Importantly too, minimum lot sizes in productive zones should be set according to what sustains a viable primary production operation. This may be an area when MPI can provide some guidance to support the NPS - HPL.

Even where many of the case study councils appear to be largely aligned with the objectives of the NPS – HPL in terms of operative provisions, the analysis has shown that further benefits can still be achieved. This bodes well for how the NPS - HPL may impact on growth councils not examined in the CBA. Equally though, it may be relevant to examine some councils that are experiencing declining rural populations or contracting primary production sectors. In these areas, it will not be growth pressure that is driving land use change and the potential loss of the capacity of HPL for primary production. It is likely to be financial viability issues that may see land converted to forestry (for example) or allowed to regenerate into indigenous vegetation. Such outcomes impact on the availability of HPL for future generations (although generate a range of other benefits outside the scope of the NPS - HPL.

Following public consultation, additional information will be incorporated into this CBA. In particular, feedback from Councils on potential implementation and data costs will provide a more complete picture of monetised costs. Further amendments may also be needed to address any changes that result from public consultation on the NPS - HPL provisions as drafted. This indicative CBA should therefore be viewed as a living document that will be subject to further changes and refinement.

Appendix 1 – Glossary of Terms

- **Benefit Cost Ratio:** An indicator, used in cost-benefit analysis, that attempts to summarize the overall value for money of a project or proposal. A BCR is the ratio of the benefits of a project or proposal, expressed in monetary terms, relative to its costs, also expressed in monetary terms. All benefits and costs should be expressed in discounted present values. Benefit cost ratio (BCR) takes into account the amount of monetary gain realized by performing a project versus the amount it costs to execute the project. The higher the BCR the better the investment. General rule of thumb is that if the benefit is higher than the cost the project is a good investment.

- **Cost Benefit Analysis:** Sometimes called benefit costs analysis (BCA), is a systematic approach to estimating the strengths and weaknesses of alternatives used to determine options which provide the best approach to achieving benefits while preserving savings (for example, in transactions, activities, and functional business requirements). A CBA may be used to compare completed or potential courses of actions, or to estimate (or evaluate) the value against the cost of a decision, project, or policy.

- **Discount Rate:** Refers to the interest rate used in discounted cash flow analysis to determine the present value of future cash flows. The discount rate expresses the time value of money and can make the difference between whether an investment project is financially viable or not.

- **Displacement Effects (Labour):** Accounts for the fact that if an intervention (or policy) moves an individual from unemployment into employment, the individual may take a job someone else would have otherwise filled. In other words, in the absence of the intervention/policy, someone else would have taken the vacant job and the unemployment rate would be no higher or lower. Because in CBA we only want to measure the marginal impact, for example tax revenue, the benefit generated from a worker who merely displaces another worker should not be included.

- **Future Development Strategy**: This is a non-statutory planning exercise required for high growth councils (and encouraged for medium growth councils) under the NPS – UDC. It is a strategic growth planning exercise that identifies the broad location, timing and sequencing of future development capacity over the long term in future urban environments and intensification opportunities within existing urban environments; balanced the certainty regarding the provision of future urban development with the need to be responsive to demand for such development; and is informed by the relevant Long Term Plans and Infrastructure Strategies required under the Local Government Act 2002, and any other relevant strategies, plans and documents.

- **Gross Output:** The measure of total economic activity in the production of new goods and services in an accounting period. Gross output represents, roughly speaking, the total value of sales by producing enterprises (their turnover) in an accounting period (e.g. a quarter or a year), before subtracting the value of intermediate goods used up in production.

- **Highly Productive Land:** Land that supports primary production activity. Productive land integrates soil and many other physical and social factors. It is not limited to highly productive soils. Refer to the NPS – HPL for the definition in the context of NPS - HPL policies.

- **Highly Productive Soils**: Also referred to as highly versatile soils, it requires less mitigation to be productive than does less versatile soil. For the purpose of the report, it refers to land use capability classes 1-3 as described in the New Zealand Land Resource Inventory.

- **Land Use Capability**: Contained in the New Zealand Land Resource Inventory datasets, the land use capability (LUC) classification is a system of arranging different kinds of land according to its capacity to support long-term sustained production after taking into account the physical limitations of the land. A LUC rating is based on an assessment of five physical inventory factors (rock type, soil, slope, present type and severity of erosion, and vegetation), climate, the effects of past land use, and the potential for erosion. The LUC Class is the broadest grouping of the classification giving a broad assessment of the land's capability and versatility for use by different types of agricultural production given its physical limitations.

- **Modified Employment Count**: Count of employment (full or part time) based on the StatisticsNZ employee count and modified by M.E to take account of estimated working proprietors excluded from the employee count. The purpose of the MEC is to provide a more accurate representation of those small businesses that have a higher incidence of owner-operators.

- **NPS – HPL**: The National Policy Statement on Highly Productive Land (NPS – HPL) is a proposed NPS that aims to improve the way highly productive land is managed under the RMA to: Recognise the full range of values and benefits associated with the use of highly productive land for primary production; Maintain the availability of highly productive land for primary production for future generations; and Protect highly productive land from inappropriate subdivision, use and development. The NPS – HPL is being prepared by the Ministry for Primary Industries and will go out for public consultation in July 2019.

- **NPS – UDC**: Among other objectives, the National Policy Statement on Urban Development Capacity (NPS – UDC) 2016 requires councils to provide in their plans enough development capacity to ensure that dwelling and business demand growth can be met. This includes both the total aggregate demand for housing and business land, and also the demand for different types, sizes and locations. This development capacity must also be commercially feasible to develop, and plentiful enough to recognise that not all feasible development opportunities will be taken up. This will provide communities with more choice, at lower prices[88].

- **Opportunity Cost**: The value of the next best thing you give up whenever you make a decision. It is "the loss of potential gain from other alternatives when one alternative is chosen". Opportunity costs are not restricted to monetary or financial costs: the real cost of output

88 http://www.mfe.govt.nz/sites/default/files/media/Towns%20and%20cities/National_Policy_Statement_on_Urban_Development_Capacity_2016-final.pdf

forgone, lost time, pleasure or any other benefit that provides utility should also be considered an opportunity cost.

- Opportunity Cost of Labour: Accounts for the fact that a person going into a job does not necessarily see their welfare increase by their increase in income. While unemployed, a person can utilise their time and gain satisfaction from this.
- Present Value: Present value (PV) is the current value of a future sum of money or stream of cash flows given a specified rate of return. Future cash flows are discounted at the discount rate, and the higher the discount rate, the lower the present value of the future cash flows.
- Primary Production: In the NPS – HPL primary production means:

    a) any agricultural, pastoral, horticultural, or forestry activities; and

    b) includes initial processing, as an ancillary activity, of commodities that result from the listed activities in a);

    c) includes any land and buildings used for the production of the commodities from a) and used for the initial processing of the commodities in b); but

    d) excludes further processing of those commodities into a different product.

- Rural Lifestyle Development/Subdivision: Means subdivision and development where the primary purpose is rural-residential or rural lifestyle use within a rural area with a lot smaller than those of the General Rural and Rural Production zones. This is typically in the range of 0.2-8 hectares but will vary by location and is determined by the rules for minimum lot sizes in each operative district plan. CoreLogic define lifestyle properties as those larger than a residential lot and smaller than a productive lot that is located in the rural area and that can be managed by a single household. This approach is not limited to a specific size of lot.
- Rural Settlement and Rural Other: Based on the January 2018 StatiticsNZ 'Urban Rural' boundary layer - a new output geography that classifies New Zealand into areas that share common urban or rural characteristics. Rural areas represent land-based areas outside urban areas. They are classified as rural settlements or other rural. Rural settlements are statistically defined areas with no administrative or legal basis. A rural settlement is a cluster of residential dwellings about a place that usually contains at least one community or public building such as a church, school or shop. They are delineated based on the following criteria: form a contiguous cluster; contain an estimated resident population of 200–1,000, or at least 40 residential dwellings; represent a reasonably compact area, or have a visible centre of population with a population density of at least 200 residents per square kilometre or 100 address points per square kilometre. Other rural areas are the mainland areas and islands located outside urban areas or rural settlements. Other rural areas include land used for agriculture and forestry, conservation areas, and regional and national parks.
- Urban Expansion: Lateral expansion of urban zones (which may include residential, commercial/business, industrial, recreation, special purpose and urban open space zones) onto

adjacent greenfield land at the fringe of existing urban boundaries. Generally, occurs in a manner that is cohesive with the existing urban area (where geography allows). It is a response to urban growth where existing zones reach or approach full development capacity.

- Urban Area: Based on the January 2018 StatiticsNZ 'Urban Rural' boundary layer - a new output geography that classifies New Zealand into areas that share common urban or rural characteristics. Urban areas are statistically defined areas with no administrative or legal basis. They are characterised by high population density with many built environment features where people and buildings are located close together for residential, cultural, productive, trade, and social purposes. Urban areas are delineated using the following criteria. They form a contiguous cluster; contain an estimated resident population of more than 1,000 people and usually have a population density of more than 400 residents or 200 address points per square kilometre; have a high coverage of built physical structures and artificial landscapes; have strong economic ties where people gather together to work, and for social, cultural, and recreational interaction; and have planned development within the next 5–8 years. Urban areas are further classified by the size of their estimated resident population:
    - major urban area – 100,000 or more residents
    - large urban area – 30,000–99,999 residents
    - medium urban area – 10,000–29,999 residents
    - small urban area – 1,000–9,999 residents.