National Policy Statement – Highly Productive Land

Cost-Benefit Analysis

June 2020 – FINAL

m.e consulting

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Cost-Benefit Analysis

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Report authors: Natalie Hampson, Susan Fairgray, Douglas Fairgray, Brian Lin, Greg Akehurst, Tilly Erasmus, Nicky McDonald, Euan Forsythe

Director approval: Douglas Fairgray

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Executive Summary

The purpose of the report is to provide an analysis of costs and benefits anticipated to arise from the National Policy Statement on Highly Productive Land (NPS – HPL). Highly productive land (HPL) is facing considerable pressure from growth, driving demand for urban and rural lifestyle land. The high incidence of HPL and the nature of the land market means that the total economic value of the HPL 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), so that HPL is protected for use in land-based primary production, both now and for future generations.

It does not seek to provide absolute protection of HPL, nor that that there should be no net loss of HPL within a region or district. Rather, the NPS – HPL seeks that local authorities will proactively consider the HPL resource to ensure its availability for primary production now and for future generations, especially that urban development should avoid HPL where other options are practical. It is therefore focussed on redirecting activity that is not dependent on HPL to other areas rather than constraining urban, rural lifestyle and other non-primary production 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 and clauses. To help identify relevant costs and benefits, M.E have considered the following information sources: NPS – HPL Discussion Document (MPI, 2019), a summary of stakeholder consultation feedback (November 2018, 4Sight Consulting Ltd), submissions on the proposed NPS-HPL by case study councils, other relevant documents supplied by MPI or sourced by M.E, information gathered from interviews with soil/soil mapping experts, interviews with case study councils and a review of relevant literature. A range of datasets have also been used to inform spatial and economic modelling for the CBA.

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 and urban expansion without and with the NPS - HPL over a 30 year time period. This has enabled a significant long-term economic benefit (avoided loss of primary production gross output) to be estimated, alongside opportunity costs to landowners and developers.

The case study areas span both high and low growth urban and rural environments, with differing primary sector roles within the local economy, different mixes of land-based primary production activities, and differing extents of land use capability (LUC)[1] class 1-3 resource relative to total council land area. The case studies relied on for this CBA are considered representative of the parts of New Zealand where the NPS-HPL is expected to have the greatest effect.

[1] Refer Appendix 1 – Glossary of Terms.

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 has examined operative district plan zones, particularly 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 zone types are relevant for accommodating future urban and rural lifestyle development[2] demand and have been considered in the modelling. The CBA also considered operative district plan objectives, policies, and rules in each case study to assess the degree of change that may be required to give effect to the NPS-HPL. This has a bearing on both implementation and transaction costs.

The CBA analysed in some detail 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 enabled through operative provisions and local decision making. 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 HPL resource highlights the scale and significance of subdivision activity that could be redirected to less productive land under the NPS – HPL.

To the extent that lifestyle-driven subdivision is directed away from HPL over the study period (whereby the analysis tested 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 a key output of the spatial and quantitative analysis and the only benefit of the NPS – HPL that has been monetised[3]. Those same parcels underpin the estimates of potential opportunity costs for rural lifestyle subdivision (foregone capital gain), although this was contrasted with opportunity benefits estimated on non-HPL parcels where demand for subdivision is redirected, giving a net cost or benefit in each case study area.

The CBA examined the potential greenfield area required for long-term (30 year) urban expansion in each case study, focussing on the main urban area in each district where most of the future urban growth pressure is expected to occur. This was estimated using locally representative residential densities and assumptions around land needed for roads, open space and other non-residential uses. The modelling considered only urban expansion required by 2048 that is over and above the capacity provided by existing zones and future urban zones or growth areas identified in a published future growth strategy or regional policy statement. The net expansion required was placed 'on the ground' using a high-level approach focussed on developing parcels closest to the urban boundary first (concentric growth), assuming no constraints, and then avoiding HPL where this option exists. Economic models then estimated the forgone

[2] Ibid.

[3] Other than gross opportunity benefits for rural lifestyle subdivision and urban expansion directed to non-HPL.

value uplift (opportunity cost) of those HPL parcels that indicatively had their urbanisation potential in the next 30 years removed by the NPS – HPL and the opportunity benefit of those non-HPL parcels that had their urbanisation potential brought forward. Such modelling was not required in every case study, as some urban areas are surrounded by HPL and there are no practical options to avoid HPL when greenfield expansion is required. In other case studies, future zoned or identified growth areas provided sufficient capacity for long term urban growth and development of these areas will not be affected by the NPS - HPL.

Transaction costs under the NPS – HPL associated with urban expansion plan changes on HPL over the long-term were estimated based on case study council feedback. The area of urban expansion required, the prevalence of HPL on the urban fringe, past trends in urban expansion plan changes, the timing of district plan reviews, the role of strategic growth planning in each area, current plan change evaluation requirements / expectations, and current average urban expansion plan change costs were all taken into account. The output of this analysis was estimated total transaction costs for councils and developers attributable to the NPS – HPL by 2048.

Last, but not least, non-market values of HPL were assessed using the Total Economic Value (TEV) approach. This approach provides a framework that ensures that the key use (direct and indirect) and non-use (option, existence and bequest) values of HPL are appropriately captured. M.E carried out a literature review to examine HPL values under each sub-category. This literature review helps inform the non-market benefits of protecting HPL for land-based primary production, today and for future generations.

Case Study Observations and Discussion

It appears from examination of the six case study areas that most of these 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 the case studies all have moderate or considerable HPL 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).

In the context of the case studies assessed, the impact of the NPS - HPL is therefore likely to be focussed on strengthening existing provisions, shifting the weight or priority given to certain activities, being specific about where HPL is located, what activities are not appropriate on HPL, and in many cases, widening the scope of provisions that seek to protect or manage HPL 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 as well as effects over time. Council feedback is that the NPS – HPL will require a lift in planning practice but that the requirements are achievable and within the capabilities of councils.

While it is likely that some councils will need to make substantial changes to their district plans, 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 HPL resource in the district or region and the relative importance of the primary production sector locally and nationally[4].

[4] An indication of this is provided in section 2 of the Supporting Analysis Report.

The analysis has confirmed that large shares of land-based primary production activity[5] are tied to HPL in the selected case studies. This correlation between HPL 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, now and in the future, and not other land uses. The greatest efficiency and sustainability will be achieved by allowing primary production to stay in place and occur on HPL in the future, particularly when climate, access to water and other factors are also favourable.

In terms of the effects of future development, the composition of each rural zone in the case study councils has been examined with regard to 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 HPL is high, but overall the scale of this future loss (when these zones are fully developed) is small relative to the size of the HPL resource in each district. It is not clear what consideration was given to the loss of HPL when these zones were being evaluated, and in some cases, this would have made no difference due to a lack of practical alternatives that would achieve well-functioning urban environments. 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 policies and where the greatest benefits (and opportunity costs) will be felt. 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 will be different for each council experiencing growth. The assessment indicates that all six councils have recently undertaken strategic growth planning in one form or another and the operative (and proposed) zones (which include future urban zones or deferred rural residential zones) reflect the outcome of those exercises. These zones have capacity for future growth, often sufficient for medium-long term demand. This reduces the both the number of future urban expansion plan changes that may be needed in the next 30 years (particularly council led plan changes) and the net additional land needed for urban development in that period. This is a key factor in why M.E's modelling shows that transaction costs (for urban expansion plan changes on HPL) and opportunity costs for HPL landowners and developers on the urban fringe would be minor when considered in aggregate across the case studies (and in present value terms), as discussed below.

Key Benefits of the NPS - HPL

Many of the benefits expected to be realised from implementing and achieving the objective of the NPS – HPL are not easily quantified, as evidenced by the TEV approach which identifies a wide range of non-market values.

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 and sustainably, local food supply is not threatened, sector resilience is enhanced, and primary sector domestic and 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 (estimated at $265m (present value at an 8% discount

[5] Refer Appendix 1 – Glossary of Terms.

[6] Ibid.

rate) across the case studies between 2018 and 2048), even when the costs of inputs to produce that level of output are factored in (estimated at $200m in present value terms).

In protecting HPL, particularly from urban expansion where the loss of the resource is permanent, the regulating functions (services) delivered by HPL are also retained. These benefit the wider public and include water purification, water storage for plants, supporting diversity/habitat, flood regulation and carbon sequestration. The scale of these non-market benefits relating to physical functions of HPL is expected to be more or less proportional to the area of HPL protected from irreversible loss.

Social benefits are also key and arise as a consequence of economic benefits. Protecting rural employment opportunities benefits both rural and urban workforces and supports a diverse economy. 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 sector plays a key role in many districts and helps sustain communities and delivers opportunities for social connections as well as a sense of place/connection to the land. Preserving HPL also maintains the ability to use this land for mahinga kai[7] and therefore supports cultural identify. These benefits arising from the NPS - HPL, while unquantified, are likely to be significant, particularly to Māori, as preserving land for food/primary production for current and future generations is consistent with Māori values of Kaitiakitanga or stewardship over our natural resources.

M.E's assessments shows that for the six case study areas, the scale and significance of the benefits of the NPS - HPL associated with urban expansion[8] would be minor (as would be the opportunity costs). This is because the main urban areas in Ashburton, Selwyn and Waipa Districts are almost entirely (or totally) surrounded by HPL and so clause 3.4(2)(b)[9] would apply and urban expansion may be expected to occur largely as it would have under the status quo. However, in Horowhenua, 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). While those benefits may be realised in the next thirty years in Horowhenua and Western Bay of Plenty (WBoP), such benefits may not be felt in Auckland within that period (noting that Auckland's Future Urban Zone is, combined with intensification and infill, estimated by the Council to provide sufficient feasible development capacity for long-term growth).

The intensity of primary production on HPL on or near urban boundaries is another reason why the benefits of the NPS – HPL from urban expansion provisions may be minor. Like in Pukekohe, Auckland, there are examples of horticultural activities operating in the urban fringe, but by and large, the land on the boundary

[7] Mahinga kai means 'to work the food' and relates to the traditional value of food resources and their ecosystems, as well as the practices involved in producing, procuring, and protecting these resources.

[8] Refer Appendix 1 – Glossary of Terms.

[9] Urban expansion may be allowed onto highly productive land only if, for the purpose of complying with the National Policy Statement for Urban Development 2020: (b) there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement).

is not intensively used for primary production and the avoided loss of primary production output from redirected urban expansion is therefore estimated to be low in the case studies and time period assessed for this CBA.

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 HPL (which leads to better decision making and potentially reduced litigation) 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 most likely become more apparent in the medium-long term.

A key benefit of the NPS - HPL is that it allows councils to continue to provide for future urban and rural growth. The main impact is better management of the location of growth while still ensuring well-functioning urban environments. Better management of reverse sensitivity effects through strategic planning processes and strengthened provisions focussed on primary production activities on HPL are also positive outcomes.

Key Costs of the NPS - HPL

The key costs of the NPS – HPL are largely economic effects. Costs to natural capital, and social and cultural wellbeing are, if any, considered to be minor.

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.

Costs associated with central government guidance and support during the transitional period is estimated to be no more than $350,000 in present value terms (8% discount rate). This is relatively minor compared to other existing or proposed NPSs. Implementation costs for regional councils (applicable across the case studies) is estimated at just under $7m (present value). This was based on data where costs ranged from $0.5m to $1.69m or an average of $1.86m ($1.39m average in present value terms). This does not include the cost of mapping HPL (unquantified in this CBA) but does factor in the plan change to incorporate the HPL maps and regional objectives and policies into the regional policy statement. We note that where other national direction requires councils to undertake spatial planning to guide long-term growth, this may help reduce costs for mapping HPL under the NPS – HPL (and vice versa) where those work streams, resources and expertise can be efficiently combined.

Implementation costs for case study councils (for changes to the district plan) are estimated to be moderate. The combined cost is estimated at just over $7.3m (present value) based on an average cost per council of $1.69m (or $1.22m in present value terms). This is likely to be near the upper bound of costs as there is potential for cost efficiencies and not all case study councils will require significant changes to operative provisions.

Net opportunity costs for landowners and developers of HPL have been estimated under the 'with NPS – HPL future' for the period of 2018-2048. In terms of rural lifestyle subdivision, the results from the six case

studies show that most of the council areas have significant potential for further subdivision on HPL and most have significant potential for further subdivision on non-HPL. When considering 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 in M.E's models by removing all or a portion of subdivision capacity (on HPL). Of these, two were modelled as potentially experiencing 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 in the modelling that would not have been expected in the next 30 years.

Under a High Regulatory response by councils to redirect lifestyle subdivision demand to non-HPL, analysis resulted in a gross reduction in capital gain (cost) to landowners on HPL of -$687m (undiscounted) and a gross opportunity gain of $277m to landowners on non-HPL. This is a net opportunity cost in the combined case study areas of -$411 (undiscounted) or -$140m in present value terms (8% discount rate). While opportunity costs to individual landowners on HPL may be significant, at an aggregate level, the net opportunity cost is (at most) a 5.5% loss of potential realisable capital compared to a future without the NPS – HPL.

These outcomes assume (among other assumptions made in the modelling) 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 and accommodate growth). Given that the NPS – HPL seeks to protect HPL from lifestyle development and other inappropriate use, the potential constraint on lifestyle property growth would be expected to be remedied or mitigated by providing for lifestyle development as part of the plan change to implement the NPS – HPL (or at a later stage when needed). On that basis, these assumptions represent the maximum opportunity cost and is unlikely to be reflected in council plans. They are therefore maximum potential opportunity costs. In wider economic terms, this foregone opportunity for capital gain is considered only minor.

As discussed above, net opportunity costs for landowners of HPL who potentially lose the opportunity for urban expansion does not apply to all case studies. The planned growth pathway of most case study councils is not impacted by the NPS – HPL over the next 30 years that have been assessed. Only landowners in WBoP District and Horowhenua District are potentially impacted and in aggregate these opportunity costs are estimated to be immaterial or very minor. Around Levin in the Horowhenua District, M.E has estimated 30 ha of additional urban land is needed to cater for long-term growth over and above existing zones. The net opportunity cost (once gross opportunity costs on HPL and gross opportunity benefits on non-HPL have been offset) is just $5,000-$6,000 in present value terms (8% discount rate) which is less than 1% compared with the status quo outcome.

In WBoP District, the net opportunity costs associated with an estimated 100 ha of additional urban land in the long-term is between $2.06m and $3.0m (undiscounted). This is a 19% net loss compared to the status quo. In present value terms, the net opportunity cost is between $301,000 and $435,000 (8% discount rate). In Auckland, Waipa, Selwyn and Ashburton District, opportunity costs to landowners from policies around urban expansion are zero – no net change from the status quo. Since the NPS - HPL is not expected to substantially impact on urban development prospects, especially the scale of urban

development, we would expect nil or minimal opportunity costs to accrue to the property development sector. This conclusion applies to all the case study areas.

Transaction costs for councils and developers wanting to carry out plan changes for urban expansion on HPL have been estimated across all case studies. In the next 30 years, 16 such council plan changes and 21 such private plan changes are projected (37 in total) based on discussions with each Council. This includes discrete plan changes and District Plan Reviews. Most are projected to occur in the long-term. In aggregate over the next 30 years, additional plan change costs attributable to the NPS – HPL provisions are estimated at $421,000 (present value). This equates to an average present value cost per plan change of $11,000 (14% of total plan change costs for urban expansion on HPL). This share would be much lower (and minor) if the transaction costs was compared against the total expenditure on urban expansion plan changes projected over the next 30 years (i.e. including those on non-HPL).

Other costs of the NPS - HPL may arise from the externalities of primary production occurring on HPL, although this is expected to be managed through other planning instruments and so is not examined further in this CBA. There may also be an opportunity cost for other land use activities on HPL (other than urban or rural lifestyle development) when HPL is prioritised for land-based primary production and those activities are considered inappropriate. This cost has not been analysed but the incidence of this is anticipated to be relatively low and partially offset by the opportunity benefit accruing to non-HPL locations. Any potential costs and inefficiencies associated with redirecting urban or rural growth to non-HPL areas is acknowledged but not quantified.

Conclusions

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 objective 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 land-based 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 long-term demand for lifestyle property subdivision to non-HPL is feasible in most cases under operative plan provisions and minimum lot sizes, and is expected to be feasible in all cases if council's are proactive in responding to this demand as part of implementing the NPS – HPL.

The reallocation or transfer of activity is relevant to the overall assessment of net opportunity costs measured in this CBA. As discussed above, while HPL provisions would generate an opportunity cost only for landowners constrained by the presence of the HPL resource, the demand which could not be met from properties constrained by the HPL resource could instead be met from properties not so constrained.

The potential opportunity costs arising from changes to urbanisation potential for rural landowners, and for the property development sector, are expected to be substantially less than those from constraints to the creation of lifestyle parcels (which are themselves estimated to be minor given a maximum reduction in potential capital gain of just 5.5% compared to the status quo in present value terms and across all case study areas). M.E expect nil or minimal opportunity costs to accrue to the property development sector as a result of the NPS - HPL.

It is relevant that in the case of the NPS – HPL the costs fall on relatively few (and in specific geographic areas which may be identified as HPL), but the benefits are often felt by the public at large. Short-term costs (such as implementation costs that are not unique to this national planning instrument) must be weighed against long-term benefits (and not limited to the assessment period of 30 years adopted for this CBA). Economic costs are generally borne by landowners on HPL while economic benefits generally fall to landowners on non-HPL or primary producers on HPL. Many landowners on HPL will experience both benefits and costs under the NPS – HPL. Last, while the major share of costs identified impact on economic wellbeing, the benefits of the NPS – HPL are spread across economic, biophysical, social and cultural wellbeing.

It is important to recognise that 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 HPL 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.

1 Introduction

Market Economics Limited (M.E) have been commissioned by the Ministry for Primary Industries (MPI) to deliver a cost and benefit analysis (CBA) of the National Policy Statement on Highly Productive Land (NPS - HPL). This is on the basis of the final objective and policies, with the primary purpose being to maintain the availability of highly productive land (HPL) for land-based primary production, both now and for future generations, and protect it from inappropriate subdivision, use and development.

In order to understand the costs and benefits anticipated to arise from the objective and implementation of the NPS - HPL, M.E have adopted a case study approach (discussed further below) which includes detailed spatial analysis and examination of operative district plan provisions and strategic growth planning 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.

This CBA report builds on and replaces M.E's 'Indicative CBA Report' published in May 2019. That earlier version was based on the proposed NPS – HPL provisions and was relied on for the public consultation stage of the NPS – HPL development programme. Following the Indicative CBA, M.E also prepared a separate report in October 2019 titled 'Urban Expansion: Assessment of Potential Policy Impacts – Proposed NPS on Highly Productive Land'. That report looked at long-term urban expansion in the high-growth urban areas (as identified in the NPS – Urban Development Capacity (NPS – UDC)). Where relevant, this final CBA references the Urban Expansion Report.

Key changes made since the earlier Indicative CBA Report are the inclusion of further assessment on transaction costs and opportunity costs attributable to the NPS – HPL and a literature review of non-market values of HPL. Amendments have also been made to take into account the changes to the objectives, policies and other clauses of the proposed NPS – HPL that were made following public submissions[10].

M.E's final CBA has been split into two parts (and restructured compared to the Indicative CBA Report). This report is referred to as the main "CBA Report". It should be read in conjunction with the 'CBA Supporting Spatial Analysis & Literature Review Report' (M.E, June 2020) ("Supporting Analysis Report"). The Supporting Analysis Report contains the detailed analysis of each case study and full literature review on non-market values of HPL that are summarised in this report.

In both the Supporting Analysis Report and this main CBA Report, HPL (or the HPL resource) is defined as including land use capability (LUC) classes 1-3 from the Land Resource Inventory (LRI) dataset. However, 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 by regional councils. The NPS – HPL provides some guidance on this. HPL referred to in both M.E reports is therefore indicative and reflects the data most readily available (i.e. a high reliance on the LUC 1-3 spatial layer).

[10] This CBA is based on the Draft National Policy Statement for Highly Productive Land 2020 – Draft for internal consultation V7 as at 9/4/2020.

1.1 Discussion and Problem Statement

1.1.1 NPS - HPL Purpose

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

The NPS - HPL seeks to improve the way HPL is managed under the RMA, so that HPL is protected for use in land-based primary production, both now and for future generations. It does not seek to provide absolute protection of HPL, nor that there should be no net loss of HPL within a region or district. Rather, the NPS - HPL seeks that territorial authorities will proactively consider the HPL resource to ensure its availability for land-based primary production now and for future generations, especially that urban development should avoid HPL where other options are feasible.

1.1.2 Key Issues Arising

The pressures on the HPL 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 HPL resource covered or removed, with that change almost always irreversible. The other main pressure is through the conversion of land-based primary production land to lifestyle or countryside living properties. In many instances, this change does not result in the physical loss of the HPL resource, as most of the land in lifestyle properties is not built on. However, the HPL resource is usually no longer used for land-based primary production. Because lifestyle properties are typically priced much higher than land-based primary production land on a per hectare (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 HPL 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 HPL resource at the individual level.

However, while the structure is diverse and widely spread, the effects of changes to the HPL 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 HPL and achieve the NPS - HPL objective.

The issue is compounded because the effects on the HPL resource of changes may arise indirectly. The direct effects on HPL 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 lifestyle living as an activity, replacing productive agriculture.

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 agriculture. This is because the financial returns from residential and business uses are in almost all instances greater than those from productive agriculture activity using the HPL, while the value of land for lifestyle living is usually several times that of land used for productive agriculture activity. That means there is considerable incentive for current (agriculture) landowners to sell land, because the value of the HPL resource to the individual landowner is usually far less than the potential price to be gained by selling for lifestyle living or urban purposes. The differential in market prices for the land (between land-based 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. HPL generates a direct income for the farmer/horticulturist and is 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 HPL 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 HPL only as far as it directly affects land and properties which contain the attributes of HPL. Unless the HPL resource is relatively ubiquitous, then both protection of HPL and subdivision of at least some land for lifestyle living and urban expansion may occur without the latter impacting the former.

This potentially leads to a degree of solution with respect to preventing consumption of HPL for non-productive purposes unnecessarily. Rather than asking developers to show on balance (in cost benefit terms) that the development of HPL for non-land-based primary production 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 HPL for future generations? This leads to an assessment framework that focuses on alternatives for the urban expansion and lifestyle zoning rather than having to prove at the single parcel level that the benefits of agriculture outweigh the benefits of urban/lifestyle development (this is a battle the HPL will lose every time).

At the macro level, it is relatively easy to prove that providing for urban development on non-HPL is far less costly to the overall economy, than allowing consumption of HPL 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 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.

Policies and clauses to implement the NPS - HPL have been developed accordingly. Clauses 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.

1.1.3 Problem Statement - Summary

The HPL 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 land-based primary production activity, and is commonly an intermediate step to urbanisation. The high incidence of HPL and the nature of the land market means that the value of the HPL 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, and over the long-term. Accordingly, achieving the objective 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

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 HPL 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 and discussion document 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 HPL 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 HPL 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 HPL, 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 HPL. While the conversion to lifestyle living may not be irreversible from a physical perspective (the HPS land may not be built on), the higher land values for lifestyle 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 'with NPS – HPL' scenario(s). 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 HPL 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[11].

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 HPL resource is protected /retained. The base outputs from the status quo and with-NPS – HPL scenarios would be estimated patterns of urban growth, and patterns of lifestyle living activity. 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 can 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 objective, policies and requirements 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 HPL in their land-based primary production activity and expected growth levels.

[11] This is covered in more detail in the Urban Expansion Report, M.E, 2019 although for high growth councils and therefore not all case study councils included in this CBA.

1.2.1 CBA Approach

This CBA draws on the Treasury guidance for CBA[12], notably social CBA[13]. 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.* [14]

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 have considered the NPS – HPL Discussion Document (MPI, 2019), a summary of stakeholder consultation feedback (November 2018, 4Sight Consulting Ltd), submissions on the proposed NPS-HPL by case study councils, other relevant documents supplied by MPI or sourced by M.E, information gathered from interviews with soil/soil mapping experts, interviews with case study councils and a review of relevant literature.

Some high-level assumptions made regarding costs and benefits in this report are as follows:

- Where possible, the costs and benefits are worded to reflect aggregate outcomes for total New Zealand. However, analysis of selected costs and benefits is generally limited to specified case study areas and not the national total, unless otherwise stated.

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

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

[14] Treasury Guide to Social Cost Benefit Analysis

- 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.
- While some costs and benefits are not time specific (i.e. talk about the future in more general terms), others relate to an analysis period of the next 30 years. This does not mean that costs and benefits do not continue to arise beyond those 30 years.
- 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 some costs and benefits 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, 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 have focussed its efforts on quantifying/monetising selected costs where data and time has allowed.
- While care has been given to identify all key and relevant costs and benefits, this report may not capture all potential costs and benefits.

1.2.2 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 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 projects 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[15], but we have used the higher discount rate of 8% throughout this CBA (including within the

[15] 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).

Supporting Analysis Report). This reflects a conservative position. In some cases, we have identified present values according a 2% and 4% discount rate to show a range of present value outcomes.

1.3 Achieving the Objective of the NPS - HPL

There are two aspects to be examined for this CBA. One is the costs and benefits of achieving the objective of the NPS - HPL. The closely related aspect is the costs and benefits of achieving the objective by applying a NPS - HPL as a planning tool. Below we provide an overview of the former, the costs and benefits of achieving the NPS - HPL objective. This helps set the scene for the following sections that provide a detailed discussion and analysis to quantify (where possible) anticipated costs and benefits associated with achieving the objective and implementing the policies and requirements of the NPS - HPL.

There is one objective of the NPS - HPL:

Highly productive land is protected for use in land-based primary production, both now and for future generations.

The objective of the NPS - HPL has a number of benefits:

1. HPL is an important resource for food production. Maintaining its availability means that this resource would not be lost. It 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 and associated jobs) are available to the community;

3. The nature of land-based 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 objective establishes a direct link between the HPL resource and its utilisation for land-based 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 objective may also have a number of potential costs.

1. Achieving the NPS - HPL objective would, by implication restrict the land on which the HPL resource exists to a single main[16] generic use – land-based 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, lifestyle living, tourism activities 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 objective will affect the location of economic and social activity, both directly in terms of identifying where a component of land-based 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.

1.4 Case Study Approach to Inform CBA

Six councils have been identified as case study areas to examine potential costs and benefits arising from implementation of selected policies and clauses within the NPS – HPL that achieve the objective. These case study areas have been identified in collaboration with MPI and are 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 containing LUC class 1-3 soils). 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 land-based primary production focus. That is, council areas in which land-based 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).

[16] The NPS – HPL does enable use of HPL for non-productive purposes where appropriate. This includes development on Māori Land, nationally and regionally significant infrastructure and activities that have a functional or operational need to be located on HPL.

- account for around 26% of total growth in lifestyle properties (as defined by CoreLogic[17]) 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 operative district plan approaches and published growth strategies 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. Unless otherwise stated, it has not been possible (in the time available) to factor in current planning and work that is underway (such as plan change reviews and growth strategy updates) in the case study areas that may be leading to changes to the operative plans, and potentially changes that may better give effect to the objective of the NPS - HPL. Given the need to build spatial models to project possible future land use outcomes, M.E have necessarily taken a simplified approach to applying key rules in each case study operative Plan. The results are therefore indicative.

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 HPL (although the definition of HPL varies). This indicates that the 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.

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[18]), 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, district and regional urban growth strategies, reporting under the NPS - UDC and CoreLogic data on rural and lifestyle properties including land values. The Supporting Analysis Report contains the full case study analyses, although key findings are summarised throughout this main CBA Report.

1.5 Scope and Report Structure

Section 2 examines implementation costs of the NPS – HPL for regional councils, territorial authorities and central government. Quantified costs for plan changes are not generated specifically from the case study

[17] 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.

[18] For example, Horowhenua District Council's Growth Strategy 2040 adopts customised growth projections that are considerably higher than the StatisticsNZ high projections. While the Indicative CBA relied on the StatisticsNZ growth projections for Horowhenua (and this informed the analysis of lifestyle subdivision demand), the urban expansion analysis carried out for this final CBA has been based on Council's growth strategy projections. Time has not allowed the lifestyle subdivision modelling to be updated and may therefore be conservative relative to the Council's view of future rural growth.

councils but are average costs that may apply to councils of each type (including the case study councils). Data sources for this section include the National Monitoring System, MPI and Manaaki-Whenua[19] and LandSystems[20].

Section 3 examines opportunity costs to landowners and developers associated rural lifestyle subdivision and urban expansion on HPL. It describes the approach used to model rural lifestyle subdivision outcomes (including scenario development) and urban expansion outcomes over the long-term (i.e. the next 30 years). The combined results from the case study analysis (detailed in the Supporting Analysis Report) are discussed.

Section 4 examines transaction costs to councils and developers associated with plan changes that seek urban expansion on HPL. It describes the approach used to model potential future private and council initiated plan changes and includes a summary of feedback from case study councils and combined case study modelling results.

Section 5 examines wider costs and benefits of the NPS – HPL – that is, costs and benefits to the wider public or community. This includes a summary of findings on non-market values of HPL from a literature review (contained in the Supporting Analysis Report) and a brief discussion on costs and benefits to communities. Benefits to the land-based primary production sector arising from the NPS – HPL are also discussed here.

Section 6 provides a brief summary of each detailed case study analysis contained in the Supporting Analysis Report. The scope of each summary includes the current planning approach to managing effects on HPL, social and economic activity occurring on HPL, rural lifestyle subdivision trends and results of modelled opportunity costs and transaction costs.

Section 7 brings the analysis of costs and benefits together and summarises them side by side according to biophysical, economic, social and cultural effects arising from the NPS – HPL. Costs and benefits are summarised along with overall CBA conclusions.

A glossary of terms commonly used in the report is included in Appendix 1.

[19] Phone interview with Sam Carrick and supplied data.

[20] Phone interview with Dr Reece Hill.

2 Implementation Costs

This section summarises the NPS - HPL policies and clauses and considers the tangible outcomes of implementing the policies and clauses 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. Costs to central government to aid in the implementation of the NPS – HPL are also briefly discussed.

2.1 NPS – HPL Policies

There are 4 policies that give effect to the NPS – HPL objective. Broadly these are:

1. Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.
2. Highly productive land is mapped in regional policy statements and district plans.
3. The subdivision and zoning of highly productive land for rural lifestyle development is avoided.
4. Highly productive land is protected for use in land-based primary production from:
    a. Urban expansion, except in certain circumstances.
    b. Other inappropriate subdivision, use, and development.
    c. Reverse sensitivity effects.

Section 3 of the proposed NPS – HPL identifies a range of specific requirements (clauses) to give effect to the NPS, and in particular the policies listed above. Section 4 relates to implementation timeframes, including a description of the requirements during the transitional period which can be up to three years from the date of commencement of the NPS - HPL.

2.2 Actions by Councils to Implement the Policies

Some of the NPS - HPL requirement clauses have a tangible output and some do not. The policies and clauses 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 briefly discusses the key actions (processes and outputs) that are required by regional and district councils to implement the NPS - HPL. This is relevant to get a better understanding of these one-off 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.

This section is based on M.E's understanding of what is likely to be required and how the implementation requirements might be approached by Councils. 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 7. Clauses not discussed in this section (clause 3.4[21] and 4.4[22]) relate to transaction costs to council (and landowners). These costs are discussed further in section 4. Unlike implementation costs they are only triggered by plan changes on HPL. Such costs will accumulate over time.

2.2.1 Clause 3.2[23] and 3.3[24] Implementation

Clause 3.2 requires Regional Councils to "*identify land to be mapped as highly productive land*" in collaboration with relevant territorial authorities in the region (clause 3.2(5)[25]). Clause 3.3(1)[26] requires Regional Councils to notify that map in their RPS using the process in Schedule 1 of the RMA. At the same or similar time as the maps are notified in the RPS, territorial authorities that include an area of land mapped as HPL must include the equivalent map in their district plan but without using the Schedule 1 process (this is outlined in clause 3.3(3)[27]).

In accordance with clause 3.3(4)[28], the maps of HPL must be kept up to date, although the NPS – HPL does not specify under what circumstances the land mapped as HPL might change. M.E presumes that changes might be necessary to remove HPL from land that was approved for urban expansion or major infrastructure, to add new land where technology or conditions such as climate mean that the land becomes ideally suited for land-based primary production, or to remove land where conditions such as climate change or contamination mean that the land is no-longer suited for land-based primary production.

The criteria set out in clause 3.2 indicates that this exercise is not simply adoption of the LUC 1-3 data for their region (although large and geographically cohesive areas of predominantly LUC 1-3 land in a rural zone is the starting point and minimum requirement), but could involve a detailed spatial land evaluation that (based on current wording) brings together the LUC 1-3 dataset, land use zoning, schedules of SNAs and sites of significance to Māori , contaminated sites, climate data, an evaluation of existing and potential primary production activity and the viability of primary production at different lot sizes so than appropriate extents of HPL can be identified. This means a regional level spatial evaluation exercise that could (but not necessarily) entail engagement with landowners and stakeholders. The Schedule 1 process will require public consultation, and a notified hearing for a change to the RPS.

[21] Protecting from urban expansion.

[22] Additional requirements.

[23] Mapping highly productive land.

[24] Including highly productive land in regional policy statements.

[25] Regional councils must undertake the mapping required by this clause in collaboration with all relevant territorial authorities.

[26] Within 3 years after the commencement date, every regional council must include in a proposed regional policy statement the maps required by clause 3.2 of all highly productive land in its region.

[27] At the same time as (or as soon as practicable after) a regional council includes a map or maps of highly productive land in a proposed regional policy statement, every relevant territorial authority must include an equivalent map or maps in its district plan, and must do so without using a process in Schedule 1 of the Act.

[28] All maps of highly productive land in proposed regional policy statements, regional policy statements, and district plans must be amended as necessary to keep them up-to-date.

Councils will need to make an informed decision on which properties are in the HPL area and which are out given that clause 3.2(6)[29] requires that HPL is defined at the individual parcel level. 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) on private land.

Such evaluations are not straightforward, particularly if regional councils opt to address the matters in clause 3.2(2)[30] and 3.2(3)[31]. It is likely that several scenarios will need to be tested to find the optimal outcome for each region.

The NPS - HPL also adopts (in clause 4.2[32]) a default definition of HPL to apply in the transitional period while clause 3.2 is being implemented. This applies several simple parameters to land in the rural productive or rural general zones – it must contain LUC 1-3 and not be a future urban area in a RPS or district plan or be identified in a strategic planning document published before commencement of the NPS – HPL as an area for urban development in the short-medium term (i.e. next 10 years). Of note, the transitional HPL definition does not imply that whole parcels necessarily qualify as HPL, only the LUC 1-3 land area within that parcel. This may mitigate opportunity and transaction costs to landowners by allowing them to seek consent to subdivide, use and develop non-LUC 1-3 land on their properties during those three years. The transitional definition will also not provide any protection to land that is not LUC 1-3 but still HPL (such as land suitable for vineyards). Such land will only be afforded some protection under the NPS – HPL once HPL maps are notified (assuming they are included at that time).

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, particularly on the commercial viability of land-based primary production (by type) on different parcel sizes.

A key requirement for a robust process is quality data. Data should be current and at an appropriate scale to ensure an appropriate level of accuracy and confidence from landowners. Collecting the appropriate data may be an additional cost and can add to the time in which the evaluation can be completed (some

[29] Mapping must be done at a level of detail that identifies individual parcels of land.

[30] However, regional councils need not map land as highly productive land if any of the following applies: (a) there is strong evidence of permanent or long-term constraints (such as contamination or fragmentation) on the capacity of the land for land-based primary production, such that land-based primary production on the land is no longer economically viable: (b) the land is, at the commencement date, zoned as rural lifestyle: (c) the land is identified as a Significant Natural Area [(as defined in the National Policy Statement for Indigenous Biodiversity)]: (d) the land is identified in a published FDS or other strategic planning document as land suitable for urban development over the next 10 years: (e) the land contains one or more sites of significance to Māori.

[31] Regional councils may map other land that is in a rural zone, but is not LUC 1, 2, or 3 land, as highly productive land if the land is, or has the potential to be (based on current uses of similar land in the region), highly productive in that region, having regard to the soil type, physical characteristics, and climate of the area.

[32] During the transitional period, this national policy statement applies (with all necessary modifications) as if references to highly productive land were references to land that: (a) is in a general rural zone or a rural production zone; and (b) is LUC 1, 2, or 3 land; but (c) is not: (i) identified as a future urban area in a regional policy statement, a proposed regional policy statement, a district plan, or a proposed district plan; or (ii) identified, in an FDS or other strategic planning document published before the commencement date, for urban development over the next 10 years.

information on this is included in Section 2.2.2 below). 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 NZLRI LUC dataset already, not all do. There are alternatives (i.e. S-Map, FARMLUC used by Auckland Council or 'GrowOtago'). 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. The NPS – HPL provides an ability for regional councils to use other more detailed data sources so long as they apply the Land Use Capability classification.

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 and economic viability sense) as opposed to focussing just on the soil resource.

The NPS – HPL proposes that this work is required to be notified within three years of the NPS - HPL being gazetted. Feedback from some case study councils was that this was likely to be achievable (particularly now that the distinction has been made for the submissions and hearings process to sit outside that three year time period). All case study councils anticipated that the mapping of HPL would be a litigious process (i.e. attract a lot of submission and appeals).

2.2.2 Costs of Regional Spatial Analysis of HPL

Information on the potential cost of mapping HPL by Regional Councils has not been collected for this CBA. This implementation cost remains un-monetised but needs to be taken into account. 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 territorial authorities 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 HPL in the manner prescribed by the NPS - HPL (although several[33] have done extensive work in mapping soils).

- Process Costs: unknown. 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[34] 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 limited in-house GIS capacity

[33] Waikato Region, Bay of Plenty Region and Canterbury Region have extensive coverage of LUC 1-3 in S-Map. Waikato Regional Council has also recently mapped high class soils to contribute to current spatial planning projects.

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

and would presumably be more reliant on purchasing input from external suppliers. These capabilities may influence costs.

- **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 could be evaluated 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 down to the property level. Regional Council's *may* choose to invest in more accurate land use capability data, although this is not explicitly required by the NPS – HPL.

There are two critical datasets needed to map LUC 1-3 areas more accurately than the NZLRI dataset 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 has not collected 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[35].

Figure 2.1 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 have therefore included a slightly higher cost for the purpose of this commentary ($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 2.1 are really a national average of more costly lowlands and less costly hill to steep lands. Actual costings would require more detailed analysis. 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).

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

Figure 2.1 – 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.

As the 2019 Budget provided funding to cover the expansion of S-Map coverage (in the Enabling Productive and Sustainable Land Use work programme[36]), the costs described above are not directly attributable to the NPS – HPL (or net additional costs) and are excluded from this CBA. The NPS – HPL may however accelerate the timing of demand for the funding available from Government.

2.2.3 Clause 3.5[37], 3.6[38], 3.7[39] and 3.8[40] Implementation

These are all clauses that relate to the development of objectives, policies, rules and methods (zoning) and then incorporating those provisions via a plan change. They span a range of issues – avoiding rural lifestyle development on HPL; protecting HPL from other inappropriate subdivision, use and development; supporting the productive use of HPL; and managing reverse sensitivity effects. All these clauses need to be specifically actioned by territorial authorities but not regional councils. However, clause 4.3(1)[41] does require regional councils to give effect to the NPS – HPL in a general sense (as does section 62(3) of the RMA). As such, it is reasonable to expect that regional councils will also develop some high-level objectives

[36] Funding is related to the Overseer Budget.

[37] Avoiding rural lifestyle development,

[38] Protecting from other inappropriate subdivision, use, and development.

[39] Supporting productive uses.

[40] Managing reverse sensitivity effects.

[41] As soon as practicable, and no later than 3 years after the commencement date, every regional council must notify changes in a proposed regional policy statement to give effect to this national policy statement.

and policies and may notify these at the same time as the HPL maps (i.e. within 3 years) or sooner if practical.

Territorial authorities will have a further two years following the RPS notification of HPL (and maybe objectives and policies if combined in one plan change) to amend their plan to incorporate new or amended objectives, policies, rules and zoning through a Schedule 1 process (clause 4.3(2)[42]). At most, this means that these councils have five years to make operative (or just notify – the NPS is not clear on this aspect) their provisions that protect HPL for land-based primary production *if* the regional council takes all three years available to notify the HPL maps. If the regional council notifies their maps sooner, the 'transitional period' will be correspondingly shorter, but the territorial authorities will still have a two year additional implementation period.

From an efficiency perspective, it may be logical that territorial authorities will not develop their provisions under these clauses until the regional council has notified their objectives and policies. This will ensure that the district plan is consistent with the RPS. There may or may not be time within two years for the RPS changes and maps to become operative and this could create some uncertainty for the proposed district plan provisions. However, as the RPS objectives and policies will be giving effect to national direction at a high level, the provisions themselves may not be contentious (even if the HPL maps are).

It may also be unrealistic to expect district councils to notify their provisions to protect HPL for land-based primary production before the HPL maps have been notified. Landowners would not know if they are affected by the proposed district plan provisions until they know if their land is included in HPL. This will be a significant determining factor in whether they make a submission on the district plan change or not. Depending on timing, the situation may arise where a landowner makes a submission on the inclusion of their land as HPL in the RPS plan change and makes another submission on the provisions relating to HPL in the district plan change to cover all possible outcomes.

Alternatively, there may be a good reason to notify provisions that give effect to the NPS – HPL in the district plan prior to the HPL maps being notified – this could arise if a District Plan Review was scheduled in the next 1-3 years and councils were looking to maximise efficiency and reduce plan change costs.

With the regional council dealing with submissions on the HPL maps, it is possible that the district plan changes will be relatively less contentious (and less costly). Ultimately though, how litigious the district plan change is could depend on how much change is required to operative planning provisions around HPL and protecting the capacity for primary production. For example, a rule required under the NPS – HPL (clause 3.5(2)[43]) that would prevent subdivision of a lifestyle lot less than 4ha on HPL may not require any change in rural zone minimum lot sizes in five of the six case study areas (based on a review of minimum lot size rules[44]). Horowhenua District had one rural domain that allowed for minimum lot sizes of 3ha, so this might

[42] As soon as practicable, and no later than 2 years after the end of the transitional period, every territorial authority must notify changes in a proposed district plan to give effect to this national policy statement.

[43] Territorial authorities must avoid the subdivision of highly productive land into lots that: (a) are smaller than 4 hectares; and (b) enable the construction of a dwelling.

[44] M.E have not considered all mechanisms for creating an additional lot in the case studies - such as conservation lots, balance lots or grandfather clauses for subdivision. This may or may not be consistent with the proposed requirement under clause 3.5(2): Territorial authorities must avoid the subdivision of highly productive land into lots that: (a) are smaller than 4 hectares; and (b) enable the construction of a dwelling.

be an aspect that gets changed if the land is classed as HPL under the NPS - HPL. It is a marginal change only.

Developing provisions to manage resource management issues and give effect to national policy instruments is again an area where regional councils and territorial authorities have considerable resources and experience. The *topic* may be relatively new for some (although not the CBA case study councils) and it will be important that local authorities increase their expertise relating to primary production and the broader issues of HPL to deal with that change effectively.

2.2.4 Costs of Plan Change for Managing Highly Productive Land

This sub-section provides a high-level analysis of indicative average plan change costs that might be applicable for implementing clauses 3.5-3.8[45]. 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 (Schedule 1 costs applicable to regional councils only) and develop new (or modify existing) provisions to manage HPL for land-based primary production.

- **Process Costs:** The local significance of the plan change really depends on the degree of change required to the operative provisions and whether the plan change can be incorporated (more cost effectively) as part of an upcoming District Plan Review. For this CBA, M.E have 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 have cleaned the data to leave what appears to be the most complete or reliable data points[46], 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 2.2 indicates that the average cost for a plan change to a Regional Policy Statement or Regional Plan[47] 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). We note that feedback from case study councils was that they expected the mapping of HPL to very litigious following notification given the potential consequences (opportunity costs in particular) for landowners of HPL. The stage from decision to operative has an average cost of $0.46m.

[45] Avoiding rural lifestyle development; Protecting from other inappropriate subdivision, use, and development; Supporting productive uses; and Managing reverse sensitivity effects.

[46] 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.

[47] 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 2.2 – 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 2.3 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.

Figure 2.3 – 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 2.4 shows the indicative present value (PV) of plan change costs (applying an 8% discount rate) per regional council and per district/unitary authority based on the average total costs and indicative share of total cost by stage from Figures 2.2 and 2.3. M.E have split the indicative pre-notification costs over two years. For regional councils, the submissions to decision stage is allocated to one year and the decision to operative stage is allocated to one year. For the territorial authorities, the combined post notification stages have been allocated to a single year on the basis that the change to the district plan may be less contentious (relative to the HPL mapping). The allocation by year is in keeping with the implementation timeframes of the NPS – HPL (clause 4.3[48]).

The total PV plan change cost for each regional council is indicatively $1.4m (or a total of $6.96m for the regional councils related to the case study areas)[49]. This is assumed to exclude the cost of identifying HPL

[48] Time by which national policy statement to be implemented.

[49] At a 2% discount rate, the PV would be $8.63m and at a 4% discount rate, the PV would be $8.02m.

discussed above. The total PV plan change cost for each territorial authority is indicatively $1.2m (or a total of $7.31m for the six case study areas)[50]. We emphasise that these costs are indicative only for the purpose of this CBA. 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 2.4 – Indicative Plan Changes Costs to Implement the NPS – HPL – Case Study Areas

	Year 1	Year 2	Year 3	Year 4	Year 5	Total Average Cost	PV (8% Discount Rate)	Indicative Cost for Total Case Study Areas (PV)
Identifying HPL				$ -	$ -			
Change to RPS *	$ -	$ 250,200	$ 250,200	$ 971,400	$ 389,200	$ 1,861,000	$1,392,000	$6,960,000
Change to DP *	$ -	$ -	$ 386,400	$ 386,400	$ 921,300	$ 1,694,100	$1,218,000	$7,308,000

** Based on Average Total Plan Change Cost, split indicatively by plan change stage. Splits pre notification over 2 years for both plan changes. For the RPS plan change, allocates submissions/decision stage over 1 year and making operative over 1 year. Assumes regional councils take three years to notify RPS plan change inclusive of HPL maps. For the district plan change, allocates post-notification stages to a single year on the basis that this may be less contentious.*

2.3 Implementation Costs for Central Government

The proposed NPS – HPL does not specify (as a requirement/clause) that any guidance to regional and territorial authorities will be provided by central government to help them implement and give effect to the NPS. However, it is more typical than not that some form of guidance is delivered to support a national planning instrument following commencement (as per examples from the NPS – UDC and also the NES – Plantation Forestry and NES for Telecommunication Facilities in recent years). For the purpose of this CBA, M.E have assumed that there will be some costs for central government to implement the NPS – HPL in the form of guidance. There are also likely to be some costs associated with collaborating with/liaising with councils. These costs are expected (by M.E) to be concentrated in year 1 following commencement, with lesser (reducing) costs over year 2 and 3.

Information provided by MPI suggests that 2 full time equivalent staff (FTEs) may be required to develop guidance over a 6 month period and 1 FTE for the following 24 months to liaise with councils[51]. The total cost is estimated to be circa $400,000 (with the guidance potentially taking up around $150,000 of that). In present value terms (8% discount rate[52]), this equates to a one-off cost over three years of approximately $350,300.While it may also be expected that there will be some costs for MfE to monitor and review the effectiveness of the NPS – HPL, this is a core function of the Minister for the Environment (and Ministry) under section 24(f) of the RMA so M.E assumes no additional costs above what should be done as standard practice.

[50] At a 2% discount rate, the PV would be $9.34m and at a 4% discount rate, the PV would be $8.59m.

[51] M.E have apportioned central government guidance costs 50% to year 1, 25% to year 2 and 25% to year 3.

[52] At a 2% discount rate, the PV would be $386,000 and at a 4% discount rate, the PV would be $374,000.

3 Opportunity Costs

This section examines the opportunity costs likely to arise from the NPS - HPL for landowners, and property developers. A primary question relates to the potential effect of the NPS - HPL on rural landowners/developers who would be constrained from subdividing and selling some or all of their land, so that it could be used by new owners for lifestyle living or for urban development.

Typically, when rural land is subdivided off a larger land holding, there is a potential capital gain to the landowner. That is because subdivision enables more intensive use, and the opportunity to build at least one dwelling on the new parcel created. Since land sub-divided off in this manner generally commands a higher market value as a lifestyle or urban lot than the parent lot, then the current landowner/developer has potential for a net capital return, after costs of subdivision and sale. Constraints on the area of land able to be subdivided and changed to different uses (lifestyle properties, urban) may affect the scale of property development activity and returns and be a potential opportunity cost to the property development sector.

3.1 Approach Overview

The key matters examined here are the **net opportunity costs** to landowners and property developers, and the **distribution** of these opportunity costs among landowners[53] and developers.

This approach recognises that much of the issue around opportunity costs to individual landowners is distributional. That is because the proposed NPS - HPL constrains subdivision of land with significant HPL resource through the combination of clauses 3.4[54], 3.5[55] and 3.6[56]. This means that some landowners would not have the option to access capital by subdividing and selling some or all of their landholding, and that would be an opportunity cost to those landowners. As not all landowners that could subdivide of redevelop their rural land for urban growth place value on the option to subdivide or urbanise their land – i.e. they may have no current of future intention to pursue those outcomes, the opportunity costs estimated in this CBA represents that maximum potential opportunity cost attributable to the NPS - HPL.

However, demand for lifestyle properties or urban development which could not be met on HPL would not disappear, rather it would in most circumstances re-direct to other land to meet requirements for lifestyle properties or urban growth. The owners of those other properties would benefit in the same manner as the owners of the HPL would otherwise have done, albeit not necessarily in the same locations or to an exactly equal degree (this is an opportunity benefit and similarly, should be considered a maximum potential opportunity benefit attributable to the NPS – HPL). The quantum of land demanded for lifestyle properties and urban growth would, other things being equal, be more or less the same.

[53] When discussing 'landowners' in the context of rural lifestyle subdivision, this is may also be interpreted as 'developers. In most (but not all) cases, developers are also the landowner.

[54] Protecting from urban expansion.

[55] Avoiding rural lifestyle development.

[56] Protecting from other inappropriate subdivision, use, and development.

At the district or city economy level, this re-direction of demand represents a transfer within the economy. The net opportunity cost at this level is the difference between the potential value lift foregone by owners of HPL, and the potential value lift now accruing to other landowners.

3.2 Detailed Approach and Discussion

This section discusses M.E's approach to modelling opportunity costs for lifestyle subdivision and urban expansion in more detail. It describes the processes through which effects are expected to arise and how this has been addressed in the spatial-economic modelling.

3.2.1 Implementation Scenarios for Lifestyle Subdivision Modelling

To quantify estimated net opportunity costs associated with lifestyle subdivision, M.E has developed a spatial-economic model. That model in turn runs off scenarios and these are discussed below.

It is not possible for M.E to predict what planning provisions, including rules, territorial authorities 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 objective of the NPS - HPL.

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.

With that in mind, M.E have developed two 'with NPS - HPL' scenarios for the purpose of modelling rural lifestyle subdivision outcomes. These same scenarios are not used for the modelling of urban expansion outcomes – that analysis relies on a single 'with NPS – HPL' scenario.

One rural lifestyle modelling scenario reflects a situation where territorial authorities 'deter' lifestyle subdivision of HPL in rural zones. The other reflects a situation where territorial authorities 'avoid' lifestyle subdivision on HPL in rural zones. M.E note that following public consultation, the proposed provisions in the NPS – HPL now direct that lifestyle subdivision on HPL is inappropriate and should be avoided. As such, the reader should give less weight to the 'deter' scenario presented in the case studies. However, it still provides useful insight on the relative outcomes of two different regulatory responses to the issue of rural fragmentation.

That said, both scenarios 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 rural lifestyle opportunity costs and benefits only. M.E have defined the scenarios for modelling rural lifestyle subdivision as follows:

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.

Status Quo future

This is the no-NPS - HPL future, which is based on recent trends and the growth outlook for lifestyle subdivision. This takes account of the likely outcomes in terms of 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 territorial authority.

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 land-based 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 Māori 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 (to 2048), 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.

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 land-based primary production by allowing strong

constraint (strict avoidance) on subdivision for rural lifestyle development on land identified as HPL. This is now our understanding of the intent of the proposed NPS – HPL.

M.E have used the transitional period definition of HPL specified in the proposed NPS – HPL (i.e. LUC 1-3 until regional councils identify HPL in accordance with the NPS - HPL) to identify the land parcels that may be identified as HPL by each regional council. While this definition applies in the short-term (prior to each regional council completing that task under clause 3.2[57]), 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 as HPL based on clauses 3.2(2)[58] and 3.2(3)[59]. 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.

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.

Sensitivity and Flexibility

It is possible to wider 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

[57] Mapping highly productive land.

[58] However, regional councils need not map land as highly productive land if any of the following applies: (a) there is strong evidence of permanent or long-term constraints (such as contamination or fragmentation) on the capacity of the land for land-based primary production, such that land-based primary production on the land is no longer economically viable: (b) the land is, at the commencement date, zoned as rural lifestyle: (c) the land is identified as a Significant Natural Area [(as defined in the National Policy Statement for Indigenous Biodiversity)]: (d) the land is identified in a published FDS or other strategic planning document as land suitable for urban development over the next 10 years: (e) the land contains one or more sites of significance to Māori.

[59] Regional councils may map other land that is in a rural zone, but is not LUC 1, 2, or 3 land, as highly productive land if the land is, or has the potential to be (based on current uses of similar land in the region), highly productive in that region, having regard to the soil type, physical characteristics, and climate of the area.

of potential outcomes for the purpose of the CBA, although emphasise that the high-regulatory scenario is the intent of the proposed NPS - HPL.

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.

3.2.2 Lifestyle Property Subdivision and Opportunity Costs

The mechanics of the process are usually that a parcel suitable as a lifestyle block is created through subdivision, and the current landowner sells it to a new owner, with the capital gain being the proceeds from the sale, less the costs incurred (subdivision, any necessary earthworks and utilities, legal and costs of sale).

The potential for subdivision and sale (and setting aside financial returns at this stage) relates directly to the demand for such lots, arising from household growth, and associated demand for lifestyle properties. The opportunity for creation of lots currently depends on the council provisions for rural subdivision, relating primarily to parcel size, rather than the presence of the HPL resource. Owners of properties which do not have the HPL resource have the equivalent opportunity for subdivision and sale. The HPL provisions would generate an opportunity cost only for those landowners constrained by the presence of the HPL resource.

This means that demand which could not be met from properties constrained by the HPL resource could instead be met from properties not so constrained (all else being equal).

At the individual landowner level, being unable to subdivide and sell would be a potential opportunity cost. However, at the aggregate or district-wide level, the opportunity cost for constrained landowners could in theory be offset by opportunity benefit for landowners not constrained by the presence of HPL, who have the opportunity to subdivide and sell which they would not have otherwise had. At the district level, unless the constraints on subdivision of HPL were to act also to constrain total demand for lifestyle properties (discussed further in the case study modelling), then the reduction in subdivision of HPL properties would be offset by the consequent increase in subdivision of non-HPL properties.

This means that the opportunity cost to rural landowners as a group would relate to the difference in gross and net returns (proceeds of sale) from subdivision and sale of parcels for lifestyle (or similar) purposes, given than not all locations for rural lifestyle properties will have the same value (at a per ha level or per parcel level).

Simply, unless demand for lifestyle lots reduces or disappears as a consequence of the NPS - HPL, then other landowners who are not restricted by the NPS requirements will have correspondingly greater opportunity to access capital by subdividing and selling to meet that same demand which is no longer able to be met on properties where the HPL resource constrains subdivision.

That said, there may be opportunity cost at the district level if the HPL constraints mean that there is insufficient supply of lifestyle parcels, such that the total number of lifestyle properties is less than it would

otherwise have been. M.E's modelling of subdivision potential assumes there will be no change in the current provisions relating to rural subdivision throughout the next 30 years. For a number of reasons, that is not likely to be the case.

a. First, with the protection of HPL in place, and imposing limits on subdivision of the higher quality rural land, it is likely that councils would re-examine their policies on rural subdivision, to take into account the situation where there is still demand for lifestyle properties, it is constrained on the HPL, and there may be other options to limit its effects on farmland which is not HPL.

b. Such options include lifestyle living or 'large lot' rural residential zonings which enable smaller lots (i.e. much smaller than 4 ha), some geographic concentration, and less loss of productive farming land. This is because rural subdivision policies commonly seek to enable growth while minimising the loss of productive land, whether or not it is HPL.

Changes expected to be implemented by territorial authorities as part of the suite of provisions they develop to give effect to the NPS – HPL may enable projected demand for lifestyle properties to be met on other rural land without significantly impacting HPL (whether through creation of new lifestyle zones or changes to minimum lot sizes on non-HPL). Such an outcome would mean the opportunity cost to rural landowners associated with the NPS - HPL could be substantially less than modelled in certain case studies in this CBA (where M.E's approach resulted in not all projected demand being supplied). That is because most of the value uplift for lifestyle properties arises from the opportunity to build a dwelling, so that much of the uplift in value at the district level is due to the number of lifestyle properties, rather than their total land area.

Possible changes to rural subdivision policies, in combination with and in response to the NPS - HPL, could result in a significantly lower opportunity cost than for a situation (as modelled) where the only differences from the status quo would relate to the NPS - HPL. To that extent, the figures presented in this CBA are at or close to the maximum opportunity cost.

To identify the potential opportunity cost from foregone capital gain to rural landowners/developers, M.E have extended the rural lifestyle subdivision potential modelling to incorporate information on land and property values. More detailed methodology and assumptions are summarised directly below (with the detailed results contained in the Supporting Analysis Report for each case study and summarised in section 6 of this report). For lifestyle properties, the potential uplift in property value which might accrue from subdivision has been estimated on the basis of the net additional value likely to accrue to a subdivided property, compared with the value of that same land if it had remained part of the parent lot. This method was developed and applied by M.E in evidence presented to the Auckland Unitary Plan hearings, and to the Environment Court in relation to Rural Subdivision in Auckland.

Modelling Assumptions:

The estimation of opportunity cost relating to lifestyle parcels draws from modelling to estimate the numbers of parcels created to serve demand for lifestyle blocks, with estimates of the net uplift in land values arising from the creation of smaller parcels suitable for lifestyle living.

- 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 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 proposed NPS - HPL definition of rural lifestyle blocks (2,000sqm-8ha), although this description no longer features in the NPS – HPL provisions. 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 proposed 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[60].

- In instances where the M.E scenarios (High Regulatory and Low-Medium Regulatory Response) 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).

- The opportunity costs from foregone opportunity to subdivide for rural lifestyle living have been estimated according to the difference in value for the same land un-subdivided and subdivided as a separate lot. The models for the case study use property-level datasets that identify the potential for each parcel to be subdivided under current provisions (i) and with areas of HPL protected (ii). The base is the existing property estate as the 'parent' land parcels.

- M.E have estimated the potential value of any new subdivided parcel, according to its location, size and zoning. This has been based on analysis of values of land parcels in rural areas, in order to identify how those parcel values vary according to size and location. This analysis has two parts:

[60] 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.

- Land parcels of each zoning and in total were examined to identify how land value (in total and per m^2) varies according to parcel size. Typically, land value per m^2 is considerably higher for smaller parcels and diminishes as parcel size increases. A key reason for this is that a significant share of the value of rural lots arises from the opportunity to construct a dwelling on it, and thereby use it (or sell it) as a lifestyle living property. As parcel size increases, the value of the opportunity to construct a dwelling has to be shared across a progressively larger area, such that the value per m^2 diminishes, and for larger parcels the value reflects predominantly the returns from farming or forestry – which yield much lower returns per ha than lifestyle living can. This process identified the mean value of a parcel of the minimum size enabled under current zoning, without NPS-based constraints in place.

- The second step was to calculate the net value uplift for the created parcel, based on the estimated value as a lifestyle parcel, compared with the value of that same land area if part of the current 'parent' property, which typically has a much lower value per m^2. The potential value uplift for the residual land parcel has also been estimated, since if a rural parcel is subdivided, there may be value uplift for each parcel if the subdivision were to result in two or more parcels with potential for rural lifestyle living. The net uplift includes allowance for the costs incurred in subdivision of a new parcel(s) and the sale of those parcels.

- From this, estimates were calculated of the potential net gain in land value from subdivision of each rural property, and the total gain across all created properties according to the demand estimates for the study. That provides the estimates of the total net uplift in property values potentially realisable to rural landowners/developers from selling parcels for rural lifestyle living, comparing the "without-NPS" and the "with-NPS" futures, to identify any difference in opportunity cost to the current landowners.

3.2.3 NPS - HPL Provisions on Urban Expansion

The provisions of clause 3.4 (protecting HPL from urban expansion) will have a major effect on how the NPS - HPL will influence urban development on rural and HPL land, and how different urban growth options will be interpreted and applied. Clause 3.4 will allow territorial authorities to zone HPL as urban if there is insufficient short or medium-term development capacity, and there are no reasonably practicable options to achieve a well-functioning urban environment, and there are net benefits from the change compared with protecting the land.

Clause 3.4(2)(b)[61] is central to this because it will provide considerable scope to take account of the benefits of a sound urban strategy where there is potential for that to be compromised if urban growth is constrained by the presence of the HPL resource.

The core characteristics of urban spatial economies means that *"..a well-functioning urban environment.."* relates especially to cohesion and compactness of urban form. That is because the economic and social

[61] there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement).

benefits of urban economies arise primarily from activities co-locating and geographically concentrating, especially because density or intensity of activity into a relatively small area acts to minimise transactions costs and make interactions more efficient. Such benefits generally increase as city size increases, as more economies of scale and scope can be realised, and the benefits of agglomeration increase.

Accordingly, a well-functioning urban environment is typically enhanced where growth is accommodated through the combination of further intensification of already-urbanised land, and development on new land at the edge of the existing town or city. Outward urban growth contributes most efficiently to the established economy and community where the new urban land is close to the city centre (that is, adjacent the existing edge), and full urbanisation occurs quickly, with the minimum area of land required for housing and business growth taken up.

These aspects are widely understood in urban economics and planning, hence the common focus on providing for new capacity on land which is located and physically suited to urban uses, to meet objectives of urban economic efficiency and sustainability, predominantly by enabling sequential outward urban growth.

Importantly, 3.4(2)(b) sets out that a comprehensive whole of area or whole of economy approach is appropriate when considering a "*well-functioning urban environment*", as distinct from a marginal analysis at the property or locality level.

Clause 3.4(2)(b) provides that would apply, with "*no other reasonably practicable options for providing for the required development capacity and achieve a well-functioning urban environment…*" and

(c) *there are net benefits from the change in zone compared to maintaining or protecting the land for use in land-based primary production*."

In most instances the trade-off is likely to be between achieving the benefits of a well-functioning urban economy located on land which does contain the HPL resource, compared with an urban economy which is instead on non-HPL. The societal benefits from protecting or retaining the HPL may outweigh those from the non-HPL. However, the benefits of a well-functioning urban environment may outweigh the societal benefits from protecting HPL.

This means that the likely basis for comparison of net benefits under 3.4(2)(c) would be between the (net) benefits of:

a) urban growth on the HPL plus those from retaining the non-HPL, and

b) urban growth on the non-HPL plus those benefits of retaining the HPL.

Scale is important. The higher intensity of use on urban than rural land suggests that on a per ha basis, *a priori* the benefits of a well-functioning urban environment are likely to be greater than those from protecting the HPL resource, especially if the HPL resource is a small share of the district or regional total, while the land in question would cater for a large share of urban growth needs.

In a situation where an urban form outcome to avoid the HPL resource would mean a materially less efficiently functioning urban economy than if the HPL resource were developed, then the benefits of protecting the resource may well be outweighed by the costs of a less efficient urban economy. In a

situation where the urban economy was equally efficient on the non-HPL as on the HPL, then the net benefits of avoiding the HPL resource would be greater than not avoiding it.

In some districts or cities, a mixed outcome would be possible, where some urban growth can be directed to non-HPL, while for other growth the net benefits justify taking up the HPL resource. In such cases, the requirement of 3.4(2)(c)[62] to consider net benefits would be expected to mean that using the smallest area of HPL would be favoured, since that would mean the lowest cost relative to the urban growth accommodated. Clause 3.4(3)(b)[63] directs territorial authorities towards this outcome.

These considerations have guided the assessment in this CBA of the likely outcomes for the case study areas, particularly as to whether the presence of HPL can be expected to re-direct urban expansion, or whether the consideration under clause 3.4(2)[64] would see some HPL taken up for urban expansion. That guides the assessment of opportunity costs for landowners and the development sector in each case.

Each case study area has been examined in terms of the scale of growth, the implied demands for urban land over time, the urban growth opportunities without and with the HPL resource taken into account, and the likely urban growth and urban form outcomes if urban expansion on the HPL resource is avoided, and if it is not. This takes into account the patterns of the HPL resource around the main urban centre in each case study area, including potential for a mixed outcome (where under clause 3.4(2)) demand could be met on some areas of HPL with growth potential but not on others).

This reflects the expected approach of cities and districts planning for their growth, taking into account their current planning including in relation to the NPS - UDC and NPS - UD, to systematically evaluate growth capacity including for the urban form and efficiency outcomes relating directly to the well-functioning urban environment concept.

3.2.4 Urban Development and Opportunity Costs to Landowners

Commonly, there are several sources of capital gain associated with urbanisation, each of which could be affected by constraints from the presence of the HPL resource. If land is not able to be urbanised because of constraints on subdivision and development to protect the HPL resource, there will be potential opportunity costs relating to each part of the urbanisation process.

One main effect is the value uplift for owners of non-urban land which has potential to be urbanised. This is similar to rural landowners subdividing and selling for lifestyle purchasers. While this may relate to subdivision of individual lots, it more commonly relates to the sale of large parcels or whole properties. A key reason is that urbanisation is typically an expensive process, and there are economies of scale and

[62] there are net benefits from the urban expansion as compared to maintaining or protecting the land for land-based primary production.

[63] how to keep the spatial extent of the urban expansion on highly productive land to the minimum. (b) how to keep the spatial extent of the urban expansion on highly productive land to the minimum.

[64] Urban expansion may be allowed onto highly productive land only if, for the purpose of complying with the National Policy Statement for Urban Development 2020: (a) urban explanation onto the highly productive land would assist in providing sufficient development capacity to meet expected demand in the short term or medium term for housing or for business land in the district (as identified in accordance with that national policy statement); and (b) there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement); and (c) there are net benefits from the urban expansion as compared to maintaining or protecting the land for land-based primary production.

scope which make it more efficient to purchase and develop at a relatively large scale, such that developers prefer to purchase the whole property rather than one or a few subdivided lots. This is consistent with the structure plan process, with statutory planning supporting development at scale.

Land at or near the urban edge usually has the best potential to be urbanised. The value of the land at the urban edge is higher than that of rural land further away, since returns from developing it are greater, and it can be feasibly developed sooner. Commonly, non-urban land values are highest at the urban edge, and decrease with distance from the edge, even though non-urban values at the edge are much lower than land urbanised or able to be urbanised. The usual pattern is for non-urban values to increase over time as the urban edge approaches, with land further away having less potential, or deferred potential because urbanisation is still some years away.

Realising that value uplift depends in most instances on the zoning of the land to enable urban uses, and associated subdivision of the land for sale to final urban users. Zoning enables urban use, usually supported by infrastructure, while subdivision enables the land to be used much more intensively than when it was rural, especially through adding dwellings or other built development. The property development sector has a key role in this transition. Urban land values reflect this potential, as well as the substantial costs incurred to enable urban uses.

A share of this uplift in land value accrues to the landowners at the urban edge. That is primarily the value associated with its location and potential to be urbanised, resulting in a value premium over rural land further from the edge with less potential to be urbanised, or which might be urbanised later. Commonly, this value premium is a small share of the total uplift in value during the transition from rural to urban, reflecting the potential only.

If the provisions of the NPS-HPL meant that HPL is not able to be subdivided (because there are other practical options on non-HPL land that will achieve good urban form outcomes), then that transition to urban uses could not occur, and associated value uplift for the land would not occur. The value of that land would be correspondingly less than if it had urban potential and more in line with the values of non-urban land in locations where potential to be urbanised is low or minimal. This opportunity cost will accrue to specific landowners, as their land is not able to be urbanised, and the value uplift associated with its urban potential will not be able to be realised. A reduction in land value resulting from a constraint on urban development because of the NPS-HPL represents an opportunity cost to those landowners. However, unless total demand for urbanisation is also reduced, then there would be more or less corresponding uplift in the value of land for which urbanisation potential were consequently increased because the HPL land would no longer be available.

As is the case with subdivision and sale potential for lifestyle properties, this opportunity cost may be largely offset by opportunity 'benefit' for other landowners with correspondingly greater prospect of having their land urbanised. The value uplift accruing to this other land may be more, the same, or less than the value reduction for land whose urbanisation potential is lost because of the NPS - HPL.

To identify the potential opportunity cost from foregone capital gain to rural landowners, M.E have examined the likely scale of demand for urban land, additional to that already provided for in each case study. The expected uptake has been estimated for the 2018-2048 period, assuming that urban development occurs through incremental outward growth from the existing edge, taking in the closest land first, and that further out progressively over time, reflecting the common pattern around New Zealand.

Potential outcomes have been identified for a *status quo* future, and also allowing for the NPS - HPL provisions to avoid urbanisation on land containing the HPL resource. This process has taken into account clause 3.4[65] and its requirement for a well-functioning urban environment, which may result in urban development on HPL land where there are no practicable alternatives to provide capacity for growth, and the benefits of urban development on that land would outweigh the costs from loss of the HPL resource.

The potential opportunity cost for existing owners of HPL with urbanisation potential has been estimated on the basis that their land would become less valuable than currently because there is no longer potential to sell it to property developers or others. That land can be expected to no longer have a value premium from its urbanisation potential. Instead, its value premium would be in line with other peri-urban land, reflecting the potential for lifestyle living and the advantages of proximity to the goods and services of the town or city (compared with further distant rural areas). Accordingly, loss of urbanisation potential would mean some loss of value, though not all of the value premium over genuinely rural locations.

The owners of the non-HPL which with the NPS - HPL would have greater urbanisation potential would expect some value uplift, to be more or less in line with the HPL which currently has urbanisation potential. That potential uplift has been used to estimate the potential opportunity benefit to those landowners. The net outcome at the council level has been assessed from the combined reduction in value premium for those parcels with the HPL resource, and the increase in value premium for those with greater urbanisation potential. More detailed methodology and assumptions are summarised directly below (with the detailed results contained in the Supporting Analysis Report for each case study and summarised in section 6 of this report).

Modelling Assumptions:

- The estimation of opportunity cost relating to urban expansion is based on the extent of the additional land area over and above that already provided for within urban zones and/or urban limits (even if not yet plan enabled) which is required to accommodate growth, and the expected uptake of existing non-urban parcels sufficient for the expansion.
- The urban expansion modelling focusses on the main urban area of each case study. This includes Levin, Ashburton, Rolleston and Cambridge. For WBOP District, we have considered the urban expansion of Tauranga on the basis that this will encroach on WBOP land (until transferred). For Auckland, we have considered the total area within the RUB. We have not modelled opportunity costs associated with potential urban expansion of other (secondary) urban areas.
- The demand for greenfield urban expansion over the study period (30 years) is based on a medium growth projection (StatisticsNZ, unless otherwise stated).
- The land demand estimates take into account total household growth, the share that will be urban growth, the estimated share accruing to the main urban area examined, existing capacity remaining in urban zones/within urban limits, the portion of growth estimated to be taken up through intensification, the estimated density of future greenfield dwelling development and the additional land area required for roads/reserves etc (estimated at 30% of gross land area).

[65] Protecting from urban expansion.

- There is no certainty on where urban growth will occur beyond the existing urban limits. We note that those urban limits take into consideration any future urban zones (residential density focussed). We have modelled indicative urban expansion based on two scenarios – without (Status Quo) and with the NPS-HPL.

- The property datasets were examined to identify the non-urban parcels which are candidates for take-up for urban uses, according to size and location, and the presence of the HPL resource (but no other constraints to urban development). The approach identified two sets of candidate parcels, those likely to be taken up in the status quo situation (with or without HPL), and those likely to be taken up in the "with-NPS" situation, excluding those with HPL:

    - The **status quo scenario** (without the NPS - HPL) is driven by the net additional demand for urban land, and the proximity of land to the urban centre - as per distance from the urban edge. The modelling assumes rural or lifestyle living land will be available for urban take-up and allows for urban expansion to occur incrementally outward from the existing urban edge, taking up the nearest parcels first. This scenario results in incremental urban expansion with the parcels closest to the urban edge assumed to be taken up first. We note that a fully concentric urban expansion pattern is an over-simplification, as the development process is typically lumpy with individual structure plan or growth areas at the urban edge commonly developed over 5-15 years in a consolidated location. Nevertheless, over 30 years the incremental pattern is suitably indicative, and the focus of the analysis is the opportunity costs to landowners and developers over that time. Within these limitations, the modelling is considered appropriate for the purpose of showing the broad order of magnitude differences in opportunity costs, and also for identifying growth outcomes in the context of clause 3.4 of the NPS - HPL (even if the pattern of growth modelled is not entirely realistic).

    - The "**with NPS - HPL**" scenario is also driven by net demand and proximity to the urban centre, but the model allocates growth to the closest parcels that do not contain HPL. This may result in a different growth outcome from the status quo, depending on the area of land required for urban expansion, and the relative areas of non-HPL and HPL around each town.

The urban growth modelling was not warranted in all cases:

- Where existing capacity (within urban limits) is considered sufficient to cater for long-term growth (i.e. the study period of this CBA), and no further urban expansion likely in that period, then the growth path would not be affected by the NPS - HPL, and no opportunity costs would be attributable to it. This is the case for Auckland, Cambridge (Waipa District) and Rolleston (Selwyn District).

- Where there is no non-HPL on or near the urban fringe, no other greenfield options would be practicable alternatives under clause 3.4(2)(b)[66]. Urban expansion would need to occur on the HPL. Accordingly, introduction of the NPS - HPL would not result in a different urban growth

[66] there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement);

outcome (the with NPS - HPL and the without NPS - HPL outcomes would be the same), and there would not be consequent opportunity costs to landowners on the urban fringe. This applies to Ashburton.

- Where there is expected to be a shortfall of capacity within the existing urban limits (i.e. existing urban and future urban zones or areas identified for urban growth in a RPS) and there is non-HPL available on the urban fringe, then the modelling of urban growth and opportunity costs has been applied. This is the case for Levin (Horowhenua) and Tauranga (WBOP District).

- Importantly, the urban expansion scenarios do not take into consideration constraints (other than HPL) on individual parcels for urban development (such as designations or hazards or other factors that would render parcels inappropriate for urban development). This was not feasible in the time available for this CBA. As above, the growth allocation model is simply based on distance to the urban edge and the presence of HPL (or not).

The analysis of opportunity cost to existing non-urban landowners involves:

- Estimation of the candidate parcels for urban expansion in the without NPS - HPL and with NPS -_HPL futures, with the modelling to indicate the timing of their take-up for urban uses.

- We note that for the land at or near the urban edge, the value uplift associated with its potential to be urbanised is already very likely to have already been "priced in" by the market and the valuation process, since the potential value from close proximity to an urban edge is no secret. The main effect likely is that those landowners of HPL close to the urban edge would face a potential decrease in their land's value if its urbanisation potential were lost with the implementation of the NPS - HPL.

- The assessment allows for the value of this HPL to decrease, to that of the next most valuable use which does not require further subdivision. In close proximity to cities and towns this would in most instances be lifestyle living or some variant of rural residential. For this, the values of other parcels on the urban fringe but further from the edge have been used to represent what the value (per ha) would be once the urbanisation potential no longer applied. This reduction in value is the potential opportunity cost to those HPL owners.

- Assuming the same scale of urbanisation will occur, then there would be some corresponding uplift in the value of land for which urbanisation potential is consequently increased because the HPL would no longer be available. The value uplift has been estimated according to the difference between their current value (per ha) and the value of land closer to the urban edge. This is a potential opportunity benefit to owners of non-HPL.

- We note that potential value uplift / reduction would be based on the land's urbanisation potential in the early stage of the process, which is a very small component of the total value uplift associated with the transition to urban land, which arises from provision of infrastructure/servicing, and urban zoning which respectively support and enable much more intensive land use, the net yield once about 30% of the gross area is taken for roading, services and amenities, together with subdivision and land and other development activity, private infrastructure, various development and sale margins, and other value adds.

3.2.5 Urban Property Development and Opportunity Costs to Developers

Another potential opportunity cost is that arising from foregone potential for urban land development and dwelling construction, and associated activity, both major components of the urbanisation process. This would be an opportunity costs for the property development sector.

There are substantial costs, risks and returns associated with property development, to convert non-rural land to be available or actually used for urban purposes. The returns to the development sector are driven by a number of factors, the main one being the scale of the development opportunity based on the area of land to be urbanised. Location is also important, the effects of distance affecting development costs and saleability, while costs are also sensitive to the physical characteristics of the land. The provisions of the NPS - HPL may mean that urban development would effectively be re-directed to different locations and/or different development conditions, including toward brownfield or infill/intensification development rather than the greenfield path associated with HPL. These all may affect the returns to the development sector.

That said, the combined effects of the high relative returns from urban uses compared with rural, and the provisions of the NPS itself, especially 3.4(2)(b)[67], suggest that the opportunity costs to the development sector would be limited.

First, the economics of urban development mean there is considerable gain possible, so that urban demand which is not met in one location will be re-directed to otherwise suitable locations not affected by the NPS - HPL provisions. Opportunity costs could arise primarily if the alternative non-HPL location(s) for urban development were materially different from those on HPL. However, unless the quantum of urban development potential were reduced by the NPS - HPL provisions, rather than being re-directed to other land, then the opportunity for the property development sector would be *a priori* similar in scale to that under the status quo future. Accordingly, the opportunity cost to the property development sector from the loss of future business activity, would be similarly limited.

Second, clause 3.4(2) of the NPS - HPL has wide scope with the requirement to provide for "*..a well-functioning urban environment..*" and this can be expected to help avoid circumstances where provision for urban growth is materially constrained, or re-directed to location(s) which are inconsistent with that outcome. That implies there will be sufficient capacity in suitable locations to meet the needs of the urban community and economy, which will mean the scale of the opportunity for the property development sector is largely unchanged, even if the urban growth outcome or pattern may be different. Further, the economics of property development, including the effects of location and the land conditions are important considerations for councils seeking to achieve that well-functioning urban environment, including because matters such as the cost of housing are within the ambit of council responsibilities under the NPS - UDC and soon the NPS - UD.

There may be opportunity costs for specific property developers and others involved in the urbanisation process if the development opportunity is secured by other (competing) entities, with development margins and other returns accruing to those entities. However, at the city or district level we would expect

[67] there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement).

the same or a very similar scale of urbanisation to occur, and the corresponding returns would accrue to relevant industries involved in property development.

Accordingly, we expect there to be a material opportunity cost to the property development sector from the NPS - HPL provisions only rarely. More detailed methodology and assumptions are summarised directly below (with the detailed results contained in the Supporting Analysis Report for each case study and summarised in section 6 of this report).

Modelling Assumptions:

Opportunity costs to the urban property development sector have been examined according to likely differences in the scale of urbanisation between the status quo and the with-NPS - HPL future, taking account also of any differences in the location of urban expansion.

- As identified above (section 3.2.3) the effects on the sector will arise primarily from any difference in the scale of urbanisation, and the location of urban growth. This is because the main influence on gross and net returns to the sector are driven by the scale of development activity, the relative costs of development activity in different locations, and the final saleability of land so developed, also influenced by its location.
- At issue then is whether the proposed NPS - HPL is likely to affect the scale of urbanisation in the first instance, and the location to the extent that it would materially affect costs and saleability.
- For four of the case study councils, the urban development path and scale of growth will not be affected by the proposed NPS - HPL, so that there will not be opportunity costs to the property development sector.
- For the remaining two case study areas – Horowhenua, with Levin's growth, and WBOP – the scale of urban growth will be the same without or with the NPS-HPL. That is because the provisions of clause 3.4, especially 3.4(2)(b)[68] can be expected to ensure that there is sufficient capacity for growth. Further, that any assessment of the net benefits of urban growth options will take specific account of the costs of growth, which would include the cost of housing as it is potentially affected by land and location, as well as efficiency and a range of other criteria pertaining to a "*well-functioning urban environment*". Furthermore, the modelled results show only minimal differences in the location of the urbanisation in relation to distance from the urban edge under each scenario.
- For those reasons, we would expect a priori that potential opportunity costs for the property development sector will be minimal.

[68] there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement).

3.3 Net Opportunity Costs - Results

Reflecting the approaches set out above, the gross and net opportunity costs have been estimated in each case study area for rural landowners in relation to potential for creation and sale of parcels for lifestyle purposes, and for urban development. Similarly, opportunity costs for the property development sector have been estimated for the case study areas, taking into account the potential for HPL provisions to re-direct urban growth patterns.

The assessment covers net opportunity costs at the territorial authority level, as well as identifying the gross opportunity costs. The focus on net costs is because within a district or region, NPS-based restrictions on some properties are likely to see the unsatisfied demand for rural lifestyle living properties or urban uses re-directed to other properties not affected by the constraints. In economic terms, this is predominantly a transfer effect. Unless restrictions on HPL act to reduce demand for rural lifestyle living or urban uses, then the main effect is re-direction of that demand. That re-direction may not occur within one district – demand which is not satisfied within one district may be met in a neighbouring or other district[69].

Unless the level of demand changes, any NPS-based constraints will give rise to opportunity costs for some landowners, and opportunity benefits to other landowners, who now have potential returns they might not have had previously. These landowners would access returns from the same process. As long as overall demand was not constrained, then we would expect the same or similar scale of change, and total returns to landowners would be more or less the same as if there were no NPS-based constraints.

The key difference is that any benefits would accrue to different landowners.

There may be instances of a net opportunity cost, or a net benefit, at the district or region level, which may arise where:

a) Demand for rural lifestyle living properties or urban properties which is re-directed from properties with HPL is unable to be met on other properties within the district or region; and/or

b) The net capital gain to landowners is in aggregate less or greater than what may be realised from properties with HPL. That may arise where the net gain to individual landowners – broadly, the sale price of subdivided parcel, less the direct costs associated with subdivision and sale, less the value of the land in its current use – differs according to which specific parcel is subdivided. For example, the sale price of subdivided parcels may vary according to location, land quality, attractiveness, and so on. Similarly, the value of the land in its current use may also be expected to vary.

The modelling of rural lifestyle subdivision potential with and without the NPS – HPL in each case study has identified that the NPS - HPL would potentially constrain rural lifestyle demand growth (in Ashburton up to 2028) or exacerbate a shortfall of capacity already apparent under the *status quo*. This would be an impact in the long-term in Ashburton and also in Auckland, and in the medium and long-term in Waipa. However, it was also concluded that such constraint might arise only if councils did not provide for additional capacity on non-HPL properties – a circumstance which is considered unlikely.

[69] That prospect is identified; however, it has not been assessed in this study.

Similarly, the opportunity for property developers would primarily be transferred from some properties to others. Since property developers are not the initial rural landowners, then the property development sector as a whole is likely to have similar opportunity irrespective of who the current landowners are. The developers' opportunity relates primarily to the level of demand for lifestyle living and urban development, whatever the location.

Accordingly, for this CBA assessment the primary focus is on the net opportunity cost or benefits for rural landowners and the property development sector at the district and region level.

Also covered is the gross opportunity cost – which would accrue to those landowners who are unable to access capital because of the HPL restrictions – and the gross benefit – which would accrue to those landowners who are able to access capital because they benefit from the re-direction of demand for rural lifestyle living properties and urban land, when they would otherwise have not had such demand directed at their property.

The assessment is necessarily indicative. It is not feasible to identify and assess the net gain for individual properties from which opportunity for gain is lost, nor identify specific properties to which the opportunity for gain is re-directed. That said, it is relevant to indicate the potential scale of gross opportunity cost and gross benefit.

This has been done separately for both aspects of capital realisation to rural landowners affected by any HPL restrictions – effects on subdivision to enable rural lifestyle living, and on subdivision to enable urban development. The assessment for property developers focuses on overall development opportunity.

3.3.1 Net Opportunity Cost - Summary of Results

The net opportunity costs, and the gross costs have been identified for each case study in the relevant case study analyses (see detail in the Supporting Analysis Report and summarised in Section 6 of this report), with tables setting out the key indicators relating to lifestyle parcels, and urban growth. The snapshots of situations to 2028 and 2048 indicate the final outcomes and have been applied to estimate the distribution of maximum opportunity costs over time, for calculations in present value terms.

Figure 3.1 sets out the combined maximum opportunity costs relating to changed opportunity to create lifestyle parcels for all case study councils to 2028. The key indications are:

a) Under the Low-Medium Regulatory future, there would be around 1% fewer lifestyle parcels, and around 3% less area in those new parcels created.

b) The net value uplift to existing owners would be in the order of 2.6% less than in the status quo future across the case study councils (in the order of $68m reduction). This would be from the combined effects of fewer parcels, smaller land area, and lower value uplift per ha.

c) Within that net opportunity cost from foregone capital gain, there would be a gross opportunity cost of around $193m to landowners who would not be able to subdivide for lifestyle parcels, of which about two-thirds ($125m) would be offset by the opportunity benefit accruing to other landowners who would benefit from the greater opportunity to subdivide.

d) Under the High Regulatory future, there would be around 3.9% fewer lifestyle parcels, though about 6% more land area, with some re-directed demand to zones with larger minimum lot sizes (assuming no change from operative provisions).

e) The net value uplift to existing owners would be in the order of 1.8% less than in the status quo future across the case study councils with a $47m reduction. The shift to larger mean size of parcels created would mean a smaller net opportunity cost than in the Low-Medium Regulatory future.

f) Within that net opportunity cost from foregone capital gain, there would be a gross opportunity cost of around $193m to landowners unable to subdivide for lifestyle parcels, of which about three-quarters ($148m) would be offset by the opportunity benefit accruing to other landowners with more opportunity to subdivide.

Figure 3.1 – Potential Opportunity Cost Re: Lifestyle Properties to 2028 (All Case Studies)

Total Case Study Councils 2028	Status Quo	Low-Med Regulatory	Difference	High Regulatory	Difference
New Lifestyle Parcels	5,649	5,593	- 56	5,431	- 218
New Lifestyle Area (ha)	28,056	27,106	- 950	29,830	1,774
Mean Parcel Size	5.0	4.8	- 0.1	5.5	0.5
Total Value of New Parcels	$ 3,909	$ 3,838	-$ 71	$ 3,884	-$ 25
Previous Value New Parcels	$ 1,281	$ 1,279	-$ 3	$ 1,304	$ 22
Value Uplift to Owners	$ 2,628	$ 2,559	-$ 68	$ 2,581	-$ 47
No of Lifestyle Parcels					
Only Without-NPSHPL	576	-	- 576	-	- 576
Without or With-NPSHPL	5,083	5,411	328	5,059	- 24
Only With-NPSHPL	-	182	182	414	414
Total	5,659	5,593	- 66	5,473	- 186
Value of New Parcels ($m)					
Only Without-NPSHPL	$ 352	$ -	-$ 352	$ -	-$ 352
Without or With-NPSHPL	$ 3,557	$ 3,701	$ 144	$ 3,529	-$ 28
Only With-NPSHPL	$ -	$ 137	$ 137	$ 358	$ 358
Total	$ 3,909	$ 3,838	-$ 72	$ 3,887	-$ 22
Value Uplift from New Parcels ($m)					
Only Without-NPSHPL	$ 193	$ -	-$ 193	$ -	-$ 193
Without or With-NPSHPL	$ 2,434	$ 2,516	$ 82	$ 2,453	$ 19
Only With-NPSHPL	$ -	$ 43	$ 43	$ 129	$ 129
Total	$ 2,628	$ 2,559	-$ 69	$ 2,582	-$ 46

Figure 3.2 sets out the combined maximum opportunity costs relating to changed opportunity to create lifestyle parcels to 2048, showing:

a) Under the Low-Medium Regulatory future, there would be around 3.5% fewer lifestyle parcels, and around 10% less area in those new parcels created.

b) The foregone net value uplift to existing owners would be in the order of 4.6% less than in the status quo future, or a $267m reduction across all the case studies. This would be again from the combined effects of fewer parcels, lesser land area, and lower value uplift per ha.

c) Within that net opportunity cost from foregone capital gain, there would be a gross opportunity cost of around $607m to landowners who would not be able to subdivide for lifestyle parcels, of

which just over half ($340m) would be offset by the opportunity benefit accruing to other landowners with greater opportunity to subdivide.

d) Under the High Regulatory future, there would be around 7.6% fewer lifestyle parcels, and a reduction of around 8.8% in total land area, as the re-directed demand goes to some locations/ zones where minimum lot sizes are larger.

e) The net value uplift to existing owners would be in the order of 7% less than in the status quo future across the case study councils with a $411m reduction.

f) Within that net opportunity cost from foregone capital gain, there would be a gross opportunity cost of around $687m to landowners unable to subdivide for lifestyle parcels, of which less than half ($277m) would be offset by the opportunity benefit for other landowners with opportunity to subdivide.

Figure 3.2 – Potential Opportunity Cost Re: Lifestyle Properties to 2048 (All Case Studies)

Total Case Study Councils 2048	Status Quo	Low-Med Regulatory	Difference	High Regulatory	Difference
New Lifestyle Parcels	12,877	12,426	- 451	11,898	- 979
New Lifestyle Area (ha)	91,917	82,707	- 9,210	83,844	- 8,073
Mean Parcel Size	7.1	6.7	- 0.5	7.0	- 0.1
Total Value of New Parcels	$ 8,690	$ 8,309	-$ 381	$ 8,124	-$ 566
Previous Value New Parcels	$ 2,831	$ 2,717	-$ 114	$ 2,675	-$ 155
Value Uplift to Owners	$ 5,859	$ 5,592	-$ 267	$ 5,448	-$ 411
No of Lifestyle Parcels					
Only Without-NPSHPL	1,585	-	- 1,585	-	- 1,585
Without or With-NPSHPL	11,290	12,022	732	11,051	- 239
Only With-NPSHPL	-	405	405	847	847
Total	12,875	12,427	- 448	11,898	- 977
Value of New Parcels ($m)					
Only Without-NPSHPL	$ 1,188	$ -	-$ 1,188	$ -	-$ 1,188
Without or With-NPSHPL	$ 7,502	$ 7,924	$ 423	$ 7,271	-$ 230
Only With-NPSHPL	$ -	$ 384	$ 384	$ 852	$ 852
Total	$ 8,690	$ 8,308	-$ 381	$ 8,124	-$ 566
Value Uplift from New Parcels ($m)					
Only Without-NPSHPL	$ 607	$ -	-$ 607	$ -	-$ 607
Without or With-NPSHPL	$ 5,252	$ 5,485	$ 233	$ 5,172	-$ 80
Only With-NPSHPL	$ -	$ 107	$ 107	$ 277	$ 277
Total	$ 5,859	$ 5,592	-$ 267	$ 5,448	-$ 411

Figure 3.3 summarises the situations for 2028 and 2048, and the 2048 net opportunity cost in present value terms. At an 8% discount rate, the present value maximum net opportunity cost relating to changed opportunity to create lifestyle parcels across all six case study areas (combined) is between $117m and $140m (2048). The foregone net value uplift to existing owners would be in the order of 4.6%-5.5% less than in the status quo future. Under a 4% discount rate, the combined present value maximum net opportunity cost relating to changed opportunity to create lifestyle parcels is between $175m and $233m (2048). Under a 2% discount rate, the combined present value maximum net opportunity cost relating to changed opportunity to create lifestyle parcels is between $214m and $310m (2048).

Figure 3.3 – Present Value of Potential Opportunity Cost Re: Lifestyle Properties to 2048 (All Case Studies)

Total Case Study Councils 2028	Status Quo	Low-Med Regulatory	Difference	Difference %	High Regulatory	Difference	Difference %
New Lifestyle Parcels	5,649	5,593	- 56	-1.0%	5,431	- 218	-3.9%
New Lifestyle Area (ha)	28,056	27,106	- 950	-3.4%	29,830	1,774	6.3%
Mean Parcel Size	5.0	4.8	- 0.1	-2.4%	5.5	0.5	10.6%
Total Value of New Parcels	$ 3,909	$ 3,838	-$ 71	-1.8%	$ 3,884	-$ 25	-0.6%
Previous Value New Parcels	$ 1,281	$ 1,279	-$ 3	-0.2%	$ 1,304	$ 22	1.7%
Value Uplift to Owners	$ 2,628	$ 2,559	-$ 68	-2.6%	$ 2,581	-$ 47	-1.8%
Total Case Study Councils 2048	**Status Quo**	**Low-Med Regulatory**	**Difference**	**Difference %**	**High Regulatory**	**Difference**	**Difference %**
New Lifestyle Parcels	12,877	12,426	- 451	-3.5%	11,898	- 979	-7.6%
New Lifestyle Area (ha)	91,917	82,707	- 9,210	-10.0%	83,844	- 8,073	-8.8%
Mean Parcel Size	7.1	6.7	- 0.5	-6.8%	7.0	- 0.1	-1.3%
Total Value of New Parcels	$ 8,690	$ 8,309	-$ 381	-4.4%	$ 8,124	-$ 566	-6.5%
Previous Value New Parcels	$ 2,831	$ 2,717	-$ 114	-4.0%	$ 2,675	-$ 155	-5.5%
Value Uplift to Owners	$ 5,859	$ 5,592	-$ 267	-4.6%	$ 5,448	-$ 411	-7.0%
Undiscounted	*$ 5,859*	*$ 5,592*	*-$ 267*	*-4.6%*	*$ 5,448*	*-$ 411*	*-7.0%*
Present Value at 8 %	*$ 2,552*	*$ 2,435*	*-$ 117*	*-4.6%*	*$ 2,411*	*-$ 140*	*-5.5%*
Present Value at 4 %	*$ 3,675*	*$ 3,500*	*-$ 175*	*-4.8%*	*$ 3,441*	*-$ 233*	*-6.4%*
Present Value at 2 %	*$ 4,552*	*$ 4,338*	*-$ 214*	*-4.7%*	*$ 4,242*	*-$ 310*	*-6.8%*

The potential opportunity costs arising from changes to urbanisation potential for rural landowners, and for the property development sector, are expected to be substantially less than those from constraints to the creation of lifestyle parcels.

This is because the effects on urbanisation potential are considerably less. In four of the six case study councils, the proposed NPS-HPL is not expected to materially alter the urban growth outcomes currently planned for over the next 30 years, and/or which could be expected without the NPS - HPL.

In the other two case study areas, small net effects are anticipated for rural landowners whose property values would be affected by loss of potential to be urbanised under the with NPS – HPL scenario. That is mainly because that potential would transfer to other non-HPL parcels whose urbanisation potential would be increased. This is summarised in Figure 3.4.

In Levin, Horowhenua, the net change was very small, as the decrease in value for HPL (around $0.685m or -10%) would be offset by the increase in non-HPL of $0.670m or around 11.5%. Net, the change is 0% (-$15,000, undiscounted). The net change increases to -$27,000 (undiscounted) if a 1% per annum price rise is factored into the modelling.

In WBoP the net change is greater, estimated at a reduction in value of HPL of $2.06m (undiscounted) or -19% across the 100 ha examined (Medium growth scenario for Tauranga City which expands into WBoP District). The net change increases to -$3.0m (undiscounted) if a 1.5% per annum price rise is factored into the modelling. However, that value reduction cannot reasonably be apportioned across all of the HPL, since the urbanisation potential is much less than the total area of HPL on the urban fringe.

In present value terms (8% discount rate) the combined net potential opportunity cost for urban expansion (and allowing for price growth) is $0.429m across all the case studies (but weighted almost entirely to outcomes in WBoP district).

Figure 3.4 – Present Value ($000) of Potential Opportunity Cost Re: Urban Expansion to 2048 (Two Impacted Case Studies)

		Costs	Benefits	Net
Horowhenua		*Medium Scenario No Price Change*		
Discount	0%	-$ 685	$ 670	-$ 15
	2%	-$ 434	$ 432	-$ 2
	4%	-$ 279	$ 282	$ 3
	8%	-$ 120	$ 125	$ 5
		Medium Scenario 1% Price Growth		
	0%	-$ 863	$ 836	-$ 27
	2%	-$ 545	$ 538	-$ 7
	4%	-$ 349	$ 351	$ 2
	8%	-$ 149	$ 155	$ 6
Western BoP		*Medium Scenario No Price Change*		
Discount	0%	-$ 2,078	$ 21	-$ 2,057
	2%	-$ 1,260	$ 13	-$ 1,247
	4%	-$ 774	$ 8	-$ 766
	8%	-$ 304	$ 3	-$ 301
		Medium Scenario 1.5% Price Growth		
	0%	-$ 3,031	$ 32	-$ 2,999
	2%	-$ 1,835	$ 19	-$ 1,816
	4%	-$ 1,124	$ 11	-$ 1,113
	8%	-$ 439	$ 4	-$ 435
Horowhenua and WBoP		*Medium Scenario No Price Change*		
Discount	0%	-$ 2,763	$ 691	-$ 2,072
	2%	-$ 1,694	$ 13	-$ 1,249
	4%	-$ 1,053	$ 8	-$ 763
	8%	-$ 424	$ 3	-$ 296
		Medium Scenario 1.5% Price Growth		
	0%	-$ 3,894	$ 868	-$ 3,026
	2%	-$ 2,380	$ 13	-$ 1,823
	4%	-$ 1,473	$ 8	-$ 1,111
	8%	-$ 588	$ 3	-$ 429

It is important to recognise, however, that the potential opportunity cost in the other four case study areas was 0%, which is considered more indicative of the national pattern. In any case, clause 3.4(2)[70] is expected to significantly limit the potential for the proposed NPS - HPL to bring about substantial change in urban growth patterns. That will act to limit the effect on the value of HPL in terms of its urbanisation potential.

Since the NPS - HPL is not expected to substantially impact on urban development prospects, especially as to the scale of urban development, we would expect nil or minimal opportunity costs to accrue to the property development sector. This conclusion applies to all the case study areas.

[70] Urban expansion may be allowed onto highly productive land only if, for the purpose of complying with the National Policy Statement for Urban Development 2020 (a) – (c).

4 Transaction Costs

This section considers net additional transaction costs for territorial authorities and developers (who may or may not be the landowner) attributable to the NPS-HPL. For the purpose of this CBA, transaction costs are limited to plan changes for urban expansion (that is, greenfield expansion into the rural general or rural productive zones). These would arise as a result of clause 3.4 (protecting HPL from urban expansion) and only apply to plan changes on land that would be mapped as HPL in a RPS (in accordance with clause 3.2[71]) or defined as HPL during the transitional period (in accordance with clause 4.2[72]).

4.1 Approach Overview

Clause 3.4 first directs that territorial authorities avoid zoning HPL in a rural zone to an urban zone unless there is insufficient development capacity to meet expected demand in the short or medium-term. The intent of this exception is to ensure that urban zoning continues to meet the requirements of the NPS – UDC/UD while also avoiding situations of enabling urban development on potentially productive land well before it is needed. In doing so, the NPS - HPL will help to leave HPL on the urban fringe available for land-based primary production for as long as possible before it is permanently lost to urban land use. It will deter plan changes (private or council initiated) for land that is not needed for short or medium term development.

M.E note that, as currently drafted, clause 3.4(2)(a)[73] may prevent territorial authorities from applying future urban or deferred urban zoning to HPL on the urban fringe that is intended to protect long-term urban growth opportunities – an approach widely adopted by both Auckland Council and Waipa District Council to ensure that land needed in the short, medium and long-term is available for future urban growth. Future urban zones are effective in preventing land from being subdivided for lifestyle blocks, which would in turn act as a barrier to future intensification and increase the price of the land on the urban fringe. The opportunity cost of limiting the application of future urban zones that take a long-term strategic view of growth may be mitigated by clause 3.5(2) (preventing subdivision of HPL into lots less than 4ha that enable a dwelling) and clause 3.6 (protecting HPL from other inappropriate subdivision, use, and development).

[71] Mapping highly productive land.

[72] During the transitional period, this national policy statement applies (with all necessary modifications) as if references to highly productive land were references to land that: (a) is in a general rural zone or a rural production zone; and (b) is LUC 1, 2, or 3 land; but (c) is not: (i) identified as a future urban area in a regional policy statement, a proposed regional policy statement, a district plan, or a proposed district plan; or (ii) identified, in an FDS or other strategic planning document published before the commencement date, for urban development over the next 10 years.

[73] urban explanation onto the highly productive land would assist in providing sufficient development capacity to meet expected demand in the short term or medium term for housing or for business land in the district (as identified in accordance with that national policy statement).

Assuming the first test is passed, clause 3.4(2)(b)[74] then directs that territorial authorities must not zone HPL in a rural zone to an urban zone unless it has been established that no other reasonably practical options for meeting short and medium-term growth exist. This requires plan changes requestors to assess (in accordance with clause 3.4(3)[75]), options for greater intensification of existing urban zones, and options for greenfield expansion on non-HPL land (if available), and how to keep the spatial extent of urban expansion to a minimum. As discussed previously in section 3.2.3, any alternatives (and including the proposed plan change) need to result in a well-functioning urban environment, else would not qualify as reasonably practical.

Feedback from case study councils is that an assessment of reasonable practical alternatives is well within the capabilities of Councils. The scope of work required strongly aligns with what is (or would be) carried out for strategic growth planning (at a district level) and structure planning (at a more localised level). Many councils would be expected to have this information to-hand already through existing strategic planning processes as well as NPS-UDC requirements if they are a high or medium growth area. Several case study councils had recently carried out plan changes to enable greater intensification in urban zones, with those plan changes underpinned by an evidence base that could easily be referenced.

Case study councils acknowledged that there would be some time and effort involved in incorporating and synthesizing the information (potentially spread over several documents or departments) into a plan change application. In some cases, external consultants may also be called upon to help with the assessment of alternatives (particularly if external consultants led the underlying strategic growth modelling or if the existing documentation did not have the geographic resolution applicable to the plan change). Overall, the requirement for Council's to assess reasonably practical alternatives within their plan changes was considered achievable and not a significant transaction cost.

On the contrary, assessing practical alternatives may not be typical for private plan change requestors to assess. In M.E's experience, private plan changes rarely consider spatial alternatives for meeting objectives under s32, and limit their assessment to their own land. Meeting this requirement may therefore require a shift in practice, more so for private plan change requestors. Private plan changes may be looking to Council documentation to aid them in this task. While this may not be covered in as much detail (or as objectively) as Council might, the expectation is that planners will be able to identify the alternatives and broadly assess their merits relative to the plan change option. This may include a brief evaluation of the advantages and disadvantages of different strategic growth areas where the plan change seeks to up-zone one of those option previously identified by Council.

Like councils, private plan changes may also rely on some external (non-planning) input for this task. This could take the form of a wider brief for an expert already addressing supply and demand issues for the plan change). If not covered in existing council documentation, data on building consents or new titles issued in existing urban areas are two sources of information that can be easily accessed and analysed to inform the trends on intensification (relative to greenfield areas) or the direction of recent market growth. It is this

[74] there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement).

[75] In order to meet the requirements of subclause (2)(b), the territorial authority must have considered: (a) a range of reasonably practicable options for providing the required development capacity, including: (i) greater intensification in existing urban areas; and (ii) urban expansion on land that is not highly productive land; and (b) how to keep the spatial extent of the urban expansion on highly productive land to the minimum.

type of additional work that is considered a transaction cost directly attributable to the NPS - HPL (that is, a requirement that adds to the cost of plan change preparation, over and above status quo costs).

As alluded to above, the significance of the transaction cost associated with clause 3.4(2)(b) will be mitigated where information is readily available. Assessment of the case study councils shows that strategic growth planning documents will largely fill the need to examine other options for growth. All the strategic planning documents assessed (whether FDS or other equivalent documents) have typically considered a range of locations for growth and evaluated these against a range of constraints and urban form outcomes. Of the case studies included in this CBA, only Ashburton District (a slow growth council) lacked a current strategic growth plan but a new growth strategy was planned to be carried out in the near future. Plan changes that give effect to growth areas identified through strategic planning are expected to have lower transaction costs as the work to assess reasonably practicable options will have been done for them (to a large extent).

The same cannot be said for plan changes that seek urban expansion outside of strategic growth areas. Such plan changes are recognised in the proposed NPS-UD (where councils are encouraged to "remain open to change and be responsive to demand"[76]. The onus is then on the requestor to demonstrate why their plan change site is a more practical option than the strategic growth areas (which are usually backed by considerable evidence and have landowner support as a result of consultative processes).

Where there is no non-HPL land on or near the urban fringe – a situation common to many of the urban areas within the case studies where LUC class 1-3 soils surround the urban boundary – the expectation is that assessing other practical alternatives under clause 3.4(2)(b) may be simpler (and less costly). Assessment of intensification options will still be relevant as well as confirming efficient urban environment outcomes in that particular part of the urban fringe compared to other fringe locations. The general requirement to demonstrate that the plan change minimises the area being zoned urban would still apply (i.e. an efficient use of the land).

Assuming that the second test is passed, clause 3.4(2)(c)[77] then directs that territorial authorities must not zone HPL in a rural zone to an urban zone unless it has been established that there is evidence of net benefits of urban zoning compared to protecting the HPL for land-based primary production. That evidence must consider, in accordance with clause 3.4(4)[78], environmental, social, cultural and economic costs and benefits over at least 30 years, as well as tangible and intangible values[79]. The NPS-HPL therefore requires that benefits to future generations are considered and that the argument is not limited to the most efficient use of the land based purely on a highest land-value approach.

While s32 already requires plan change requestors to consider costs and benefits to environmental, social, cultural and economic wellbeing, this NPS - HPL is intended to lift this practice within plan changes and feedback from the case study councils agreed that this would be required. There was greater uncertainty

[76] Planning for Successful Cities – A discussion document on the proposed NPS on urban development, page 38.

[77] there are net benefits from the urban expansion as compared to maintaining or protecting the land for land-based primary production.

[78] The assessment of net benefit required by subclause (2)(c) must be based on evidence that includes the following: (a) an assessment of the environmental, social, cultural and economic cost and benefits of zoning the land urban over at least 30 years; and (b) consideration of tangible and intangible values.

[79] See for example M.E's section 5 (non-market values of HPL.

as to what additional (transaction) cost this may mean for plan change preparation. The need for guidance from MPI on how this assessment of benefits and costs should be approached was a common theme in public submissions on the proposed NPS - HPL. It is expected that regional councils may be able to provide some relevant material on the values of HPL as a result of their HPL mapping process (under clause 3.2[80]), which can contribute to the evidence required at the plan change level.

Ultimately, the total quantum of transaction costs associated with urban expansion plan changes on HPL over the next 30 years (the study period of this CBA) will depend on how many such plan changes are likely to occur in each case study council over that period. Urban expansion plan changes on non-HPL areas on the urban fringe will not be subject to these transaction costs. The total transaction costs may also depend on whether the plan changes on HPL are council or privately initiated as this affects the ease of access to relevant technical information. It will also be influenced by whether the plan change gives effect to a strategic growth area (that was not already exempt from HPL mapping from the regional council). The transaction cost may also vary depending on whether the plan change occurs during the transitional period (where HPL may be more contestable) or after HPL has been notified (where HPL may be less contestable and the scale of the resource is better understood at a district and regional level). So timing is a key consideration.

These variables have guided M.E's approach to estimating transaction costs for the purpose of this CBA. These variables have been assessed for each case study council, in discussion with council representatives. Further detail of the assumptions applied in M.E's approach are summarised below. The case studies (Supporting Analysis Report and summarised in section 6 of this report) provide a discussion of local factors that would influence plan change transaction costs as well as detailed results.

Modelling Assumptions:

The assessment of transaction costs associated with the proposed NPS - HPL is based on direct consultation with the case study councils and a modelling methodology set out as follows:

- A semi-structured interview has been carried with a representative(s) from each case study council. The discussion contained in each case study is based on the notes taken from those meetings. Council representatives were given the opportunity to review the interview notes[81].
- An estimated schedule of future council and private plan changes for greenfield urban expansion by year for the next 30 years has been developed based on Council discussions. This considered projected demand over the short, medium and long-term and development capacity identified in existing zones, relevant future development strategies and other strategic planning documents.
- The projected count of council plan changes included District Plan Reviews (treated as a single plan change). For the purpose of this CBA, M.E has also treated submissions on a Proposed District Plan requesting urban expansion zoning the same as a private plan change outside of a District Plan Review. While it is typical for submissions on a District Plan Review to include far

[80] Mapping highly productive land.

[81] M.E would like to thank Ryan Bradley and Peter Vari (Auckland Council), Toni Durham and Ian Hyde (Ashburton District Council), David Totman (Waipa District Council), Phillip Martelli (WBOP District Council), Lauren Baddock (Horowhenua District Council) and Jesse Burgess and Benjamin Rhodes (Selwyn District Council) for their input to the transaction cost assessment of this CBA.

less evidence than a private plan change (with many of the costs of evidence borne by Council in reviewing the submission), in M.E's experience, there are many (best practice) examples where urban expansion submissions are comprehensively resourced with expert evidence and the same degree of care taken as if it were a private plan change[82]. The timing of plan changes by year has factored in the period following each District Plan Review where private plan changes are restricted[83].

- The likelihood of the projected plan changes giving effect to a strategic planning document(s) (including FDS, Growth Strategies, RPS urban limits and Area Plans) or not was considered. Variable costs were developed for each pathway, with plan changes that sought to expand outside of identified strategic growth areas/future urban area considered to be significantly more complex and expensive.

- The same strategic planning documents were evaluated in terms of their potential to make identified future urban areas on LUC class 1-3 land exempt from HPL after the transition period (in accordance with clause 3.2(2)[84] of the NPS - HPL). M.E has made these assumptions as they apply in each case study, erring on exclusion from HPL where the strategic planning document clearly identified suitability of the growth areas for short-medium term development[85]. Zoning on the urban fringe, specifically the presence of any future urban zones or rural lifestyle (or similar) zones was also considered by M.E in order to exclude these areas from HPL during the transitional period (clause 4.2[86] of the NPS - HPL).

- The urban expansion plan changes likely to occur on land defined as HPL in any year were then estimated as a share of total urban expansion plan changes projected over the next 30 years. These assumptions by M.E were based on a combination of the number of total projected plan changes in the short, medium and long-term and the proportion of LUC 1-3 land on the urban fringe (i.e. if HPL covered only a small area of the total urban fringe, then only a small proportion of plan changes were considered (based on probability) to occur on the HPL, and vice versa[87]). Only the plan changes estimated to occur on HPL were assessed for transaction costs in this CBA as only these plan changes would trigger clause 3.4[88] of the NPS - HPL.

[82] This is particularly apparent when the requested zone change is outside of Council's strategic growth areas (i.e. outside urban boundaries).

[83] Specfically, Clause 25(4), Schedule 1 which allows councils to reject plan change requests when the propsoed plan has been operative for less than two years.

[84] However, regional councils need not map land as highly productive land if any of the following applies: (a) there is strong evidence of permanent or long-term constraints (such as contamination or fragmentation) on the capacity of the land for land-based primary production, such that land-based primary production on the land is no longer economically viable: (b) the land is, at the commencement date, zoned as rural lifestyle: (c) the land is identified as a Significant Natural Area [(as defined in the National Policy Statement for Indigenous Biodiversity)]: (d) the land is identified in a published FDS or other strategic planning document as land suitable for urban development over the next 10 years: (e) the land contains one or more sites of significance to Māori.

[85] The proposed Leeston Industrial Zone in Selwyn District (part of the upcoming notified PDP) was one example of a growth area where M.E assumed it would be considered HPL because it was likely to be heard during the transitional period.

[86] Meaning of highly productive land during transitional period.

[87] The detailed case study assessments in the Supporting Analysis Report provide some discussion on what share of total projected plan changes were on HPL and included in the modelling.

[88] Protecting from urban expansion.

- Net additional transaction costs associated with clause 3.4 for council and private plan changes on HPL were estimated and applied to the count of plan changes by type. We note that only councils were interviewed for the assessment of transaction costs, but the scope of discussion covered council and private plan change costs (with most council's anecdotally having a good understanding of private plan change costs in their district).

- Not all case study councils were able to provide indicative figures on urban expansion plan change costs (in total or the net increase in transaction costs that may arise from the NPS – HPL). This was due mainly to an absence of urban expansion plan changes over the course of the current operative district plan (i.e. since the previous District Plan Review). This was the case with Horowhenua District and Ashburton District (no private or council urban expansion plan changes) and Waipa District (no private urban expansion plan changes).

- Selwyn District provided estimates of current plan change costs that give effect to strategic growth plans for their district (circa $100,000 applicable to council or private plan changes) and estimated net additional transaction costs (a base cost circa $20,000 applicable to council or private plan changes (an increase of 20%)). These costs were considered broadly transferable to Horowhenua, Ashburton and Waipa District[89]. WBoP District provided estimates of current council plan change costs for their district that give effect to strategic growth plans and incorporate structure plans (circa $250,000) and estimated net additional transaction costs (an upper limit base cost circa $50,000 (an increase of 20%)). Slightly higher costs than those in WBoP District were applied by M.E to plan changes in Auckland (in the absence of any Auckland specific data outside the Unitary Plan Hearing process). These assumptions were a total current plan change cost for urban expansion outside the Future Urban Zone of circa $300,000 for private plan changes and net additional transaction costs (an upper limit of 20% as agreed elsewhere) of $60,000[90].

- Where considered applicable by each council[91], a relatively higher cost was attributable to those plan changes occurring during the transitional period. This was estimated at 10% greater than plan changes occurring once HPL had been notified by the Regional Council (largely associated with greater challenges to the assumption of HPL for land-based primary production).

- Where considered applicable by each council[92], a relatively lower transaction cost was attributable to plan changes as the (cumulative) number of plan changes addressing the requirements of clause 3.4 in the district are decided on. This assumption of diminishing costs was based on cost saving associated with an established scope/template, greater certainty on compliance requirements, a greater evidence base to draw upon, and an increase in relevant case law. Indicatively, M.E have estimated that the second plan change is estimated to have

[89] Council's agreed with the applicability of these assumptions for the purpose of the CBA.

[90] The MfE National Monitoring System provides little assistance with private plan change costs in Auckland. 13 private plan changes are logged in the 2018/19 database but only council costs are recorded. Two examples (PC6 and 11) had council costs of between $162,000 (no appeal) and $226,000 (appeal). Council costs are expected to reflect only a portion of total private plan change costs.

[91] The assumption was applied in Auckland, Selwyn and Horowhenua District which all had plan changes projected within the transitional period.

[92] The assumption was applied in Auckland, Selwyn District and WBoP District. Elsewhere the low frequency of projected plan changes was assumed to cancel out the benefits associated with this assumption. Horowhenua District felt that each plan change would be sufficiently unique and present challenges that would offset any potential savings over time.

90% of the transaction costs of the first plan change under the NPS-HPL. The third, 80% of the first plan change etc. The fifth, 60%, followed by 5% reductions until 9 or more plan changes had occurred (set at 40% of the first plan change going forward).

- In any one case study area, any transaction cost factors agreed to apply to the base transaction cost estimates (inflators and/or deflators discussed above, i.e. the slight increase in costs within the transitional period and the slightly decrease in costs over time) are compounding (i.e. both apply).
- All costs are based on current costs/prices although total costs over 30 years have also been expressed in PV terms.

In summary, M.E have developed an indicative scenario of future plan changes that seek urban expansion on HPL over the next 30 years for each case study area. As identified above, the count and timing of the plan changes (by year) takes into consideration recent trends in the split between council initiated and private initiated plan changes, the effect of strategic planning on the location and frequency of urban expansion plan changes, the geography of LUC class 1-3 soils around the urban areas, the rate of growth expected in urban areas, the current capacity of urban zones (and future urban zones) to accommodate growth and the lead-in time of urban zoning (including requirements under the NPS-UDC). The development of these scenarios has also included a desk-top review of current and recent plan changes to each operative district plan.

The resulting scenarios of the count of future urban expansion plan changes on HPL (by type) are indicative – the exact number, timing and cost of future plan changes is highly uncertain, particularly in the medium and long-term.

4.2 Transaction Costs - Results

Figure 4.1 shows that across the six case study areas, a total of 10 plan changes for urban expansion on HPL are estimated in the transitional period, a further 4 are estimated in the medium-term (i.e. years 4-10) and a further 23 are estimated in the long-term (i.e. years 11-30). This distribution reflects the reality that most of the case study councils have already provided for short-medium term growth in their district plans or strategic planning documents and that only once you get into the long-term period would current urban capacity start to diminish and re-zoning additional greenfield land (that may be HPL) become necessary to provide for growth beyond 2050 (say).

Figure 4.1 - Projected Count of Urban Expansion Plan Changes on HPL – Combined Case Studies

Case Study Council	PC Type	Short Term (Transitional Period)	Medium Term	Long Term	Total (30 Years)
Estimated Distribution of Urban Expansion Plan Changes on HPL *					
Total Case Studies	Council	4	2	10	16
	Private	6	2	13	21
	Total	10	4	23	37

Counts developed through discussion with the Council. Indicative only for the purpose of this CBA. Does not include all projected plan changes or even all projected urban expansion plan changes, only those likely to be on HPL.

** Council plan changes include District Plan Reviews. Private Plan changes include requests for zoning submissions on Proposed District Plans on the basis that the same information requirements would be needed.*

Figure 4.2 summarises estimated net additional transaction costs for councils and private plan changes in the six case studies combined that may seek urban expansion on HPL over the next 30 years. These estimates apply a base transaction cost per plan change (as applicable to each case study), inflated or deflated depending on the timing of the plan change during or after the transitional period and any likelihood of diminishing transaction costs over time (if agreed by each Council) and as discussed above.

Figure 4.2 - Projected Net Additional Cost of Urban Expansion Plan Changes on HPL – Combined Case Studies

Case Study Council	PC Type	Short Term (Transitional Period)	Medium Term	Long Term	Total (30 Years)	PV (8% Discount Rate)
Estimated Net Additional Plan Change Cost* Attributable to Clause 3.4(1)(b) and (c) $						
Total Case Studies	Council	$ 88,000	$ 40,000	$ 269,000	$ 397,000	$ 175,000
	Private	$ 169,000	$ 58,000	$ 234,500	$ 461,500	$ 246,000
	Total	$ 257,000	$ 98,000	$ 503,500	$ 858,500	$ 421,000

Costs developed through discussion with case study councils. Where costs were not estimated, costs estimated by other case study council have been applied. Indicative only for the purpose of this CBA. Does not include all projected plan changes or even all projected urban expansion plan changes, only those likely to be on HPL (see table above).

** Costs vary by case study council based on discussions with council staff. Where considered applicable, costs may vary before and after HPL has been mapped, over time (precedent and increasing case law effect) and whether the plan change gives effect to a strategic planning document or not.*

Over the study period, there are total estimated net additional transaction costs attributable to the NPS - HPL (clause 3.4(2)[93]) of $397,000 (undiscounted) for case study councils and $461,500 (undiscounted) for private developers in the case study areas. This gives a total estimate of transaction costs over the long-

[93] Urban expansion may be allowed onto highly productive land only if, for the purpose of complying with the National Policy Statement for Urban Development 2020: (a) urban explanation onto the highly productive land would assist in providing sufficient development capacity to meet expected demand in the short term or medium term for housing or for business land in the district (as identified in accordance with that national policy statement); and (b) there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement); and (c) there are net benefits from the urban expansion as compared to maintaining or protecting the land for land-based primary production.

term of $858,500 (an average of $23,000 per plan change). In present value terms (discount rate of 8%[94]) the total cost is $421,000 which is an average of just over $11,000 per plan change.

The average (undiscounted) cost per council plan change is estimated at $24,800 (although the estimated average in just Selwyn District is as low as $18,700 per council plan change over the long-term). In present value terms (8% discount rate) this averages just under $11,000 per plan change. The average cost per private plan change is estimated at $22,000 (although the estimated average in Selwyn District is as low as $8,000 per private plan change). In present value terms (8% discount rate), this averages just under $12,000 per plan change).

This assessment for the six case study councils shows that estimated transaction costs are not expected to be significant over the next 30 years. A key finding from the assessment and feedback from case study councils was that in most case study areas, strategic planning has already been effective in zoning sufficient land for urban growth in the short-medium term which reduces the need for further urban expansion within the next 30 years. Second, strategic planning is already effective in minimising (or totally eliminating in some cases) ad-hoc urban expansion from private plan changes and this is expected to continue in the long-term. The significant majority of the transaction costs estimated to apply to private developers is associated with a small number of opportunistic private plan changes anticipated to continue (at a low frequency) in Auckland despite a clear strategic growth framework and sufficient long term zone capacity.

Figure 4.3 shows the total projected plan change costs (combined council and private plan changes across all case study areas), broken down by the net additional transaction cost attributable to the NPS - HPL (Figure 4.2) and the rest of the plan change preparation cost unaffected by the NPS – HPL. This status quo costs assumes the current indicative plan change cost adopted for the modelling remains unchanged in the with-NPS future (i.e. the cost per plan change is held constant).

Figure 4.3 – Estimated Total Case Study Transaction Costs Relative to Total Plan Change Costs With NPS

Breakdown of PC Costs (With NPS)	Short Term (Transitional Period)	Medium Term	Long Term	Total (30 Years)	PV (8% Discount Rate)
Total Council and Private Plan Change Costs - All Case Study Areas Combined					
NPS Cost	$ 257,000	$ 98,000	$ 503,500	$ 858,500	$ 421,000
Status Quo Cost	$ 1,400,000	$ 600,000	$ 3,750,000	$ 5,750,000	$ 2,557,000
Total Cost With NPS	$ 1,657,000	$ 698,000	$ 4,253,500	$ 6,608,500	$ 2,978,000
Share of Total Plan Change Costs					
NPS Cost	16%	14%	12%	13%	14%
Status Quo Cost	84%	86%	88%	87%	86%
Total Cost With NPS	100%	100%	100%	100%	100%

Source: M.E Plan Change Transaction Cost Model. Assumes status quo plan change costs remain constant over the long-term.

During the transitional period, the net additional transaction costs account for 16% of total plan costs for urban expansion on HPL. This decreases to 14% in the medium-term, and 12% in the long-term. The average share across the next 30 years is estimated at 13% (or 14% in present value terms).

[94] Under a 4% discount rate, the total present value cost is $567,000 (average = $15,300 per plan change). Under a 2% discount rate, the total present value cost is $687,000 (average = $18,600 per plan change).

M.E has not projected urban expansion plan change costs on non-HPL across the case study councils. However, if added to the figures above, the total transaction cost attributable to the NPS – HPL of $421,000 (present value, 8%) that applies to a portion of expected future urban expansion plan changes would represent a very minor share of total urban expansion plan change costs, if quantified.

Further, at an average transaction cost of just over $11,000 per plan change over the long-term (present value, 8%), M.E consider that the impact on the potential return on development from an approved plan change would be negligible[95]. As such, M.E does not consider that the estimated additional cost of preparing a plan change under the NPS-HPL would be a deterrent to those councils/developers wanted to pursue a plan change on HPL in the future.

[95] Any flow on effect of the transaction cost on the price of urban sections in approved urban expansion zones across the case study areas would be also be negligible in M.E's view.

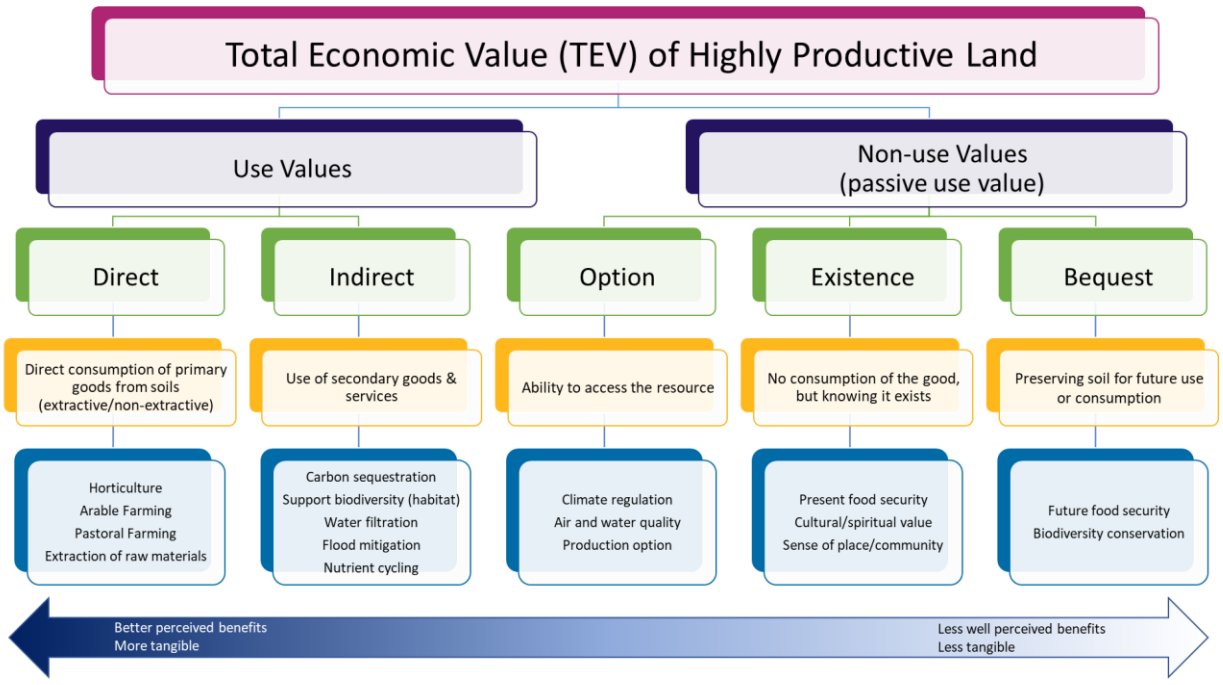
5 Wider Costs and Benefits

While previous sections have examined various costs arising from the NPS – HPL, this section identifies the key benefits that could be realised if HPL is protected from inappropriate subdivision, use and development. It begins with a summary of findings from a literature review carried out on the total economic value, and especially non-market values, of HPL. The full literature review can be found in the Supporting Analysis Report. This is followed by a brief discussion on potential costs and benefits of the NPS – HPL on communities. The final section quantifies the benefits of redirecting rural lifestyle subdivision away from HPL in terms of avoided losses in land-based primary production gross output.

5.1 Non-market Values of HPL

Examination of the literature shows that HPL is an environmental resource that has value beyond its current or potential, tangible uses. It performs roles (and provides services) that do not necessarily produce marketable/traded outputs but provide vital services for the common good. The value of HPL is therefore not limited to those that use the resource (i.e. landowners), but those that could use it in the future as well as wider societal welfare benefits.

Figure 5.1 – Total Economic Value of Highly Productive Land – Identification of Values by Type



The values of HPL can be summarised using a Total Economic Value (TEV) approach (Figure 5.1). The TEV framework helps to ensure that relevant human-held use and non-use values generated now and in the future are identified (and can therefore be recognised in decision making).

The use values of HPL include both extractive and non-extractive uses. The direct use value of HPL includes the value of growing food, fibre or fuel. These fall under the umbrella or pastoral and arable farming, horticulture and forestry. Under an ecological services approach, these are the provisioning services provided to humans by HPL. The consequent effect of these direct uses is income and employment (rural livelihoods) and in turn wider economic impacts in terms of upstream and downstream supply chains. The direct use value of HPL is inexplicably linked to New Zealand's reputation as a high quality producer of primary products.

The non-market values of HPL begin with the regulating services provided by both the soil, and the land generally. Many of these services are essential for human existence and contribute to the wellbeing of the wider public. HPL indirectly delivers ecological functions such as water purification/filtration, water storage for plants to use and flood regulation, habitat for many different creatures (supporting biodiversity), nutrient cycling and climate regulation through carbon sequestration. The value of these benefits is not limited to private owners of HPL. As such, the market 'price' of HPL does not adequately capture the public benefits that arise from HPL's ecological functions. These regulating ecological services have no developed market and so there is no simple way to estimate the value accumulating to all households.

An important component of the non-market value of HPL is its option value. This is a non-use value that relates to the willingness of current generations to pay for retaining the option to use HPL if they want to sometime in the future. Elsewhere in this CBA, M.E have examined the opportunity for landowners to use HPL in the future for lifestyle living or urban development (and the cost of not being able to under the NPS – HPL). Option value in this context is the opportunity to use HPL for land-based primary production as well as derive benefit from its air, water and climate regulating functions. If HPL is not protected, then this option value is lost (an opportunity cost).

Option values are generally higher when they apply to non-renewable resources such as HPL. While there may be practical options to redirect lifestyle properties or urban expansion to other locations, primary production cannot be transferred to non-HPL land without a significant reduction in efficiency and sustainability, or a complete loss of commercial feasibility. Option value for future farming or horticulture on HPL is therefore significant, especially when the uncertainty of the future is factored in (i.e. potential changes in demand or supply may drive the future use value of HPL up (or down).

Other non-market values of HPL are existence and bequest (or legacy) values. These intangible non-use values are more subjective, and this adds greater complexity to their measurement.

The existence value of HPL is the value of knowing it exists and will continue to do so. It relates to the value of present food security, cultural and spiritual value and a sense of place. Those that value HPL for its existence are not constrained to any location or geography – existence value is not contingent on proximity to the resource. This means that when HPL is lost (i.e. to urban development), it is members of the wider public that experience a loss in value.

To date there has been very little research on the social and cultural functions (and cultural perspectives) of natural capital and the associated values for the health and well-being of human societies. However, in

New Zealand soil is an important cultural and spiritual resource for Māori. Land, soil and water are treasured by Māori – they are spiritually connected to the land and soil. Such values need to be considered.

Similarly, the HPL resource is often valued in the sense that it forms part of the landscape. Both individuals and groups in society can have a deep connection to the land and derive social value from it. HPL can contribute to a sense of belonging and place. This sense of identity is intimately connected with the events and history of the land including its past use. In some cases, HPL has been farmed by multiple generations of the same family – such families have a strong tie to that land.

Urban expansion and rural lifestyle and other Inappropriate development on HPL can therefore change or destroy locally distinctive characteristics of New Zealand's rural environment and damage cultural and other existence values, including creating a break between communities and their past or present identity.

The last broad category of non-market values of HPL is bequest values – the value people place on knowing that future generations will have the option of using and deriving benefit from HPL (even if that use if different from what we know today). Bequest values include future food security (i.e. knowing that future generations will be able to grow food and feed themselves and others) and the future value of maintaining biodiversity.

While all of these non-market values (benefits) of HPL are able to be identified, they are not able to be monetised, especially at a case study level that would be consistent with other costs monetised in this CBA.

Attaching accurate monetary value to HPL and the services it provides is extremely challenging. Key issues that arise with asking individuals to ascribe values to resources such as HPL are that they have imperfect information (particularly around the trade-offs associated with development or protection of HPL), they may not understand or perceive the way in which HPL influences wellbeing, and their understanding of outcomes for future generations is often limited. Values may be lower where there is an abundance of HPL and may be higher where the resource is scarce. Values are also influenced by factors such as income, occupation or whether a person is an urban or rural dweller. These factors mean that there is a high degree of risk that measuring values based on small and localised samples of the population may over or under-represent the non-market values of HPL. Robust surveying of non-market values is therefore complex and costly and has not been attempted in this CBA. Indeed, many researchers would argue that any attempt would be inappropriate.

5.2 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 LUC 1-3 land. 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 LUC 1-3. 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. 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 rolls, 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 the lesser share of total 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 and higher densities. 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 (notably the NPS-UD). 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 land-based primary production economy (discussed further below). 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[96] and therefore helps sustain communities and the social connections, cultural identify (discussed above in section 5.1), earning potential etc that comes with that. Combined, these benefits arising from the NPS - HPL, while unquantified, are considered significant.

5.3 Benefits to Land-Based Primary Production Output

As a direct consequence of the redirection of lifestyle subdivision under both the High Regulatory and Low-Medium Regulatory Response 'with NPL' scenarios discussed in section 3 of this report (Opportunity Costs), there is an associated benefit for retained land-based primary production output. This modelling is included

[96] Refer section 2 of the Supporting Analysis Report.

in the Supporting Analysis Report for each case study. Key assumptions to M.E's modelling are summarised below:

Modelling Assumptions:

- The effects on land-based 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 land-based primary production employment associated with each area of HPL 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 HPL resource affected under the Status Quo scenario and relative to the 'with-NPS' scenarios), factored according to the structure of gross output for each primary production sector within each 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 primary production 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 as a result of the NPS - HPL, then the lower the opportunity cost in terms of foregone primary production (i.e. the greater the opportunity benefit).
- This means that rural landowners on HPL with potential to subdivide their land for lifestyle property demand experience both an opportunity cost in terms of forgone capital gains from subdivision (section 3) and an opportunity benefit for earnings from primary production under the NPS – HPL. Conversely, rural landowners on non-HPL that experience increased potential to subdivide their land for lifestyle property demand as a result of protection of HPL from inappropriate rural fragmentation experience both an opportunity benefit in terms of capital gains from subdivision (section 3) and an opportunity cost for foregone earnings from primary production under the NPS – HPL.
- While value uplift from subdivision may occur only once (per title), the output from primary production is a year on year benefit that could be sustained over the long-term. This CBA quantifies only the forgone output avoided over the next 30 years.

5.3.1 Primary Production Benefit Results

Key outcomes for primary production gross output are estimated as follows (Figure 5.2).

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 $51m annually in 2028, $101m in 2038 and $164m annually in 2048.

b. Over the whole period 2018 to 2048, the cumulative reduction in primary production (gross output terms) would be some $2.34bn (undiscounted) including $1.33bn on HPL, and $1.01bn on other land.

c. In present value terms, the reduced output from rural lifestyle subdivision demand on HPL would be $331m and on all land it would be $575m[97].

d. In the Low-Medium Regulatory scenario, a smaller share of the lifestyle subdivision would occur on the HPL. The total opportunity cost (foregone primary production) would be $1.99bn (undiscounted) and $505m (discounted) over 30 years to 2048. This includes $968m on HPL ($244m discounted) and $1.02bn on other land ($259m discounted).

e. In present value terms, the opportunity cost on the HPL would be $86m less than in the Status Quo future, however the foregone production on the other land would be some $13m more. In net terms, the foregone production would be $70m less in gross output terms in the Low-Medium Regulatory future. This includes an estimated $52m of labour and resource costs (inputs to production needed to generate that much gross output).

f. In the High Regulatory scenario, with virtually no lifestyle subdivision occurring on the HPL, the total opportunity cost (foregone primary production) would be $1.16bn (undiscounted) and $310m (discounted) to 2048. This includes just $9m on HPL ($3m discounted) and $1.15bn on other land ($309m discounted).

Figure 5.2 – Combined Case Study 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
	(Gross Output $m)								
2028 (annual)	$ 29	$ 22	$ 51	$ 23	$ 24	$ 48	$ 0	$ 33	$ 33
2038 (annual)	$ 59	$ 41	$ 101	$ 43	$ 46	$ 88	$ 0	$ 47	$ 48
2048 (annual)	$ 89	$ 80	$ 164	$ 63	$ 65	$ 127	$ 0	$ 70	$ 71
2018-2048 (Cumulative)	$ 1,334	$ 1,011	$ 2,344	$ 968	$ 1,024	$ 1,993	$ 9	$ 1,153	$ 1,162
Difference v SQ				-$ 366	$ 13	-$ 352	-$ 1,325	$ 142	-$ 1,183
PV (2018-48) 8%	$ 331	$ 246	$ 575	$ 244	$ 259	$ 505	$ 3	$ 309	$ 310
PV Difference v SQ				-$ 86	$ 13	-$ 70	-$ 328	$ 63	-$ 265

Source: M.E Lifestyle Parcel Model 2019

g. In present value terms, the opportunity cost on the HPL would be $328m less than in the Status Quo future, however the foregone production on the other land would be some $63m more. In net terms, the foregone production would be $265m less in gross output terms in the High Regulatory scenario. This includes an estimated $197m of labour and resource costs (inputs to production).

h. This represents a positive economic effect in terms of foregone output from protecting the HPL resource of between $70m and $265m in present value terms (Low-Medium and High Regulatory Scenario respectively) over the next 30 years. Although the total land area taken up by lifestyle subdivision is slightly larger under the High Regulatory NPS - HPL scenario, almost none occurs on

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

HPL. The difference in potential productive output from HPL and non-HPL (per hectare) means that the avoided loss of productive output on the HPL area outweighs the lower potential output that could otherwise occur across the larger non-HPL area. This positive economic effect can be expected to continue beyond the study period assessed in the CBA.

While this CBA has estimated the avoided loss of productive output that could occur from redirecting rural lifestyle subdivision away from HPL in each case study, the avoided loss of productive output arising from redirecting urban expansion away from HPL (where practical) has not been modelled. Where primary production is occurring on rural land already zoned or identified for future urban growth, this loss of primary production is a sunk-cost. Some loss of primary production to urban expansion where it is not possible to avoid HPL *and* achieve a well-functioning urban environment is expected in some of the case study areas and this loss is neither prevented by or attributable to the NPS – HPL.

As per the discussion on urban expansion opportunity costs in Section 3, the area of urban expansion that is projected over and above the capacity provided in existing zones and identified in strategic planning documents, and that can be influenced by the NPS – HPL, applies only to a small area (i.e. 30ha) in Horowhenua and an estimated 100-200ha in WBoP District over the next 30 years. By redirecting this growth to non-HPL areas on the urban fringe, a net benefit in terms of long-term productive output would, in theory, be expected. However, as urban expansion is expected to take up land immediately adjoining the urban fringe, it is likely that these rural parcels are not currently used for intensive primary production and their current productive output is estimated to be low on a per ha basis. This, combined with the relatively small volumes of rural land impacted by urban expansion over the next 30 years, indicates that any loss of productive output from avoided urban expansion on HPL is expected to by only minor (and insignificant compared with the avoided losses that could be achieved from redirecting rural lifestyle subdivision).

6 Case Study Analysis Summary

While the NPS – HPL will achieve a degree of consistency in how territorial and unitary authorities manage and protect HPL, the impact of the NPS – HPL will be felt differently in each council area. Costs and benefits will vary according to the existing planning framework, the scale and geography of the HPL resource, the nature of the primary production sectors and their role in the local economy, household growth rates and the relative demand for urban or rural lifestyle living and more. The six case studies examined for this CBA have highlighted the variability of costs and benefits that may be expected to arise following commencement of the NPS – HPL. This section provides a high-level summary of the six case studies, noting that some combined case study results have already been reported in previous sections. The full case study assessments can be found in the Supporting Analysis Report.

6.1 Ashburton District – Summary

6.1.1 Key Findings Ashburton District

- The NPS – HPL may exacerbate a modelled shortfall of capacity for rural lifestyle subdivision in the long-term, but only if the council does not respond to demand by zoning additional capacity on non-HPL.
- The net opportunity cost to landowners associated with rural subdivision under the NPS – HPL is estimated at $51m to 2048, although this is largely driven by much fewer lots able to be created compared to the status quo, so is considered a maximum opportunity cost.
- Ashburton township may require greenfield expansion in the medium-term.
- As Ashburton township is surrounded by HPL there are no practical alternatives for greenfield expansion that avoid HPL and result in a well-functioning urban environment.
- No opportunity costs associated with urban expansion of Ashburton will apply under the NPS – HPL.
- Transaction costs for council for future urban expansion plan changes on HPL are expected to be minor over the long-term (total cost of $60,000 or $26,000 in present value terms).

6.1.2 HPL Resource (LUC 1-3)

Ashburton District is part of Canterbury Region and in 2018 was home to an estimated 34,480 residents and 14,000 households. The majority live in Ashburton township itself (59% of households) which is a 'Medium Urban area' as defined by StatisticsNZ. A further 10% live in the 'Small Urban areas' of Rakaia and Methven and the remaining 31% live in the rural area which includes the 'Rural Settlements' of Lake Hood, Hinds and Mt Somers.

The district has over 227,390 ha of LUC 1-3 land (Figure 6.1) and this forms part of the area known as the Canterbury Plains. LUC 1-3 land covers an estimated 37% of total land area in the district and this coverage is the 13th highest of all territorial authorities[98]. Ashburton District's LUC 1-3 land makes up an estimated 5.9% of all LUC 1-3 land in New Zealand so is very significant in that context (the second highest contribution after Southland District which has 12.3% of the national resource). There is just over 6,830 ha of LUC class 1 land, 58,680 ha of LUC class 2 land and just over 162,420 ha of LUC class 3 land. It is noted that Canterbury Regional Council policies relating to HPL currently relate to LUC classes 1 and 2 (and this approach flows through to the Ashburton District Plan).

6.1.3 Economy

The productive alluvial LUC 1-3 land drives much of the economic activity that occurs in Ashburton District – either directly or indirectly. The Ashburton Operative District Plan already recognises the importance of the land-based primary production sector for the social and economic wellbeing of the current and future community.

Ashburton is a pastoral farming area and has over 1,510 farming businesses employing over 2,660 workers or 14% of the district's total employment (2017). There is a strong correlation between the location of the farms and LUC 1-3 land. Nearly 60% of total High Producing Exotic Grassland is located on LUC 1-3 land and nearly 42% of Short Rotation Cropland. This does however show that what might be considered HPL in Ashburton District may not be limited to LUC 1-3 if all of these land covers were to be protected in future. These two landcovers account for 97% of all LUC 1-3 land cover. Horticulture is a minor sector in the district, but also highly dependent on locations with LUC 1-3. Protecting HPL in Ashburton District has wide reaching economic and social benefits.

6.1.4 Current Rural Zoning Approach

The Operative District Plan currently provides for a small area of Rural Residential zone. An estimated 61% of this zone is made up of HPL (465 ha). However, the HPL 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 which can consolidate rural residential development in close proximity to urban centres.

The Rural A Zone was provided to enable larger rural lifestyle properties in close proximity to urban areas (with a minimum permitted dwelling density of 8ha) while still protecting productive land use found in these peri-urban locations. It zones land on the outskirts of the urban and rural settlements of the District. While the zone in total contains 8,145 ha of HPL (88% of the zone area), this is also only a small share of total HPL in the district (4%).

The extensive Rural B (Plains) Zone (minimum permitted dwelling density of 50ha[99]) contains 213,766 ha of HPL – this makes up an average of 70% of the zone and accounts for 95% of the total HPL resource in the rural environment. This means that targeting the Rural B Zone when defining HPL under the NPS - HPL

[98] Including unitary authorities.

[99] Lots that existed prior to the district plan being made operative can provide for a dwelling density of 2ha as a permitted activity in both the Rural A and B zones.

will generate the greatest benefits in the context of Ashburton. Finally, the Rural C (High Country) Zone is just as extensive as Rural B, but only 1% of it contains HPL (1,524 ha). This makes up 1% of the total rural HPL resource.

6.1.5 Current Planning Approach as it Relates to HPL

The Operative District Plan is highly aligned with the intent of the NPS – HPL. For example, it recognises that much of the land that surrounds Ashburton and Methven urban areas consist of highly productive soils (noting that consideration is limited to LUC 1 and 2) and that further subdivision of that land to accommodate residential growth makes their "*long term productive use most unlikely*", and prevents them from being able to meet the needs of future generations for primary production. However, the Plan also acknowledges "*that not all new growth will be able to be accommodated within the existing settlements*".

The District Plan 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 even if this results in the loss of some HPL. The District Plan also seeks 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.

Avoidance of highly productive and versatile land is already a key criterion for Council when considering urban expansion. This suggest a cost-benefit type approach has been applied to their decision making to date. Further, the approach appears reasonably aligned with concerns identified in the NPS – HPL regarding urban expansion. There are objectives that seek to provide for growth when and where needed while avoiding sprawl and "*unnecessary extensions of urban areas*" and achieving a compact urban form with efficient outcomes for infrastructure provisions.

Council staff consider that the NPS-HPL will not mean a material shift for their Operative District Plan in order to manage urban expansion and protect HPL. The provisions already give significant priority to productive land, given that their local economy depends upon it.

Council officers noted that if an expression of interest for a private plan change for urban expansion came tomorrow (hypothetically), the Council would already be asking the requestor to provide evidence that the existing zones were not capable of providing for growth and to establish the benefits of urban expansion over and above retaining the land for primary production. If an option was available to develop on non-HPL, asking to develop on HPL would be very hard to justify according to Council (even in the absence of the NPS - HPL). Given that this is also the intent of the NPS requirements (3.4(1)), this indicates that the NPS - HPL is likely to generate marginal/minor transaction costs for future urban expansion private plan changes in Ashburton District (if any).

Other provisions in the Operative District Plan currently support the efficient functioning of primary production, avoid activities that are inappropriate in rural zones, avoid expanding urban areas towards intensive primary production activity, while at the same time avoiding the expansion of intensive primary production close to urban boundaries (which might constrain future growth opportunities).

Provisions in the Ashburton District Plan also recognise many of the other values (benefits) of HPL with objectives and policies that maintain or enhance the amenity, character and natural and visual qualities of the rural environment while enabling the effective and efficient use of the land. Minimum lot sizes (i.e. 8ha in the Rural A Zone and 50ha in the Rural B and C Zones) have also been set with reverse sensitivity effects and productive use in mind.

6.1.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties (as defined by CoreLogic data[100]) in Ashburton District grew rapidly in the mid-2000s but growth slowed from 2010 onwards. Between 2015 and 2019 there was an estimated 70 additional rural lifestyle properties containing dwellings according to CoreLogic (around 18 per year on average over that period).

As at 2019 there is an estimated 1,691 total lifestyle properties in the district (CoreLogic). 77% of these lifestyle properties are estimated to contain a dwelling but no other significant productive use. The balance are vacant lifestyle properties that do not currently contain dwellings and indicatively contain some form of primary production activity.

The 23% of lifestyle properties that do not contain a dwelling may indicate a number of potential outcomes in Ashburton District. First, that more lifestyle properties were created than there was demand to occupy them (or they were created in locations where there was no market demand). Second, that some rural fragmentation is not specifically for the purpose of creating a lot for a rural lifestyle dwelling. Third, that not all lifestyle properties will result in a loss or absence of productive activity. As many of these lots may be capable of having a dwelling (under current zone standards), the CoreLogic data may suggest that there is capacity to accommodate more dwellings in the rural area without further fragmentation[101]. This may or may not result in a loss of existing productive output (if applicable) if ownership changes and a dwelling is developed.

M.E examined the land parcels in Ashburton's rural area that could be further subdivided under the operative minimum lot size provisions (based only on the size of the parent lots and no other constraints). The analysis showed that there is significant indicative potential for further land fragmentation in areas with HPL (LUC class 1-3) - an estimated 810 parcels totalling 133,678 ha that include 104,004 ha of LUC class 1-3 land. This area represents 48% of the total HPL area in rural zones that could be further subdivided. There are also large areas where subdivision can occur that do not contain HPL.

The NPS – HPL does not seek to avoid all subdivision on HPL, just that related to rural lifestyle development and other inappropriate land use and development. Further, not all of the subdivision potential will yield lots desirable or broadly suitable for rural lifestyle living, particularly given the minimum lot size in the Rural B and C Zone is 50 ha which is significantly larger than the typical lifestyle block.

Ashburton District is not expected to grow rapidly. Future demand for additional lifestyle lots that include a dwelling has been estimated on a direct pro rata basis with projected household growth in the district,

[100] Defined as properties of a size larger than residential and smaller than commercial farms and that can generally be managed by a single household and that may or may not contain a dwelling or productive use. This CoreLogic definition should not be compared with how lifestyle properties are defined in the Ashburton District Plan.

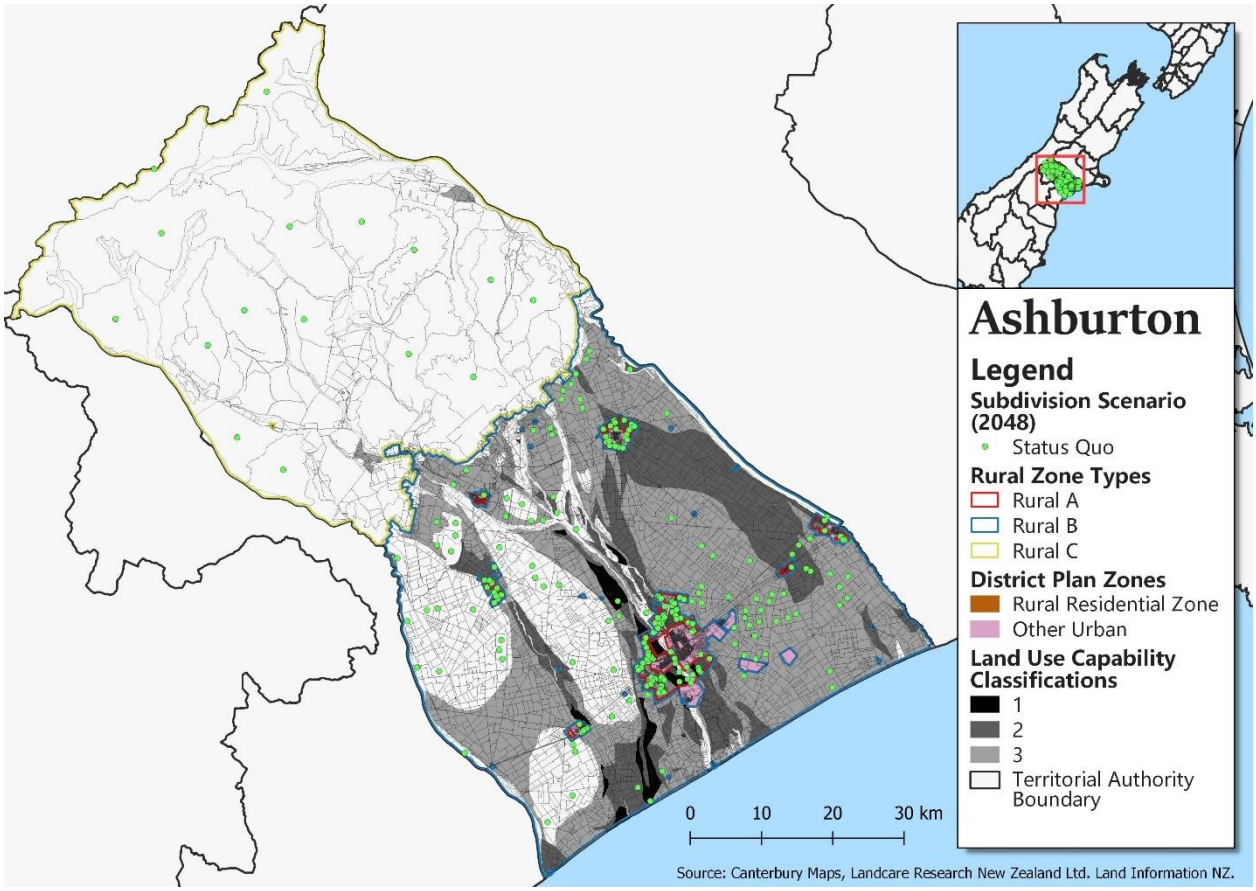
[101] M.E has not factored in this potential capacity in its modelling of rural lifestyle subdivision demand.

assuming that the number of lifestyle parcels remain more or less constant with the current share of total households (an implied 11.6%). The underlying Medium household projections indicate an additional 200 lifestyle parcels would be demanded by 2028 and 630 by 2048.

In the absence of the NPS – HPL (i.e. the status quo scenario), not all long-term demand for lifestyle properties is able to be met in M.E's modelling *if* current zones and minimum lot sizes remain unchanged (which is considered unrealistic but a necessary assumption for modelling purposes). While there is significant capacity for subdivision generally, the number of parcels that fit the profile and location of desirable lifestyle properties in Ashburton District are estimated to be exhausted well before 2048, with only an estimated 439 out of total demand for 630 able to be created. The modelled take-up of subdivision for rural lifestyle development is concentrated first in the Rural A Zone followed by some popular locations in the Rural B Zone and allowing for only a small number of larger lifestyle properties potentially attracted to the Rural C Zone.

Under the Status Quo future, the 439 additional lifestyle parcels would be distributed with 343 (78%) on HPL parcels, and the balance (96) on land without significant HPL resource. The additional parcels would take up 5,690 ha of HPL resource (Figure 6.1).

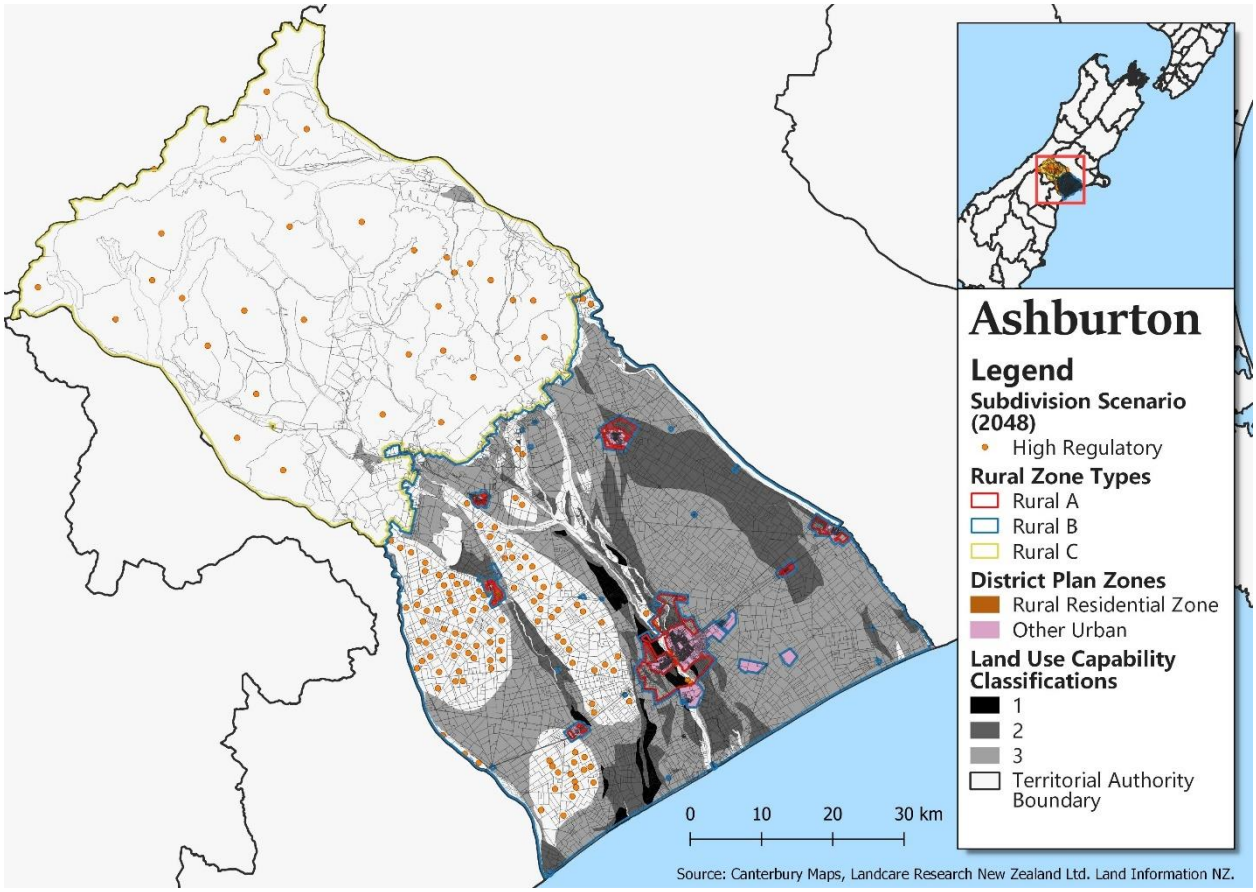
Figure 6.1 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



Under the 'with-HPL' outcome, it is assumed (High Regulatory Scenario) that all rural lifestyle subdivision on HPL is redirected to non-HPL within the district. For the purpose of the modelling, M.E has included the Rural A Zone within the area that may be mapped as HPL (thus preventing potential for further adverse cumulative effects of residential activity on existing/remaining pastoral farming activity in this zone)[102]. The operative minimum lot size provisions in the Rural Zones (and zone extents) are also assumed to remain in place. Again, both these key assumptions may be unlikely but avoids the need to speculate on council's response to demand and supply of rural lifestyle activity in the future.

With the NPS – HPL (High Regulatory scenario) a higher share of lifestyle demand would 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 (Figure 6.2). Given that 50 ha lots in Rural B and C Zones will be undesirable for most households wanting a rural lifestyle property (and the Rural C Zone would place future households some distance from urban centres), significantly less lifestyle blocks would be created over time (215 in total compared to 439 under the status quo by 2048). This means that a significant amount of lifestyle property demand by 2048 would be further constrained (over and above the status quo), although the model tests a worst case outcome. Constrained demand (if indeed likely) may be deflected to other living arrangements in Ashburton District or potentially directed to other districts (assuming no response by Council to provide for lifestyle growth on non-HPL).

Figure 6.2 –Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



[102] Canterbury Regional Council and Ashburton District Council may, collaboratively, take a different approach to this.

Under the status quo (creation of 439 additional lifestyle lots), the value uplift to land owners able to subdivide off land to create lifestyle properties is estimated at $25m on HPL land (159 new lots) and $31m on non-HPL land (245 new lots). Total uplift (capital gain) to landowners would be $56m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $5m uplift for landowners on non-HPL (associated with 215 new lots). The net opportunity cost to landowners with the NPS – HPL is therefore estimated at $51m, although this is largely driven by much fewer lots able to be created compared with the status quo (rather than simply a different spatial distribution of lifestyle properties). Because we would expect the Council to respond to a shortfall of capacity for rural lifestyle properties over time (through changes to the operative provisions), and the Rural A zone may not be mapped as HPL, this is considered a maximum opportunity cost for Ashburton District.

A key benefit of redirecting more rural lifestyle development to non-HPL in the Rural B and C Zones than would otherwise have been the case is that the productive output of HPL properties that would have been subdivided and developed with a dwelling by 2048 is able to continue into the long-term (and the option to undertake land-based primary production on HPL not already used for agriculture is also protected). The opportunity benefit (cumulative gross output from land-based primary production retained on HPL) would be $253m compared to the Status Quo future by 2048, however the foregone production on the non-HPL would be some $87m more than under the Status Quo. In net terms, the land-based primary production that is retained across the district would be $167m more in gross output terms (High Regulatory scenario). In present value terms (8% discount rate) this net opportunity benefit would be $42m and includes an estimated $31.2m of labour and resource costs to achieve that gross output (inputs to production).

6.1.7 Future Urban Growth and Potential Implications

The 2010 District Plan was quite ambitious in creating residential zones (and a range of zone types) for future growth and urban expansion. To date under that Plan (which became operative in 2014), Council have not needed to initiate any urban expansion plan changes and they have not had a single private plan change for urban expansion either.

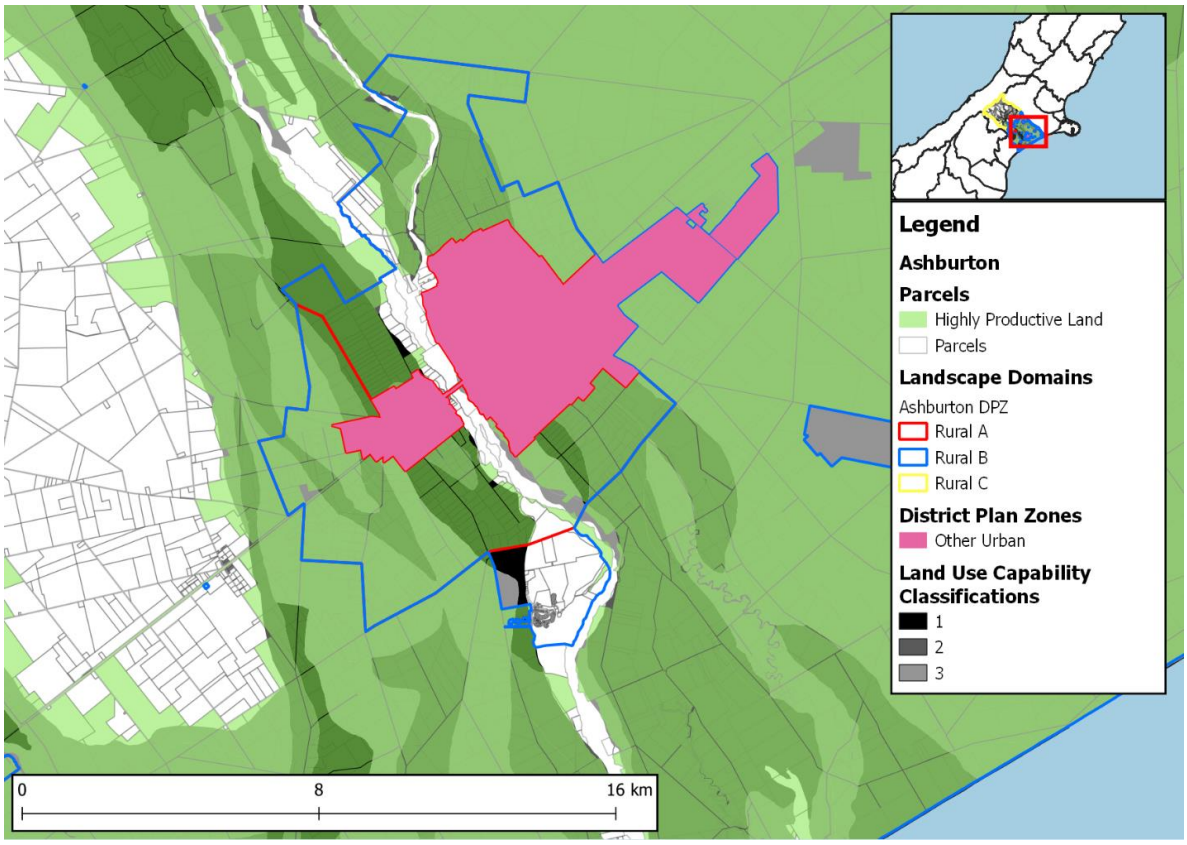
As at today (2020), not all of the zoned greenfield capacity has been taken up and so council still have capacity for growth that may be sufficient for the medium term future (estimated by M.E to be room for another 850 dwellings for modelling purposes). This reduces the likelihood that new greenfield expansion areas would be required within the next 10 years. Any new strategic growth planning that may be initiated in the near future is likely to be focussed on identifying growth areas suitable for medium-long term growth.

In terms of the land areas that may be required for future urban expansion of Ashburton township to 2048, M.E estimates that this could be around 190 ha of gross greenfield land (assuming an average lot size of 800sqm) to accommodate a further 1,650 dwellings. This is based on total district growth of urban dwellings from 2018 to 2048 of 3,600 (Medium growth outlook), 60% of this growth focussed on Ashburton township and taking into account the existing capacity in operative zones.

Because of the slow rate of growth projected, urban expansion plan changes are likely to be managed via District Plan Reviews only (i.e. three over the next 30 years). The likelihood of private plan changes being initiated to expand slow growing urban areas within Ashburton District is considered very low. Council staff noted that covering infrastructure costs is a deterrence for private plan changes in the district and they expect this to continue.

LUC 1-3 soils surround Ashburton township and most of the other small urban and rural settlements. There is no real practicable alternative for Ashburton to accommodate growth on non-HPL and clauses 3.4(2) and 3.4(3)[103] of the NPS - HPL can be expected to take effect. The closest non-HPL land is some kilometres away from the town edge, and it would not be feasible to retain Ashburton as a "*well-functioning urban environment*" if urban expansion were diverted to that land (Figure 6.3).

Figure 6.3 – Indicative HPL on the Ashburton Urban Boundary



On that basis, introduction of the NPS - HPL would not result in opportunity costs for existing HPL landowners (or developers) on the urban fringe resulting from foregone opportunity for urban development.

Council consider that the s32 task required under Clause 3.4(3) and 3.4(4)[104] would potentially be no more complex or costly than under their Operative District Plan. While not expected to be applicable, they felt that even private plan changes would be able to interpret Council's own data/research/ documentation to help populate a s32 report that met the intent of the NPS - HPL requirements in clause 3.4(1)[105]. Any

[103] In order to meet the requirements of subclause (2)(b), the territorial authority must have considered: (a) a range of reasonably practicable options for providing the required development capacity, including: (i) greater intensification in existing urban areas; and (ii) urban expansion on land that is not highly productive land; and (b) how to keep the spatial extent of the urban expansion on highly productive land to the minimum.

[104] The assessment of net benefit required by subclause (2)(c) must be based on evidence that includes the following:
(a) an assessment of the environmental, social, cultural and economic cost and benefits of zoning the land urban over at least 30 years; and (b) consideration of tangible and intangible values.

[105] Territorial authorities must not allow urban expansion onto highly productive land, except as provided in subclause (2).

additional costs would be minor and Council officers agreed no more than a 20% increase on the cost to prepare a plan change. Based on a current plan change cost for urban expansion of circa $100,000, an additional 20% applied to the next three District Plan Reviews implies a total transaction cost for Council associated with urban expansion on HPL under the NPS – HPL of $60,000 (or $26,000 in present value terms and an 8% discount rate). This is considered a minor cost for Ashburton District when considered over a 30 year time period.

6.2 Selwyn District – Summary

6.2.1 Key Findings Selwyn District

- Selwyn District is expecting strong household growth over the long-term, but this will be primarily focussed within the Greater Christchurch boundary.
- The NPS – HPL will not constrain long-term demand growth for lifestyle properties, but could direct subdivision to areas with larger minimum lots sizes on non-HPL unless the Council makes changes to the district plan at the time of implementing the NPS – HPL (or at some time in the future) to manage the location and density of lifestyle development.
- At the district level, the NPS – HPL may result in a maximum net opportunity benefit to rural landowners from rural subdivision of $286m by 2048.
- There is sufficient capacity in the current RPS urban limits to cater for long-term urban growth of Rolleston (the main urban area of the district).
- The NPS – HPL will create nil or minimal opportunity costs on existing rural landowners around Rolleston in the next 30 years.
- Across the total district, urban expansion plan changes on HPL are estimated to have total additional transaction costs of $112,500 to 2048 ($68,000 in present value terms). This is a minor cost attributable to the NPS – HPL.

6.2.2 HPL Resource (LUC 1-3)

Selwyn District is part of Canterbury Region (and adjoins Ashburton District which sits immediately to the south). In 2018 it was home to an estimated 61,900 residents and 20,100 households. The majority live in the rural area (46% of households) meaning that there is a large rural community that may be positively and/or adversely affected by the NPS – HPL. Approximate 25% of district households live in Rolleston which is a 'Medium Urban area' as defined by StatisticsNZ. The remaining 29% of households are spread across the 'Small Urban areas' and 'Rural Settlements'. The towns of Rolleston, Lincoln, West Melton and Prebbleton (and the rural land in between) falls within the Greater Christchurch boundary. Proximity to Christchurch is a key driver of growth in and around these towns and there are additional layers of regional planning policy that impact how this part of Selwyn District can grow and develop.

The district has over 140,550 ha of LUC 1-3 land (Figure 6.4) within the Canterbury Plains. LUC 1-3 land covers a moderate 21% of total land area in the district and this coverage is the 22nd highest of all territorial

authorities[106]. Selwyn District's LUC 1-3 land makes up an estimated 3.7% of all LUC 1-3 land in New Zealand so is very significant in that context (the 5th highest contribution to the national resource). There is 6,530 ha of LUC class 1 land, nearly 46,120 ha of LUC class 2 land and just under 87,910 ha of LUC class 3 land. As noted for Ashburton District, the Canterbury Regional Council policies relating to HPL currently address LUC classes 1 and 2 (and this approach flows through to the Selwyn District Plan).

6.2.3 Economy

The economy in Selwyn District is more diversified than say neighbouring Ashburton District, but land-based primary production is still a key feature of the economy (directly, and in terms of downstream processing etc).

Selwyn is mainly a pastoral farming area and has over 1,600 farming businesses employing over 1,920 workers or 9% of the district's total employment (2017). There is a strong correlation between the location of the farms and LUC 1-3 land. Roughly half of total High Producing Exotic Grassland is located on LUC 1-3 land and nearly 86% of Short Rotation Cropland. This again shows that what might be considered HPL in Selwyn District may not be limited to LUC 1-3 if all these land covers (for example) were to be protected in future. These two landcovers account for 95% of all LUC 1-3 land cover. Horticulture is a minor sector in the district (3% of employment), but also highly dependent on locations with LUC 1-3. Productive output per hectare and employment are higher in those Horticulture businesses located on HPL compared to those on non-HPL.

6.2.4 Current Rural Zoning Approach

The Operative District Plan (Rural Volume) currently provides for a small area of Rural Residential zone[107]. An estimated 13% of this zone is made up of HPL (just 5 ha), reflecting its location at the base of the Port Hills. The Inner Plains Zone is a broad band of land on the boundary of Christchurch City that extends into Selwyn District and includes the land around Rolleston. With a minimum lot size of just 4 ha, this extensive area provides for rural lifestyle properties in commuting distance to both Rolleston and Christchurch. The Inner Plains Zone contains 19,384 ha of HPL (76% of the zone area) and this accounts for 14% of the total HPL resource in the district, so would be a moderately significant loss of productive potential to rural lifestyle development if fully fragmented into these lot sizes which are generally un-economic for many types of primary production. The fragmentation is already significant.

The extensive Outer Plains Zone (minimum lot size of 20 ha) contains 102,655 ha of HPL – this makes up an average of 51% of the zone and accounts for a significant 75% of the total HPL resource in the rural environment. This means that targeting the Outer Plains Zone when defining HPL under the NPS - HPL will generate the greatest benefits in the context of Selwyn. There is also the Malvern Hills Zone which also has a 20 ha minimum lot size (22% HPL, 10,816 ha) – this is just 8% of the district HPL total. The Port Hills Zone (40-100 ha minimum lot size) does not contain HPL and the extensive High Country Zone (minimum lot size

[106] Including unitary authorities.

[107] The data identifies the Rocklands Existing Development Area as the only Rural Residential Zone Type. The District Plan Township Volume does provide a Living 2 and 3 Zone on the boundary of many urban areas – these range from a large lot residential to rural residential lots. M.E has not included these township zones in its modelling given that the NPS – HPL focusses on general rural and rural productive zones.

of 120 ha) has just 1% of land as HPL (just 2% of the district total). Overall, the two 'Plains' zones contain 90% of the HPL resource.

6.2.5 Current Planning Approach as it Relates to HPL

The operative district plan recognises the irreversible use of versatile soils as a resource management issue, but based on M.E's reading of the plan provisions, little is done to effectively manage effects on versatile soils.

In terms of managing residential expansion of urban areas within the Greater Christchurch part of the district, 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.*" One aspect of the UDS is to encourage new urban growth to be designed in a manner that integrates and connects to the existing township – an outcome also encouraged by the NPS – HPL (in accordance with outcomes sought by the NPS – UD).

Implementing the UDS required changes to a number of policy and legislative documents, including the RPS and, as a consequence, the Selwyn 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 to zone areas to cater for urban growth, including deferred living zones for the longer-term. This is combined with an urban limit (Projected Infrastructure Boundary) set out in the RPS for each urban area within Greater Christchurch, beyond which urban expansion cannot occur.

Some land within the urban limit of Rolleston was not rezoned at the same time as other 'greenfield priority growth areas', but Council indicate that a fast-track process is now underway to include those areas as future growth zones (Figure 6.6). This followed the recommendation of the Greater Christchurch Future Development Strategy (FDS). The capacity of these strategic growth areas is significant and is anticipated to cater for long-term growth of Rolleston (discussed further below).

In the rest of the district, and away from the influence of Christchurch, urban growth is slow. The Council has urban growth strategies in place which identify growth options for residential and business/industrial land. These strategies (Area Plans) considered the advantages and disadvantages of each potential growth area with regard to LUC class 1-2 soils, but do not priorities one area over another (and will leave that to the market). Council is not pursuing any plan changes to zone identified growth areas for urban development.

While the NPS – HPL would require Canterbury Regional Council to take into consideration LUC class 3 soils when mapping HPL, M.E expects that the NPS – HPL may have only a minor impact on the way that urban expansion is managed at a regional level, and in turn at a territorial authority level, and particularly within the Greater Christchurch areas where growth is strong but there is already a strong strategic approach to match. This is discussed further below in terms of potential transaction costs for urban expansion plan changes in Selwyn District under the NPS - HPL.

The operative district plan also identifies demand for rural residential sections on the outskirts of urban areas. The Council has a Rural Residential Strategy (2014) that helps guide where rural residential (i.e. Living 3) zones should be located. This includes achieving separation from intensive farming activities, preserving rural character and productive capacity of large rural holdings, and reducing the loss of versatile (LUC class 1-2) soils on the periphery of Rolleston. 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 in future, compared with the status quo. In the meantime, the operative Living 3 zone areas are expected to have vacant capacity for further development.

Managing effects of residential development and demand in the rural areas relies heavily on the method of setting minimum lot sizes for rural zones in the Operative District Plan. The explanation provided in the Plan indicates that a key focus was managing effects "*on the rural character and landscape values of each area*". Managing reverse sensitivity effects is also raised. Avoiding the loss of productive capacity from rural fragmentation is not a strong theme in the District Plan based on M.E's review and it is expected that the NPS – HPL would strengthen this aspect of the Selwyn District Plan. As it stands, the operative district plan provides little protection for the productive potential of HPL, particularly in the Inner Plains zone.

While existing fragmentation of the rural area cannot be undone[108], the Council has already been evaluating the effectiveness of the current minimum lot sizes as part of the District Plan Review process. An examination of issues and options has resulted in some recommendations to increase minimum lot sizes (and move zone boundaries) to better provide for rural character and commercially viable primary production, as well give effect to 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. Any future changes would be expected to take into account the NPS – HPL at the same time (and this may mean that some existing options need to be amended to better protect HPL).

6.2.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties (as defined by CoreLogic data) in Selwyn District grew rapidly between 1994 and 1995 but since then growth has been moderately steady. Between 2015 and 2019 there was an estimated 205 additional rural lifestyle properties containing dwellings according to CoreLogic (around 51 per year on average over that period).

As at 2019 there is an estimated 6,050 total lifestyle properties in the district (CoreLogic). 84% of these lifestyle properties are estimated to contain a dwelling but no other significant productive use. The balance (16%) are mainly vacant lifestyle properties that do not currently contain dwellings and indicatively contain some form of primary production activity or are bare land. As many of these lots may be capable of having a dwelling (under current zone standards), the CoreLogic data may suggest that there is some capacity to accommodate more dwellings in the rural area without further fragmentation[109].

M.E examined the land parcels in Selwyn's rural area (excluding the Rural Residential Zone) that could be further subdivided under the operative minimum lot size provisions[110] (based only on the size of the parent

[108] Unless there are effective incentives to amalgamate titles.

[109] M.E has not factored in this potential capacity in its modelling of rural lifestyle subdivision demand.

[110] M.E has used high-level minimum lot sizes only and have not captured the other forms of subdivision associated with clusters, existing dwellings, conservation lots, balance lots etc in the modelling.

lots and no other constraints). The analysis showed that there is significant indicative potential for further land fragmentation in areas with HPL (LUC class 1-3) - an estimated 1,230 parcels totalling 105,480 ha that include 62,270 ha of LUC class 1-3 land. This area represents 54% the total HPL area in rural zones that could be further subdivided. There are fewer areas where subdivision can occur that do not contain HPL.

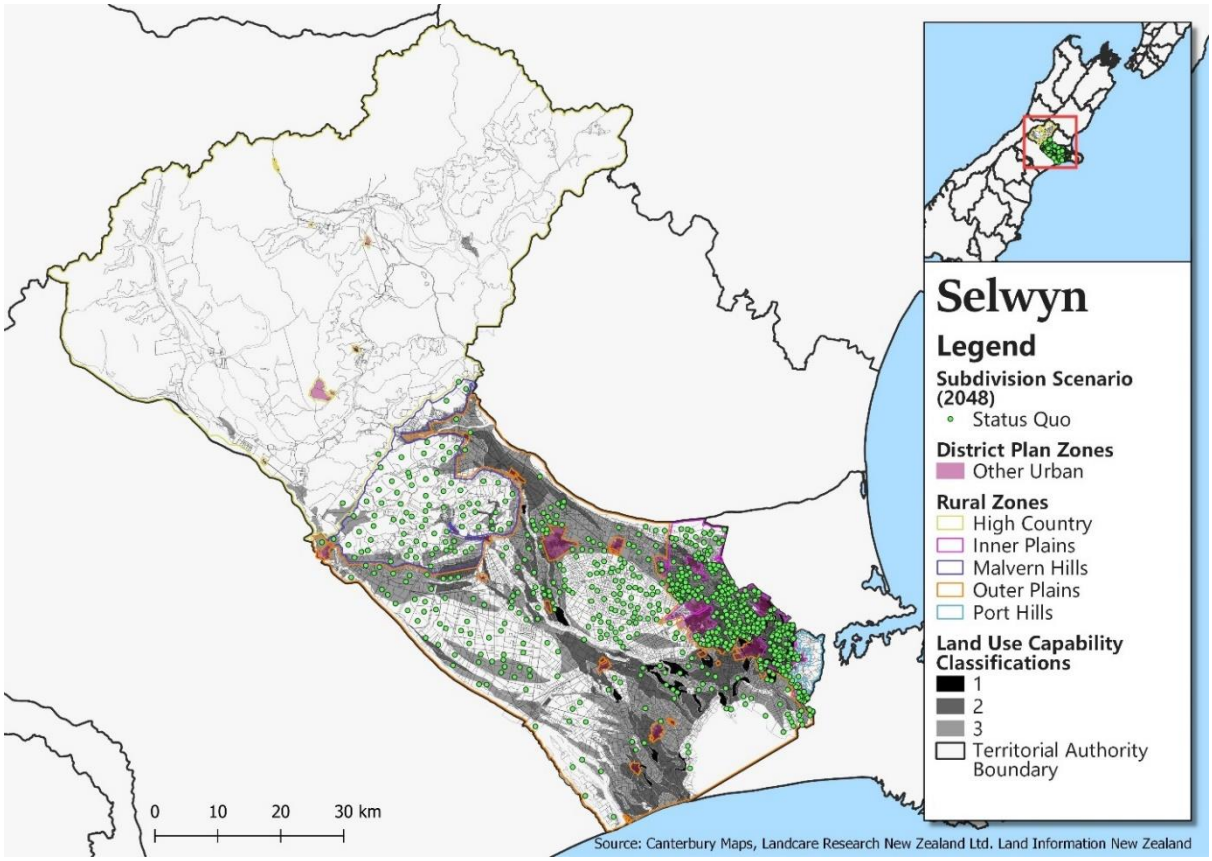
Not all of the subdivision potential will yield lots desirable or broadly suitable for rural lifestyle living, particularly given the minimum lot size in the Port Hills and High Country Zone is between 40 ha and 120 ha which is significantly larger than the typical lifestyle block (the CoreLogic data shows that the average size of lifestyle properties is 6.2ha which suggests it is strongly weighted towards the Inner Plains Zone). While a 4 ha lifestyle block may appeal to a wider market, a 20 ha lifestyle block is still likely to appeal to many households (particularly if 4 ha was smaller than they wanted, and they preferred a location in the Outer Plains).

Selwyn District is expected to experience strong growth, but that growth will not be spread evenly across the district. Future demand for additional lifestyle lots that include a dwelling has been estimated in part pro rata with projected household growth in the district and in part pro rata with projected growth in Christchurch City (being a significant influence on the Greater Christchurch part of Selwyn District). Using this approach, the underlying Medium household projections could indicate an additional 770 lifestyle parcels would be demanded by 2028 and 2,200 by 2048.

In the absence of the NPS – HPL (i.e. the status quo scenario), all long-term demand for lifestyle properties (2,200 additional lots) is able to be met through further subdivision potential in M.E's modelling even assuming current zones and minimum lot sizes remain unchanged (which is considered unrealistic but a necessary assumption for modelling purposes). This is because there is significant remaining potential for subdivision that is broadly suitable for lifestyle properties, unlike in Ashburton District where long-term lifestyle property demand was shown to be constrained in the modelling. The modelled take-up of subdivision for rural lifestyle development is concentrated first in the Inner Plains Zone followed by some popular locations in the Outer Plains Zone and Malvern Hills Zone where lifestyle properties would be larger.

Under the Status Quo future, the 2,200 additional parcels would be distributed with 1,260 (57%) on HPL parcels, and the balance (940) on land without significant HPL resource. The additional parcels would take up a total area of 16,240 ha, including 7,640 ha of HPL resource (Figure 6.4).

Figure 6.4 – Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



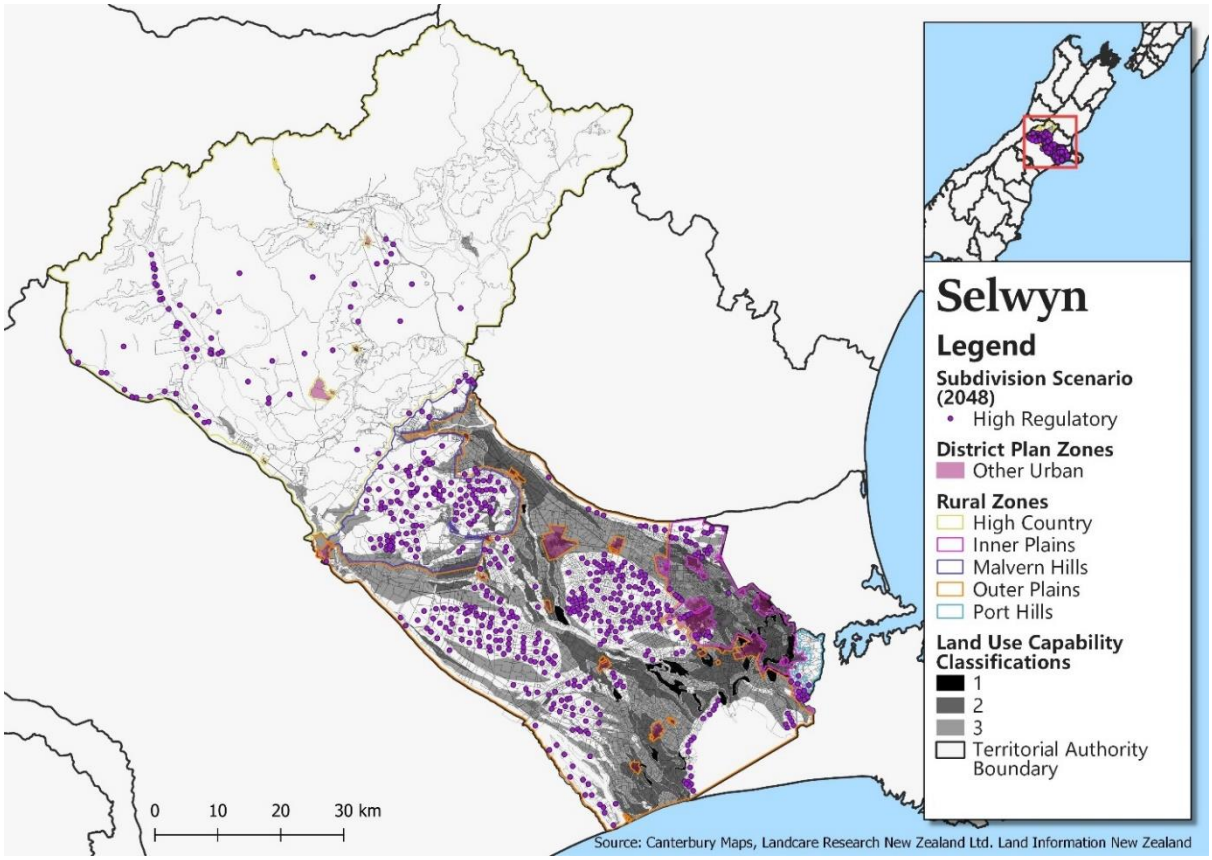
Under the 'with-HPL' outcome, it is assumed (High Regulatory Scenario) that all rural lifestyle subdivision on HPL is redirected to non-HPL within the district. For the purpose of the modelling, M.E have included the LUC 1-3 land within the Inner Plains Zone as an area that may be mapped as HPL (thus preventing potential for further adverse cumulative effects of residential activity on existing/remaining pastoral farming activity or rural character in this zone)[111]. The operative minimum lot size provisions in the Rural Zones (and zone extents) are also assumed to remain in place in the model. Again, both these key assumptions may be unlikely but avoids the need to speculate on council's response to demand and supply of rural lifestyle activity in the future.

With the NPS – HPL (High Regulatory scenario) a higher share of lifestyle demand would be directed to the Outer Plains and Malvern Hills Zones as a large share of the parcels with subdivision potential within the Inner Plains Zone indicatively qualify as HPL (Figure 6.5). The model also redirects more lifestyle subdivision to the lower slopes of the Port Hills Zone and a small quantum to the High Country Zone (acknowledging that the very large lot sizes are far from typical lifestyle blocks). While the total number of new lots created by 2048 is the same (2,200), the area of the combined lots is far greater with the NPS – HPL because of the shift to larger average lot sizes (i.e. the area taken up by 2,200 new lifestyle lots increases from 16,240 ha (with 7,640 on HPL) under the status quo to 39,820 ha (but with none on HPL)). The redirection of lifestyle demand to non-HPL could occupy a much smaller area of rural land if the Council were minded to create

[111] Canterbury Regional Council and Selwyn District Council may, collaboratively, take a different approach to this.

new lifestyle zones in non-HPL areas with smaller average lot sizes) or adjust the minimum lot sizes in some existing zones where HPL can be avoided.

Figure 6.5 – Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



Under the status quo (creation of 2,200 additional lifestyle lots by 2048), the value uplift to landowners able to subdivide off land to create lifestyle properties is estimated at $582m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $867m uplift for landowners on non-HPL. The increase in capital gain compared to the Status Quo arises from more demand being allocated to larger parcels that have a higher asking price (M.E found little distinction between the $/ha value of smaller lots and larger lots in the district although saleability has not been tested).

This shows a net opportunity benefit to landowners with the NPS – HPL at the district level of $286m driven solely by a different spatial distribution of lifestyle properties. Because it is likely that the Council would consider changes to better manage the redirection of lifestyle property to non-HPL areas (through changes to the operative provisions), and the Inner Plains zone may not be mapped as HPL, this is considered a maximum opportunity benefit for Selwyn District.

A key benefit of redirecting more rural lifestyle development to non-HPL in the Outer Plains and Malvern Hills Zones than would otherwise have been the case is that the productive output of HPL properties (if applicable) that were modelled as being likely to be subdivided and developed with a dwelling by 2048 is able to continue into the long-term (and the option to undertake land-based primary production on HPL not already used for agriculture is also protected). The opportunity benefit (cumulative gross output from land-based primary production retained on HPL properties would be $315m compared to the Status Quo

future by 2048, however the foregone production on the non-HPL would be some $281m more than under the Status Quo. In net terms, the land-based primary production that is retained across the district would be $34m more in gross output terms (High Regulatory scenario). In present value terms (8% discount rate) this net opportunity benefit would be $12m and includes an estimated $9.0m of labour and resource costs to achieve that gross output (inputs to production).

6.2.7 Future Urban Growth and Potential Implications

Within the Greater Christchurch part of Selwyn District (i.e. the area experiencing strong growth), any future opportunities for urban expansion beyond the RPS Projected Infrastructure Boundary are dependent on a demonstrated need for additional urban capacity, which would be addressed as part of regular updates of the Greater Christchurch Housing and Business Development Capacity Assessment (HBDCA) and FDS.

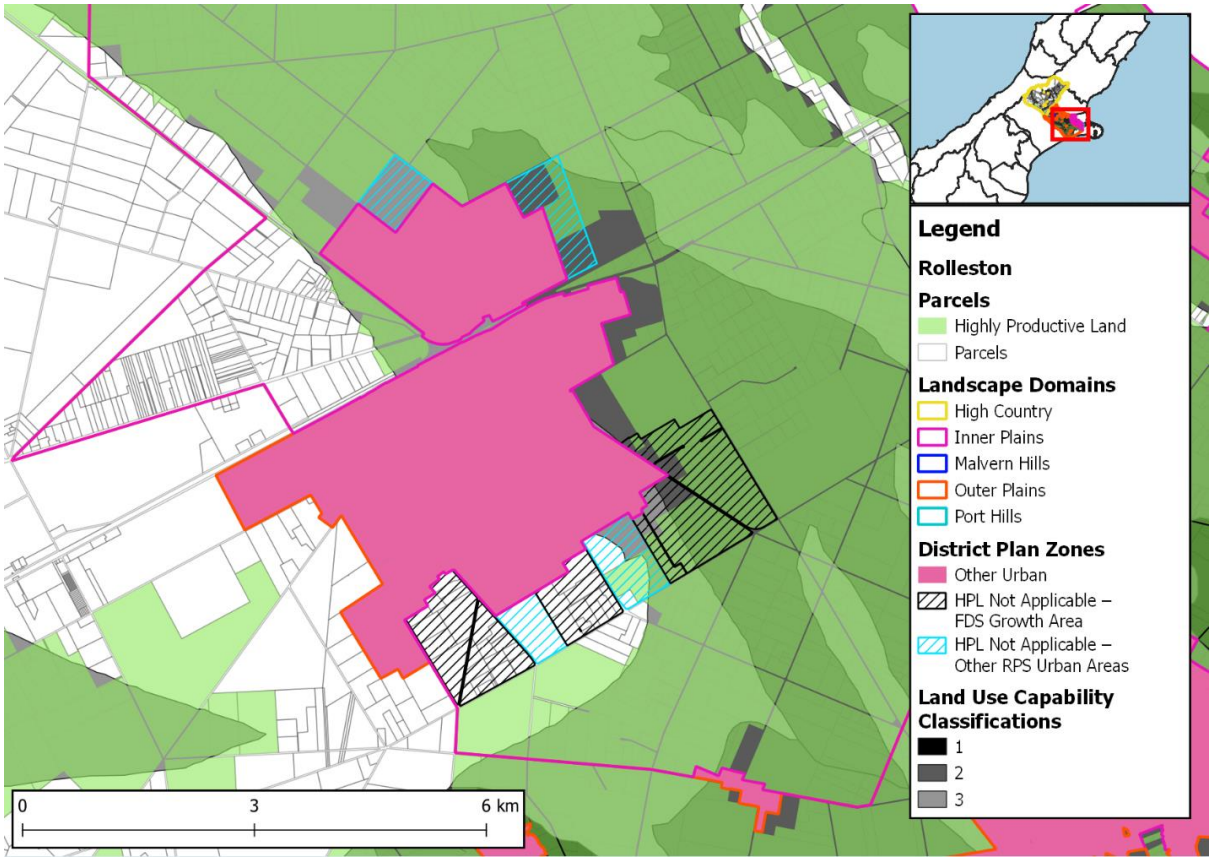
To that effect, the Greater Christchurch Partners have recently been assessing options around residential densities. The outcome of this work may extend the capacity of existing zoned areas to cater for growth (if changes to higher densities are implemented) and reduce the pressure for greenfield expansion in some locations. However, whenever it is determined in an FDS that further greenfield expansion is required, this can be expected to flow into a change to the RPS to shift the Projected Infrastructure Boundary which would then pave the way for Selwyn District Council (or developers) to pursue urban expansion plan changes.

We note that the next full review of the RPS is expected to be notified in 2023. Selwyn District Council is planning community consultation to gauge interest in further expanding Rolleston, Lincoln, Prebbleton and West Melton to inform the RPS review. The three smaller towns are surrounded by LUC class 1-3 soils and Rolleston is half surrounded by LUC class 1-3 soils (Figure 6.6). Even if a boundary shift was made in the upcoming RPS review, the reality is that there would not be any urban expansion plan changes on HPL in the Greater Christchurch area of Selwyn District for the next 5-10 years (and potentially longer).

In the case of Rolleston, this is because vacant land within the current urban limit (which is unlikely to be included in land mapped is HPL) is estimated by M.E to provide around 8,000 additional dwellings (at 14.5 dwellings per ha net or an average lot size of 690sqm) (Figure 6.6). This would mean no additional land area (outside the urban limits) would be required for development in the long-term under the medium growth projection (i.e. projected growth of 7,500 households in Rolleston by 2048). On that basis, we would expect nil or minimal opportunity cost from the NPS - HPL to accrue to existing rural landowners in and around Rolleston in the next 30 years. Similarly, since the NPS - HPL is not expected to impact on urban development prospects over that period, we would expect nil or minimal opportunity costs to accrue to the property development sector.

Outside of the Greater Christchurch area, the RPS does not limit plan changes in the same way. The rural towns in this part of the district are experiencing only slow growth. Structure plans for each town exist which identify options for further intensification and expansion (based on an evaluation of constraints, including LUC class 1-2 soils, and opportunities assessed at the time). Council is not actively pursuing any plan changes to up-zone the growth areas in those small towns (except for the industrial area in Leeston included in the current PDP) due to a lack of demand.

Figure 6.6 – Indicative HPL on the Rolleston Urban Boundary



This has not stopped private plan change interest and Council indicated that there are four such plan changes on the go at present (at varying stages of progress). Only two relate to up-zoning of Rural Outer Plains zone to urban land use. Both are in Darfield and are estimated to be located on LUC 1-3 land. M.E considers that both of these private plan changes (61 and 63) are relevant examples of where the NPS - HPL may impose additional transaction costs on the requestor to expand the consideration of (spatial) options and more robustly assess the costs and benefits of urban zoning relative to retaining rural zoning (as the current documentation would be unlikely to satisfy the evidence base required by the NPS – HPL). This assumes the sites are in fact considered HPL and that they would meet the test of clause 3.4(2)(a)[112] – demonstration of insufficient capacity to meet medium-term demand.

While there is little evidence to suggest that private plan changes seeking urban expansion outside of strategic growth areas are likely to occur in Selwyn District, even in the medium-long term, further urban expansion private changes that give effect to the Malvern and Ellesmere Area Plans are likely (although the frequency would be low given the slow growth rate across these settlements). The requirement in clause 3.4(2)(a) of the NPS - HPL – to demonstrate a shortfall of capacity in the medium-term – may curb future interest in private urban expansion plan changes in these slow growth settlements that are ahead of their time, or at least, limit the expansion to only that amount needed to ensure capacity for medium-term

[112] urban explanation onto the highly productive land would assist in providing sufficient development capacity to meet expected demand in the short term or medium term for housing or for business land in the district (as identified in accordance with that national policy statement).

growth. Some of these would-be developers may opt for a zoning submission on a District Plan Review rather than a private plan change.

For the purpose of the CBA, it was agreed by Selwyn District Council that an additional $20,000 of preparation costs may be reasonable for Council initiated plan changes to meet the requirements of the NPS – HPL (i.e. clause 3.4(2)(b) and (c)[113]) and an additional $10,000 per private plan change may be reasonable[114]. A Council representative commented that the NPS - HPL would provide more certainty for councils and landowners and certainty has the effect of reducing plan change cost (including litigation). Also, that transaction costs attributable to the NPS - HPL would be higher for 'early adopters[115]', with costs reducing somewhat over time once case law and successful examples of urban expansion plan changes become available.

A higher transaction costs was considered unlikely for a range of reasons, including:

- An existing strategic approach to urban growth.
- Many of Selwyn District's small settlements and towns are surrounded by LUC Class 1-3 soils and this may help limit the extent of alternatives that need be considered (as non-HPL options may be irrelevant). Otherwise, the Area Plans already contain reasonable information on other options for greenfield growth which could be used as the basis for further assessment.
- Council expects that they would improve their evidence base on the costs and benefits of urban expansion and retaining the productive potential of HPL within updated strategic planning documents under the NPS. If this were the case, it would lessen the burden on plan changes to assess costs and benefits from scratch.
- The implementation costs faced by the Regional Council (to give effect to the NPS - HPL) will mitigate the costs faced by the District Council (for their strategic planning), which in turn further reduces transaction costs for plan changes.

In total M.E projects 3 urban expansion plan changes on HPL by the Council over the long-term (limited to District Plan Reviews and assuming that the urban limits are pushed out in the RPS at some point in advance) and 7 private plan changes on HPL[116] (including the two current requests in Darfield discussed above). Over the study period (to 2048), and based on assumptions modelled by M.E, there are total estimated transaction costs attributable to the NPS - HPL (clause 3.4(2)) of $56,000 (undiscounted) for Council and $56,500 (undiscounted) for private developers. This gives a total estimate of $112,500 or $68,000 in present value terms (discount rate of 8%). These costs are considered only minor.

[113] (b) there are no other reasonably practicable and commercially viable options for providing for the required development capacity while achieving a well-functioning urban environment (as that term is defined in that national policy statement); and (c) there are net benefits from the urban expansion as compared to maintaining or protecting the land for land-based primary production.

[114] Current urban expansion private plan change costs were estimated at circa $100,000 in Selwyn District.

[115] M.E applies a 10% premium on net additional transaction costs during the transitional period.

[116] For the purpose of this CBA, M.E has included submission on a PDP for urban expansion on HPL to face a similar net additional transaction cost as a private plan change.

6.3 Horowhenua District – Summary

6.3.1 Key Findings Horowhenua District

- Based on operative minimum lot sizes, it is estimated that Horowhenua District has sufficient capacity to accommodate long-term growth of rural lifestyle development while avoiding HPL under the NPS – HPL. Any further changes to the district plan would further support the redirection of growth to non-HPL in the Rural Zone.
- Across the district, a minor net opportunity benefit of $3m is modelled as a result of lifestyle subdivision under the NPS – HPL.
- Council is currently underway with their first urban expansion plan change under the operative district plan. Due to its location, it will not be impacted by the NPS – HPL despite being located on LUC 1-3 land and occurring during the transitional period.
- Total transaction costs for future urban expansion plan changes on HPL to 2048 are estimated at $167,000 ($95,000 in present value terms). This is minor cost over the long-term.
- Estimated greenfield expansion of Levin (the main urban area) is estimated at 30 ha over the long-term (net of remaining zoned capacity).
- The NPS – HPL could result in a different distribution of that growth around Levin to avoid HPL. The net opportunity cost to landowners on the on the urban fringe is estimated to be very minor ($15,000 or $5,000 in present value terms).

6.3.2 HPL Resource (LUC 1-3)

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. With improvements planned and underway to transport infrastructure in the South, Horowhenua District Council is expecting this to drive household growth as Horowhenua could offer commuting potential for Wellington workers wanting a more affordable lifestyle.

Levin contains 53% of Horowhenua's total 32,180 current population (2018). Apart from Levin (17,090 residents and an estimated 7,270 households), approximately 7,090 persons (22% of the total) in 2,910 households live in the Rural Other area[117], with the balance residing in the Small Urban areas (5,880

[117] As defined by the StatisticsNZ 2018 Rural-Urban area boundaries.

residents or 18% of the total in 2,610 households), and Rural Settlements (2,120 residents or 7% of the total in 900 households). Overall, the rural land community is about one-third of the total.

Horowhenua has a total of 43,765 ha of land classified as LUC 1-3. There are 4,984 ha of LUC 1 class land, just under 19,840 ha of LUC class 2 land and just over 18,940 ha of LUC class 3 land. LUC 1-3 land covers 41% of total land area in the district which is considerable compared to many districts (this coverage is the 9th highest of all territorial authorities[118]). The coverage of the just the plains area is however extensive, not unlike Selwyn and Ashburton District. Horowhenua District's LUC 1-3 land makes up an estimated 1.1% of all LUC 1-3 land in New Zealand so is important but not significant in that context (the 31st highest contribution to the national resource).

6.3.3 Economy

The economy in Horowhenua District is mainly urban based, servicing the needs of district households. In total, urban areas and settlements contain 79% of the district employment (2017). There are 433 pastoral farming businesses. Together they employ 861 workers making up 8% of the district's employment. Horticulture features less in the economy. The sector makes up around 4% of total employment in 2017 (456 workers) in 93 horticultural businesses. As shown in other case studies, there is a strong correlation between the location of horticultural activities and LUC 1-3 land but only a moderately strong correlation for pastoral farming activities meaning that farms can cover a much wider range of land use capabilities (and terrains), although the more productive farms are those making use of LUC 1-3 land combined with ample water supply. An estimated 70% of high producing exotic grassland cover within the district is on LUC 1-3 soils and 97% of short rotation cropland is also on the LUC 1-3 resource.

6.3.4 Current Rural Zoning Approach

The Horowhenua rural zones identified for this analysis include the Greenbelt Residential Zone which is approximately 606 ha, the Greenbelt Residential Deferred Zone (approximately 627 ha) and the Rural Zone (102,296 ha) – being the productive rural zone.

While the Greenbelt Residential zone is relatively small, 35% of this land is made up of HPL (209 ha). The HPL 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 HPL (554 ha). However, relative to the total resource, this is a potential future loss of less than 1%. The extensive Rural Zone contains 42,212 ha of HPL – this makes up an average of 41% of the zone and accounts for 99% of the total HPL resource in the rural environment.

Within the Rural Zone, the Operative District Plan identifies a number of sub-zones or 'landscape domains' which guide subdivision potential. The approach is relatively complex but in summary tends to enable less restriction on the creation of larger lots on LUC 1-2 soils and more restriction on the creation of smaller lots on LUC 3-8 soils. Often the smaller lot sizes are limited only to parent parcels created prior to the district plan becoming operative (i.e. 2009). The Plan directs rural lifestyle development to certain parts of the district (noting that the Greenbelt Zone essentially provides for rural residential lot sizes), and generally away from LUC 1-2 soils. Fragmentation of LUC 1-2 soils is limited to 10ha lots, or in some cases 15ha lots as a controlled activity. M.E is uncertain how economic these lot sizes are for land-based primary

[118] Including unitary authorities.

production as it applies in Horowhenua. At 10 ha, they are a quarter of the minimum lot size in Waipa District's productive rural zone, for example.

Should the regional council include extensive areas of LUC class 3 land within the areas mapped at HPL in Horowhenua District under the NPS – HPL, M.E anticipate that a re-evaluation of the subdivision rules in some landscape domains may be required to ensure that capacity for growth will continue to be enabled and appropriate spatial outcomes are achieved. Subdivision potential is discussed further below with regard to rural lifestyle demand modelling.

6.3.5 Current Planning Approach as it Relates to HPL

Horowhenua District Council anticipates significant population growth over the next 20 years (counter to the current StatisticsNZ projections) in response to improvements in transport infrastructure with Wellington (and other factors). To date however, the district has had very minimal population growth (which translated into only minor household growth[119]), so this is a pivotal time for Council as they start planning for migration driven growth really for the first time. In response, the Council has recently completed a comprehensive Growth Strategy 2040 that 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 and deferred zones.

The identification of potential future growth areas (focussed on both residential zones and rural residential zones (a.k.a Greenbelt Residential) included technical analysis and engagement with landowners followed by public consultation. It is described as a high-level strategy with more detailed analysis occurring as part of rezoning plan changes, the first of which is now underway by Council on the fringe of Levin.

In identifying future growth areas, regard was given to a number of rural principles including avoiding ad hoc rural development to protect the land and soil resource. Specifically, areas containing LUC class 1-2 soils were considered carefully in the context of the district (although not necessarily avoided) before being allocated to residential development. For the growth areas identified around Levin for example, the Strategy notes that four options contain these 'versatile soils'. This outcome, where HPL on the urban fringe cannot practically be avoided is recognised in the NPS – HPL, where achieving well-functioning urban environments can outweigh the cost of using HPL for urban expansion.

The release of the 2018 census population counts showed that the actual growth in the district was 11% between 2013 and 2018 - a rate slightly faster than anticipated by the Council's growth projections (and Growth Strategy). While Council planned to review the current Growth Strategy within three years (i.e. 2021), the Council considers that an earlier update might be relevant (i.e. later in 2020), followed by three yearly reviews to align with the timing with their LTP. This update timing is however assumed to fall after the commencement date of the NPS – HPL, and this could provide an opportunity to reconsider the identified growth areas in light of LUC 3 land which was otherwise excluded from the evaluation criteria.

As discussed above, the Horowhenua District Plan provides a specific zone for rural residential demand, referred to as the Greenbelt Residential Zone and includes deferred zone areas. The Growth Strategy 2040 identified some potential extensions to this zone but also reallocated some surplus zone area for residential

[119] A changing demographic profile, including an ageing population and a shift to smaller average household sizes, drives household formation growth even when population growth is minimal.

zoning instead. Council recognises the increasing demand for rural living in Horowhenua and this zone provides for some of that market demand and creates a transition between residential development and rural activities.

Beyond the greenbelt, Horowhenua's single Rural Zone contains three distinct land use types (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 that influence their ability to absorb the effects of subdivision, use and development. These landscape domains are therefore the key mechanism through which rural subdivision is managed. Overarching policies in the District Plan for rural subdivision touch on reverse sensitivity effects for rural activities and rural productive values. There are also policies for subdivision linked to specific landscape domains, including one policy where amalgamation of land parcels or boundary adjustments that would enable a greater range of soil-based production activities is provided for.

Overall, fragmentation of rural productive land is a key issue identified in the Horowhenua operative district plan and is therefore already well aligned with the objective 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.*"

This understanding is backed by a suite of policies that seek to manage the effects of fragmentation on the soil resource. The policies tend to use the approach of "*minimise and, where possible avoid*" when managing effects and this may be an area where the NPS – HPL could require some changes to more explicitly 'avoid' inappropriate activities in the district plan provision. Otherwise, the greatest change for the Horowhenua District Plan in terms of implementing the NPS – HPL is expected to relate to the inclusion of LUC 3 and the potential consequences of this, particularly for rural lifestyle subdivision. Horowhenua District Council has a good understanding of the principles of identifying HPL, but currently their approach (like many territorial authorities around the country) is narrower than the definition contained in the NPS – HPL.

6.3.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties containing a dwelling (as defined by CoreLogic data) in Horowhenua District grew rapidly in the mid-90s. This was followed by a period of stability and then slow but steady growth between 2002 and 2011 and only modest change through to 2015. Between 2015 and 2019 there was an estimated 78 additional rural lifestyle properties containing dwellings according to CoreLogic (around 20 per year on average over that period).

As at 2019 there is an estimated 1,919 total lifestyle properties in the district (CoreLogic). 72% of these lifestyle properties are estimated to contain a dwelling but no other significant productive use. The balance (28%) are mainly vacant lifestyle properties that do not currently contain dwellings and indicatively contain some form of primary production activity or are bare land. As many of these lots may be capable of having

a dwelling (under current zone standards), the CoreLogic data may suggest that there is some capacity to accommodate more dwellings in the rural area without further fragmentation[120].

M.E examined the land parcels in Horowhenua's Rural Zone that could be further subdivided under the operative minimum lot size provisions (by landscape domain).[121] This was based only on the size of the parent lots, title issue date and LUC class, but and no other constraints. The analysis showed that there is moderate indicative potential for further land fragmentation in areas with HPL (LUC class 1-3) - an estimated 513 parcels totalling 27,627 ha that include 18,552 ha of LUC class 1-3 land either qualifying under controlled or restricted discretionary activity status. This area represents 43% the total HPL area in the Rural Zone that could be further subdivided. There are fewer areas where subdivision can occur that do not contain HPL.

Not all of the subdivision potential will yield lots desirable or broadly suitable for rural lifestyle living, particularly given the minimum lot size in the Hill Country (40 ha) which is significantly larger than the typical lifestyle block. Most of the landscape domains do however provide for rural lifestyle lots – many between 3-6 ha (controlled activity), and some smaller (i.e. 5,000-7,000sqm) where a larger balance lot can be retained (restricted discretionary activity).

M.E's modelling of rural lifestyle demand across the case studies has consistently applied the StatisticsNZ growth projections (latest available). In the case of Horowhenua District, we selected the High growth projection (which resulted in an estimated 250 additional rural lifestyle properties by 2048) and not the Medium growth projection used elsewhere, as this showed a decrease in rural households. These StatisticsNZ projections are however based off the 2013 Census and as such, do not capture the recent growth that is starting to appear in Horowhenua, and that is explicitly factored into the Council's own growth projections (developed in 2017). Compared to Council's growth projections[122], demand for an additional 250 rural lifestyle properties to 2048 is low and as such, the analysis below under-estimates the pressure for rural fragmentation likely to be faced. That said, the capacity for further subdivision in the Rural Zone is expected to exceed long-term demand assessed in Council's projections, so growth is not anticipated to be constrained (as was the case in Ashburton District). Further, there are many existing lifestyle properties that do not currently contain a dwelling. It is feasible that these could be developed with a dwelling to accommodate a portion of the demand that is not factored into M.E's growth figures.

Under the Status Quo future in M.E's modelling, the 250 additional parcels are distributed with 43% on parcels containing LUC 1-3 land, and the balance on land without significant HPL resource. The additional parcels would take up a total area of 190 ha, including 66 ha of HPL resource (Figure 6.7). This is mainly occurring within the Foxton-Dunefields landscape domain with a small share allocated to other landscape domains. This shows a very efficient outcome is possible under the District Plan in terms of up-take of rural land for lifestyle block development – the average lot size in this scenario is 7,600 sqm as the model has

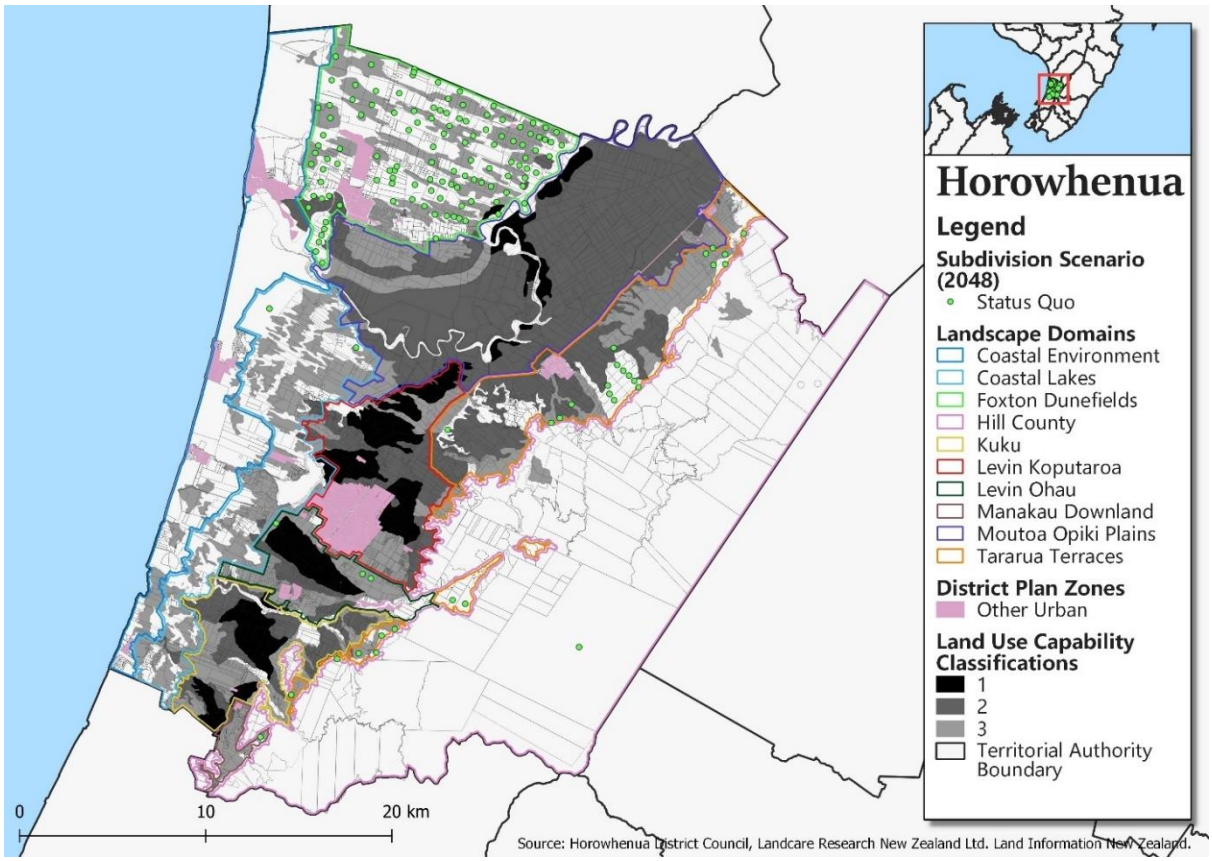
[120] M.E has not factored in this potential capacity in its modelling of rural lifestyle subdivision demand.

[121] M.E has used high-level minimum lot sizes only and have not captured all subdivision pathways. The effect of subdivision policies on the creation of lifestyle lots in the Rural Zone was not able to be included in the modelling.

[122] The Horowhenua Growth Strategy 2040 projects nearly 1,900 additional dwellings in the Rural Zone by 2040.

sought the maximum yield possible on each qualifying lot (even when this is a restricted discretionary subdivision consent)[123].

Figure 6.7 – Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo

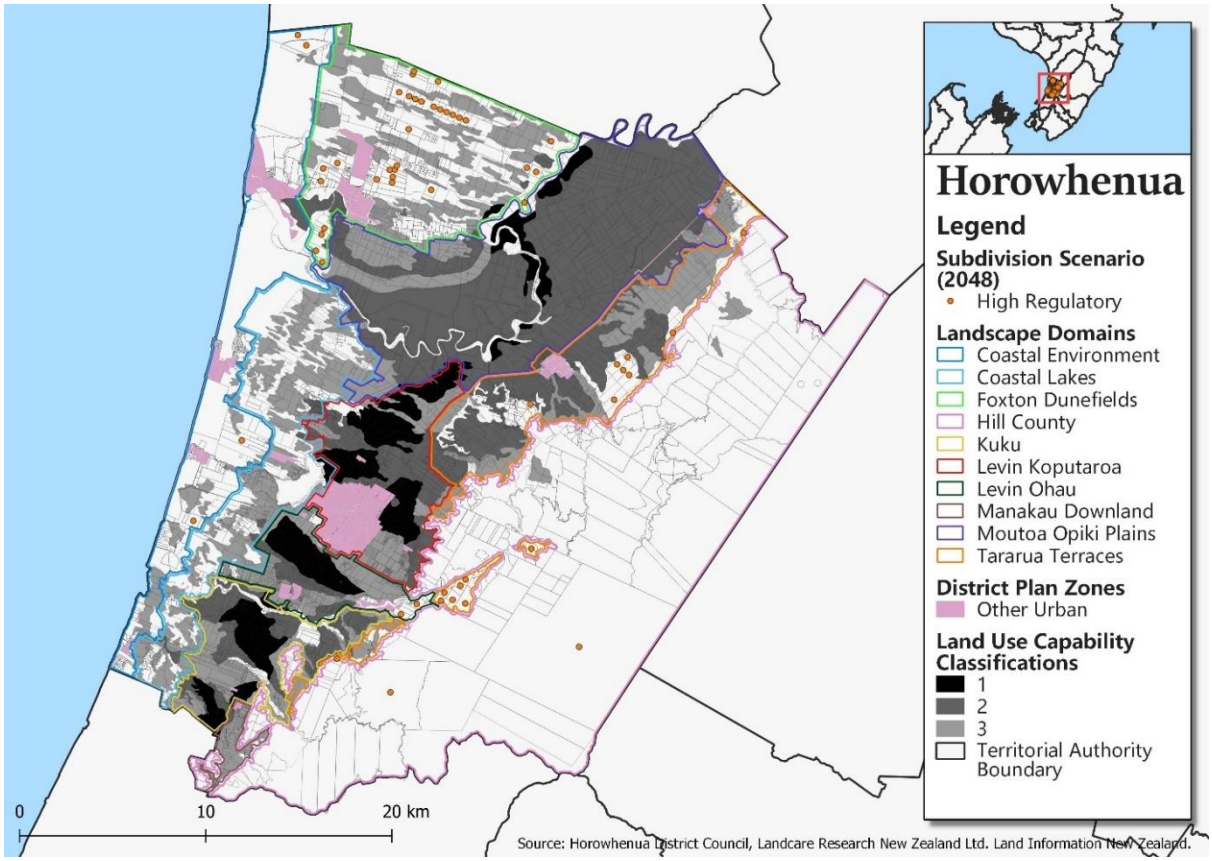


Under the 'with-HPL' outcome, it is assumed (High Regulatory Scenario) that all rural lifestyle subdivision on HPL is redirected to non-HPL within the district. The operative minimum lot size provisions in the Rural Zone (by landscape domain) are also assumed to remain in place in the model. This key assumption may be unlikely but avoids the need to speculate on council's response to demand and supply of rural lifestyle activity in the future.

With the NPS – HPL (High Regulatory scenario) a higher share of lifestyle demand would be directed to larger lots qualifying for subdivision, although still largely concentrated in the Foxton-Dunefields domain. (Figure 6.8). The total number of new lots created by 2048 is the same (250) but the area of the combined lots is greater at 310 ha with the NPS – HPL (the average lot size increases to 1.24 ha).

[123] A number of different approaches are possible to allocate rural lifestyle subdivision demand 'on the ground' in Horowhenua District. M.E has developed a more complex model for this case study in light of the rules in the operative district plan. There was not enough time to test multiple scenarios without and with the NPS – HPL, but M.E has applied a consistent approach. Net results would however change under different modelling assumptions.

Figure 6.8 – Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



Under the status quo (creation of 250 additional lifestyle lots by 2048), the net value uplift to landowners able to subdivide off land to create lifestyle properties is estimated at $5m on HPL land and $11m on non-HPL land. Total uplift (capital gain) to landowners would be $16m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $19m uplift for landowners on non-HPL. The increase in capital gain compared to the Status Quo arises from more demand being allocated to larger parcels that have a higher asking price.

This shows a net opportunity benefit to landowners with the NPS – HPL at the district level of $3m driven solely by a different spatial distribution of lifestyle properties. Because it is possible that the Council would consider changes to better manage the redirection of lifestyle property to non-HPL areas, this is considered a maximum opportunity benefit for Horowhenua District[124].

A key benefit of redirecting more rural lifestyle development to non-HPL land parcels would otherwise have been the case is that the productive output of HPL properties that would have been subdivided and developed with a dwelling by 2048 is able to continue into the long-term (and the option to undertake land-based primary production on HPL not already used for agriculture is also protected). The opportunity benefit (cumulative gross output from land-based primary production retained on HPL) would be $3.7m compared to the Status Quo future by 2048, however the foregone production on the non-HPL would be some $1.9m more than under the Status Quo. In net terms, the land-based primary production that is retained across the district would be $1.7m more in gross output terms (High Regulatory scenario). In

[124] Different modelling assumptions, including a higher level of long-term demand can be expected to generate different outcomes.

present value terms (8% discount rate) this net opportunity benefit would be $0.5m and includes an estimated $0.4m of labour and resource costs to achieve that gross output (inputs to production). These results are directly affected by the assumptions applied in the rural lifestyle demand modelling described above.

6.3.7 Future Urban Growth and Potential Implications

There have been no urban expansion plan changes in Horowhenua since the District Plan become operative in 2015. Nor has there been any substantial urban growth to justify additional zoning, until now. Council's Growth Strategy 2040 identified a number of urban areas in the district that would require additional zoned capacity in order to meet projected dwelling growth over the medium-long term. Council have their first urban expansion plan change under the operative district plan underway in an area called Gladstone Green on the fringe of Levin. This land contains LUC class 3 soils (although avoids LUC class 1-2 soils in accordance with the approach Council has taken towards versatile soils in the Plan). The site is currently zoned Greenbelt Residential Deferred Zone and the plan change will live-zone an area of this land for urban development (taking a master plan approach).

The plan change is expected to be notified during the transitional period before HPL is mapped. As the transitional definition of HPL does not apply to future urban zones or rural lifestyle/rural residential zones, the plan change is not expected to trigger clause 3.4(2) of the NPS – HPL. No additional transaction will therefore apply for Council.

Council advised that it was likely that other urban expansion plan changes would follow the Gladstone Green plan change over the short-term (and within the transitional period). M.E indicatively estimate this as one per year up to and including 2023 to give effect to an updated growth strategy (3 in total). Not all of these would necessarily be in the Rural Zone however, as some could live-zone Residential Deferred Zones or up-zone Greenbelt Residential zones to residential, as is currently the case.

For the purpose of this CBA, M.E indicatively assume that two of the next three urban expansion plan changes will be within the Rural Zone and wholly or partially within HPL (therefore triggering clause 3.4(2)). M.E considers this likely because of the extensive coverage of LUC 1-3 soils around key urban areas in the district (Figure 6.9) and because the Growth Strategy 2040 does not (based on M.E's review) specify with any certainty which potential growth areas are suitable for short-medium term urban development (as opposed to long-term suitability). Such detail would be required to exclude growth areas identified in a growth strategy published before the commencement date of the NPS – HPL from the transitional (and subsequent) definition of HPL (under clause 4.2(1)(c)[125] and 3.2(2)(d)[126]). This means that any growth areas that sit on LUC class 1-3 soils in the Rural Zone would, by M.E's estimates, be classed as HPL both during the transitional period and beyond.

From approximately 2022 and in line with National Planning Standards timeframes, Council is expecting to begin preparation of their District Plan Review. This may provide the ability to provide for urban expansion

[125] (c) is not: (i) identified as a future urban area in a regional policy statement, a proposed regional policy statement, a district plan, or a proposed district plan; or (ii) identified, in an FDS or other strategic planning document published before the commencement date, for urban development over the next 10 years.

[126] the land is identified in a published FDS or other strategic planning document as land suitable for urban development over the next 10 years.

in several sites at one time. The council representative hopes that the District Plan Review "*would do the job of ensuring sufficient supply*" for the life of the plan.

Council does not have a history of private plan changes for urban expansion. However, following the release of the Growth Strategy in 2018 and recent growth, a number of approaches have been made to council from interested landowners. Council estimated that an assumption of one private plan change per year over the short-term (and within the transitional period) may be appropriate for the purpose of estimating transaction costs (three in total). As above, not all would necessarily apply to HPL in the Rural Zone. For the purpose of this CBA, M.E indicatively assume that one of the three urban expansion private plan changes anticipated in the short-term would be located on HPL. After this next District Plan Review, private plan changes may potentially resume at a slow but steady rate.

Overall, for the purpose of projecting urban expansion plan changes that may trigger additional transaction costs under the NPS – HPL, M.E estimates 5 qualifying council plan changes and 6 qualifying private plan changes by 2048. This factors in District Plan Reviews (and submissions for urban expansion zoning) over that period.

Council felt it was too difficult to estimate net additional transaction costs associated with the NPS - HPL requirements in clause 3.4(2) for plan changes, because they do not have any recent past urban expansion plan changes to use as a baseline. In terms of the requirement to consider alternatives, it was felt that the Growth Strategy had already considered those issues and would continue to do so in future updates. Further, Plan Change 2 to the 2015 Operative District Plan provides recent information on intensification capacity in existing zones and the Growth Strategy provides information on the short fall of capacity (although only in the long-term). This aspect of the requirements in the NPS - HPL was not expected by Council to require a large amount of new work for council or private plan changes.

As Horowhenua's District Plan already requires assessment of LUC Class 1-2 soils when proposing some form of urban development, the council representative did not consider that meeting requirement 3.4(2)(c) (assessing net benefits of urban expansion) would require a significant amount of additional work than is already expected. Assessing class 3 soils in that process would however be new under the NPS - HPL. An expert assessment of the primary production potential of the plan change site might, in Council's view, be indicative of the sort of additional transaction cost attributable to the NPS - HPL. Council considered that this could help inform the benefits of retaining the land for primary production in the short and long-term.

With these factors in mind, a base transaction cost of $20,000 per plan change was considered by Council to be a suitable indicative value of transaction costs for the purpose of this CBA. This has been inflated by an indicative 10% if the plan change occurs during the transitional period[127] but does not diminish over time (as Council considered that each plan change would be unique and therefore efficiency gains would not apply). Based on these assumptions, there are total estimated transaction costs attributable to the NPS - HPL (clause 3.4(2)) of $106,000 (undiscounted) for Council and $61,000 (undiscounted) for private developers over the next 30 years. This gives a total estimate of $167,000 or $95,000 in present value terms

[127] Given that the transitional period definition provides less options to consider constraints for primary production or other relevant exceptions for land to be defined as HPL, Council wondered if this might increase the likelihood of submissions and appeals.

(discount rate of 8%). As in other case studies, this is considered a minor additional cost over a 30 year period.

To examine the potential for the NPS – HPL to create opportunity costs for landowners and developers associated with future urban expansion in Horowhenua (through a change in the potential for their land to be urbanised in the next 30 years), M.E has modelled indicative urban expansion in Levin. The analysis of Council's future growth projections and growth strategy planning documents finds there may be demand for an additional 390 urban households by 2048 through urban expansion around Levin beyond the capacity already provided for by Council (this includes vacant capacity in the Deferred Residential Zone in Levin). At an assumed density of 13 dwellings per gross zone hectare, this equates to an additional 30 ha (gross) of urbanised land over the long-term[128] which may be delivered through one or more plan change[129].

As the exact location and configuration of future urban expansion is not known (including between the various growth areas identified), M.E has adopted a simple and indicative approach to modelling urban growth for the status quo scenario based on incremental (concentric) expansion, selecting the closest parcels[130] to the urban fringe until a total area of 30 ha is reached. No other constraints have been factored into the model (including existing designations, land use, natural hazards or LUC 1-3). As 30 ha is a relatively small area, relatively few parcels are selected in the model (so appear random and dispersed in Figure 6.9[131]).

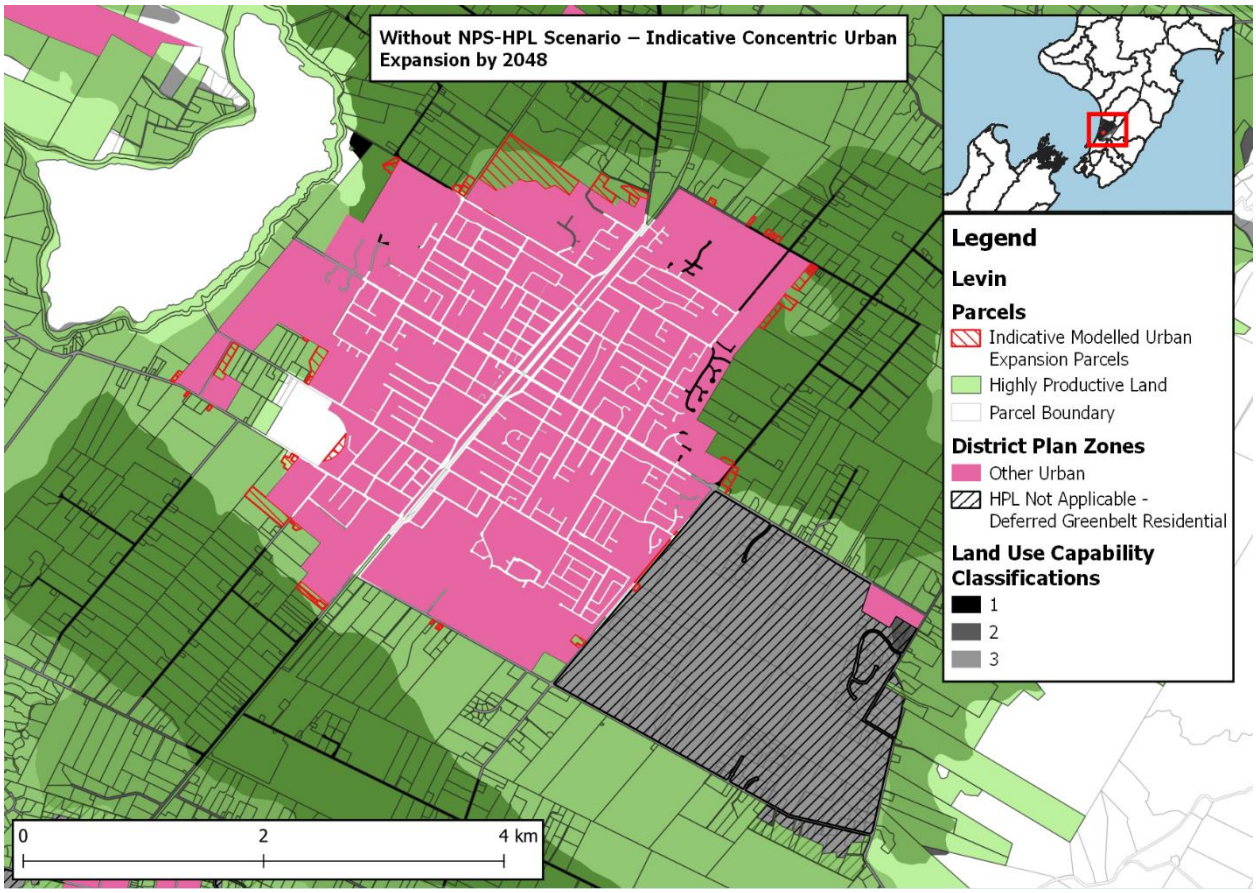
Under the 'with NPS – HPL' scenario, M.E test the implication of all 30 ha of projected greenfield growth redirected to non-HPL land in the model, while still selecting qualifying parcels based on closest distance to the urban boundary. Figure 6.9 shows that there are limited options on the urban boundary where HPL does not appear to apply in M.E's mapping; a small area on the western edge[132] of Levin (the race course) and the Deferred Greenbelt Zone which can be excluded from HPL (on the assumption that it is a (future) rural lifestyle/rural residential zone). This is in fact the location of the Gladstone Green urban expansion plan change discussed above, so the model is consistent with Council's approach to use this land for urban development. The model indicatively spreads the 30 ha between parcels in these two locations – a slightly different distribution of growth compared to the status quo scenario, but the same quantum of growth provided for.

The landowners on HPL selected in the status quo scenario lose the potential to urbanise their land under the 'with NPS – HPL' scenario (by 2048) and as a result, lose the value uplift associated with the opportunity for urban development. This is a modelled opportunity cost of -$685,000 spread over a number of land parcels. Elsewhere there is also some increase in value for non-HPL which has greater potential to be

[128] It is assumed that 30% of the land area is allocated to roads, reserves, and other non-residential uses, meaning that 70% of the land area represents that taken up by private land parcels. This equates to an average section size of around 540m2 per dwelling.
[129] For efficiency reasons, such plan changes may seek to zone a larger area than is required and retain some zoned land for future development.
[130] Based on the central point of each parcel relative to the urban boundary.
[131] Because the parcels around the fringe are ranked by distance, a larger volume of required growth would show a more obvious concentric growth pattern.
[132] M.E acknowledge that these parcels are potentially impacted by a designation and are currently used as a racecourse and may not be suitable candidates for urban development (although the racecourse is included as a growth area in the Growth Strategy 2040). The model does not however take this level of detail into account. The purpose is to demonstrate the process through which the model allocates growth to the nearest applicable parcels by scenario. If these western parcels were excluded from allocation, a corresponding greater area would have been selected by the model in the east (Gladstone Green).

urbanised (by 2048) but would otherwise have likely remained rural (or deferred rural residential and racecourse in this case). This is a modelled opportunity gain of $638,000, again spread over several land parcels. Small increases may also occur on land that is modelled to be urbanised under both scenarios, but where the timing of urbanisation is brought forward as a result of constraints to urbanise the HPL. This is a modelled opportunity gain of $32,000. Overall, M.E estimates a potential very small net cost of some $15,000 to landowners because of lost and gained urbanisation potential on land adjacent to the Levin's urban boundary. In present value terms (8% discount rate), this net cost becomes a very minor net benefit of $5,000 due to the differences in timing of the accrual of value gains and losses to landowners[133].

Figure 6.9 – Status Quo Simple Levin Concentric Urban Expansion Scenario 2048 – Medium



Because the net opportunity costs to landowners are only minor, the NPS - HPL is not expected to impact on Levin's urban development prospects, or substantially alter the pattern of development. On that basis, we would expect nil or minimal opportunity costs to accrue to the property development sector over the study period.

[133] A similar result applies when a 1% per annum increase in land values is modelled.

6.4 Western Bay of Plenty District – Summary

6.4.1 Key Findings WBoP District

- There is estimated demand for a further 1,600 lifestyle properties in WBoP District over the long-term. Modelling shows that there is potential for all this demand to be met while avoiding HPL.
- Redirecting lifestyle subdivision to non-HPL land would result in a maximum net opportunity cost to landowners under the NPS – HPL of $44m at the district level.
- The urban limits set in the RPS provide sufficient capacity for medium-long term urban growth.
- Further growth areas are being investigated. Total transaction costs for urban expansion plan changes on HPL under the NPS – HPL are estimated to be $135,000 to 2048 ($37,000 in present value terms).
- Tauranga's urban expansion will occur on WBoP land. Net greenfield growth of 100-200 ha is estimated over and above urban limits by 2048.
- Options exist for urban expansion onto non-HPL on the urban fringe.
- Nonetheless, modelled opportunity costs for urban expansion without and with the NPS – HPL are estimated at a maximum of $6.6m ($1.1m in present value terms).

6.4.2 HPL Resource (LUC 1-3)

The geography of WBoP is 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.

WBoP District does not contain any Medium (or larger) Urban areas[134] as Tauranga City fills the major metropolitan role for the district. The district has an estimated resident population of 48,600 persons in 18,640 households of which a significant 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%) which includes Omokoroa, Te Puke, Katikati and Waihi Beach.

The LUC 1-3 resource makes up around 23% of the total area of WBoP District (approximately 44,260 ha). This is moderate coverage when compared with other territorial authorities (ranked 23rd highest). There are no LUC 1 class soils identified in the district, just over 19,100 ha of LUC class 2 land and just over 25,100 ha of LUC class 3 land. In the north of the district, the LUC 1-3 land is located close to the coast. In the south there is an extensive plain of LUC 1-3 land, although Council have said that this land is flood prone so some areas face constraints for land-based primary production.

[134] As defined by StatisticsNZ 2018 Urban-Rural boundaries.

WBoP District's LUC 1-3 land makes up an estimated 1.2% of all LUC 1-3 land in New Zealand so is important but not significant in that context (the 30th highest contribution to the national resource, one higher than Horowhenua District). As a food growing hub however, WBoP *is* significant nationally, particularly for kiwifruit and avocados.

6.4.3 Economy

Horticulture plays a key role in WBoP's economy although this is not well demonstrated by employment count data (StatisticsNZ Business Frame). There are nearly 1,650 horticultural businesses (2017) employing just over 1,280 workers. This is just 7% of total district employment, but is a snapshot in February, so does capture seasonal workers. The operative planning provisions suggest that 6 ha is the minimum viable horticultural property in WBoP. This indicates potential for a high incidence of owner operators of relatively small sized operations. This helps explain why WBoP has 60% more horticultural businesses that Auckland Region, but only half the horticultural employment.

There are over 1,044 pastoral farming businesses in the district (2017). They employ approximately 860 workers (5% of the total district employment). Again, there is a strong correlation between the location of horticultural activities and LUC 1-3 land but only a moderate correlation for pastoral farming activities on HPL as defined in the NPS – HPL (transitional definition), less than case studies discussed previously. An estimated 34% of high producing exotic grassland cover within the district is on LUC 1-3 soils, although it occupies just over 60% of the resource. 65% of orchard, vineyard or other perennial crop land is located on the LUC 1-3 resource and makes up 25% of the resource. Short rotation cropland occupies just under 3% of all LUC 1-3 land in WBoP but is highly concentrated on LUC 1-3 (79% of this land cover).

6.4.4 Current Rural Zoning Approach

The WBoP rural zones identified for this analysis include the Rural Residential Zone, which is approximately 191 ha, the Rural Lifestyle Zone (2,132 ha) and the Rural Zone (183,543 ha) – being the productive rural zone. While the Rural Residential Zone is only small, 64% of this land is made up of HPL. The HPL in this zone makes up just 0.3% of what is mapped 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 HPL. This suggests that there may have been greater flexibility on where to locate this zone within the rural area and potentially that greater thought went into avoiding HPL, 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 HPL resource in this zone accounts for just 0.7% of all HPL mapped in the rural environment. The extensive Rural Zone contains 40,388 ha of HPL – this makes up an average of 22% of the total zone area and accounts for 99% of the total district HPL resource.

6.4.5 Current Planning Approach as it Relates to HPL

WBoP's 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. As Tauranga City has limited greenfield land left within its boundary, any urban

expansion of Tauranga encroaches on land within WBoP District (and may subsequently be transferred to Tauranga City Council).

WBoP District and Tauranga City combined are referred to as the WBoP sub-region. These two councils, along with the Regional council and other key stakeholders are part of the SmartGrowth partnership. The key output of SmartGrowth is a strategy that manages future growth in the sub-region according to a number of guiding principles including compact urban development that limits urban sprawl.

The SmartGrowth Settlement Plan and areas identified for future urban growth are cemented in the Regional Policy Statement through the setting of urban limits. Growth and land use planning in WBoP District is therefore managed in a very comprehensive, strategic, and collaborative way (as is the case for parts of Selwyn District and Waipa District, discussed later in this section). The Urban Expansion Report (M.E, 2019) provides a detailed analysis of strategic growth planning in the SmartGrowth sub-region and the potential implications of the NPS – HPL.

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*". The district plan includes some future urban zones that protect the opportunity for medium and long-term urban expansion in some urban areas. Retaining the ability of these future zones to be used for land-based primary production in the interim prior to urbanisation was part of Council's rationale.

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 district plan. "*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.

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 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.

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. Within this Zone there is provision for small scale farming, conservation planting, open space networks and walkways and cycleways to provide a high amenity rural environment.

Development of the Lifestyle Zone will require transferable lot entitlements from the range of incentives provided to landowners 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

in high demand in return for the transfer of development rights from less sought-after areas which remain important for rural production purposes.

The 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 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 HPL. This aligns well with the NPS – HPL.

Nonetheless, considerable fragmentation of the Rural Zone has already occurred. The "*magnitude of demand*" for rural lifestyle living was not anticipated by Council early on and the cumulative effects of widespread subdivision are now apparent. The current district plan seeks to avoid this issue going forward (not by constraining demand, but by containing it (including in areas such as the Lifestyle Zone) and ensuring that it is not at the expense of productive capacity). It contains a range of objectives and policies that align strongly with the intent of the NPS – HPL. To give effect to the policies for the Rural Zone, the zone standards include a minimum lot size for subdivision as follows[135]:

- *40ha to create a general farming lot[136].*
- *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.

The creation of lots specifically to grow horticultural land area is unique in the case studies examined in this CBA. These minimum lot sizes have been applied in M.E's modelling of rural lifestyle demand and subdivision below.

Overall, WBoP District's planning framework, complemented by SmartGrowth and the RPS, closely reflects the intent of the NPS – HPL, including recognition of LUC class 3 land. Implementing the NPS – HPL in WBoP District may mean only minor changes to provisions, although having HPL mapped will be a key difference.

[135] 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.

[136] For the purpose of our modelling in section 9.4, we have not been able to take account of the boundary adjustment date constraint.

Once adopted in the RPS, Council considers that this will provide greater certainty for landowners and Council alike.

6.4.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties containing a dwelling (as defined by CoreLogic data) in WBoP District grew suddenly in 1994 and continued to grow steadily 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. CoreLogic's latest data shows a count of 6,670 improved lifestyle blocks in the district, so there has been an estimated increase of 500 lifestyle properties that contain a dwelling between 2015 and 2019 (around 125 per year on average over that period which is significant). Proximity to Tauranga is considered a significant driver of rural lifestyle properties in WBoP District.

As at 2019 there is approximately 7,960 total lifestyle properties in the district (CoreLogic). 84% of these lifestyle properties are estimated to contain a dwelling but no other significant productive use[137]. The balance (16%) are mainly vacant lifestyle properties that do not currently contain dwellings and indicatively contain some form of primary production (or multi use) activity or are horticultural/farming only lots. As many of these 1,287 lots may be capable of having a dwelling (under current zone standards), the CoreLogic data may suggest that there is some capacity to accommodate more dwellings in the rural area without further fragmentation[138].

M.E examined the land parcels in WBoP District's Rural, Rural Lifestyle and Rural Residential Zones that could be further subdivided under the operative minimum lot size provisions. In addition to the minimum lot sizes discussed above, the minimum average lot size in the Rural Residential Zone is 4,000sqm and the minimum average in the Rural Lifestyle zone is 5,000sqm[139]. No other constraints to subdivision have been modelled and the potential to create 'Rural Crop Lots' is excluded as these do not result in a loss of productive output (a key focus on M.E's modelling). Further, we have assumed that all 'Rural Production Lots' meet the evidence base required before subdivision can be approved[140].

The analysis showed that there is significant indicative potential for further land fragmentation in areas with HPL (LUC class 1-3) - an estimated 1,084 parcels totalling 56,790 ha that include 25,172 ha of LUC class 1-3 land. This area represents nearly two thirds of the total HPL in the rural area. There are also significant areas where subdivision can occur that do not contain HPL.

Not all the subdivision potential will yield lots desirable or broadly suitable for rural lifestyle living, particularly given the minimum 'General Farming Lot' size in the Rural Zone is 40 ha which is significantly larger than the typical lifestyle block.

The projected increase in demand for lifestyle parcels has been estimated by M.E on a direct pro rata basis, assuming that the number of households on lifestyle properties remains more or less constant with the

[137] The data shows that 25 of the 6,670 'improved' lifestyle blocks are coded as 'horticulture of farming' land use and a further 63 are coded as 'multi use lifestyle'. The majority (6,531) are coded as having just a single residential unit.

[138] M.E have not factored in this potential capacity in its modelling of rural lifestyle subdivision demand.

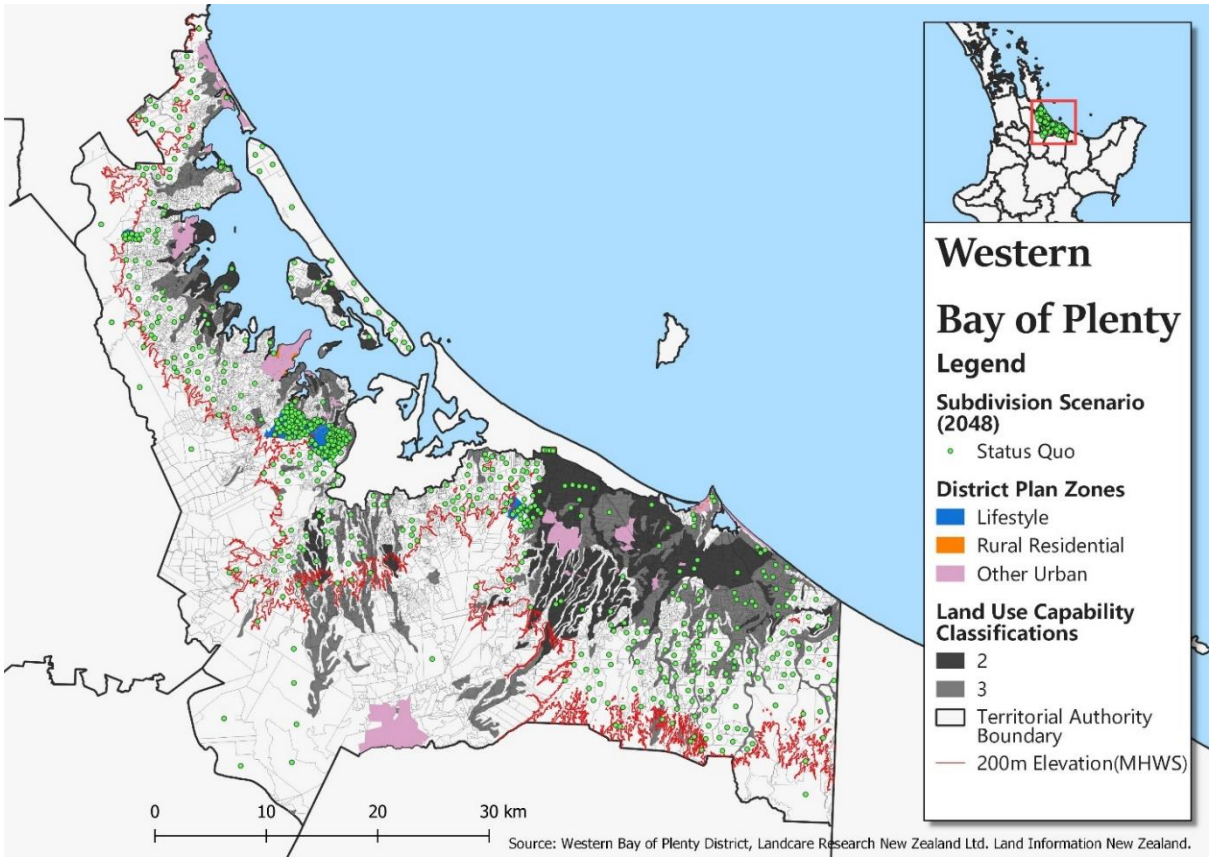
[139] M.E have used high-level minimum lot sizes only and have not captured all subdivision pathways. In particular, M.E have not been able to replicate the Transferable Rural Lot Entitlements and Transferable Amalgamation Lots (both of which can be used in the Lifestyle Zone). Separation Lots, Protection Lots and Additional Dwellings Lots were also excluded from the modelling.

[140] For further assumptions on how subdivision potential has been modelled, refer to the Supporting Analysis Report.

current share of total households. The underlying household projections indicate an additional 780 lifestyle properties would be demanded by 2028 in the medium growth future and nearly 1,600 by 2048.

Under the Status Quo future in M.E's modelling, the nearly 1,600 additional parcels are distributed with 16% on parcels containing LUC 1-3 land, and the balance on land without significant HPL resource. The additional parcels would take up a total area of 5,380 ha, including 836 ha of HPL resource (Figure 6.10). The model prioritises the up-take of capacity in the Rural Lifestyle and Rural Residential Zone in the first instance. The balance of demand is distributed throughout the rural area but primarily below 200m elevation (MHWS) as this is where more typical lifestyle properties can be subdivided in the model and where the market has shown a strong location preference[141]. The relatively small area of HPL taken up under the Status Quo scenario is due in part by the location of the Lifestyle Zone that largely avoids LUC 1-3 land. The average lot size in this scenario is 3.4 ha.

Figure 6.10 – Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



Under the 'with-HPL' outcome, it is assumed (High Regulatory Scenario) that all rural lifestyle subdivision on HPL is redirected to non-HPL within the district, although this does not translate into a great number of subdivided lots needing to be redirected in WBoP compared to the status quo distribution (Figure 6.11). The operative minimum lot size provisions in the rural zones are also assumed to remain in place in the

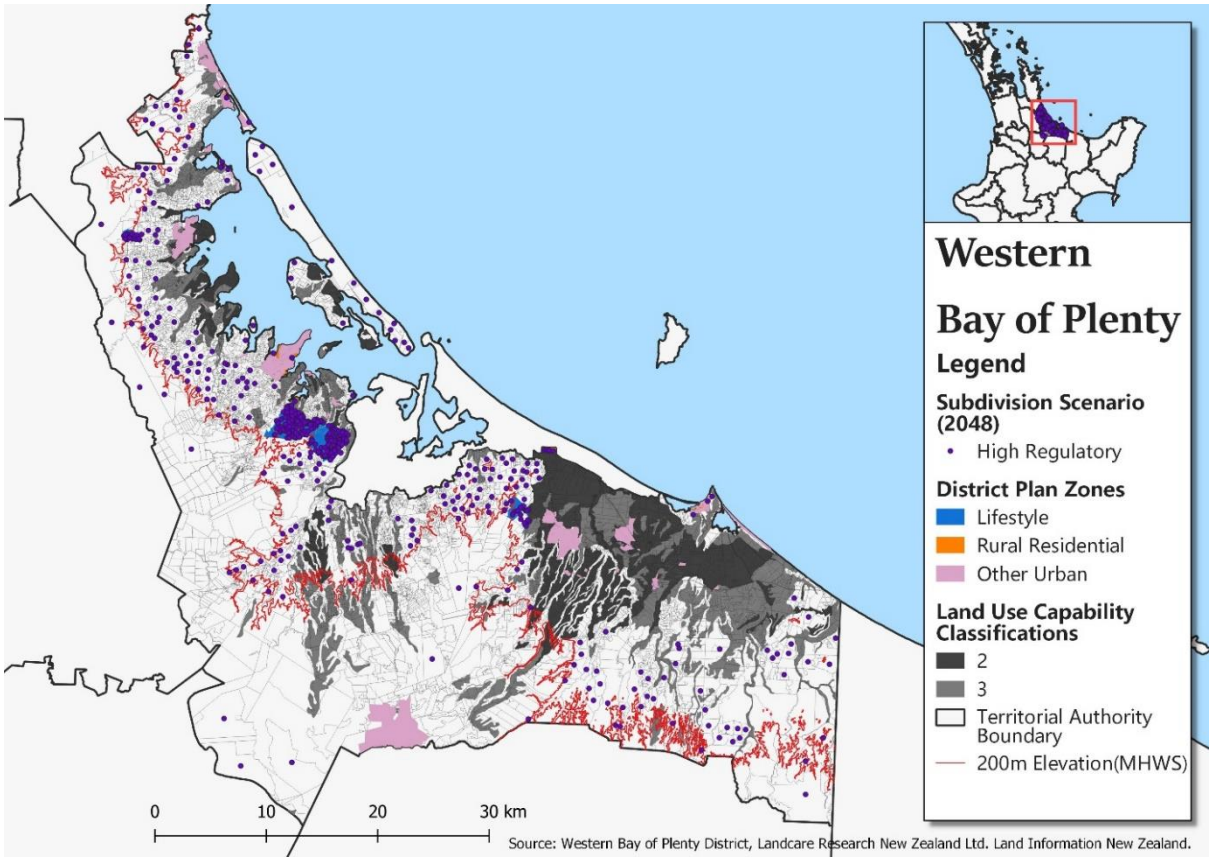
[141] The land around Te Puke has shown a low incidence of lifestyle properties (as defined by CoreLogic) to date. The model does not direct future lifestyle demand to this area on the assumption that current location preferences hold true in the future.

model over the long-term. This key assumption may be unlikely but avoids the need to speculate on council's response to demand and supply of rural lifestyle activity in the future.

With the NPS – HPL (High Regulatory scenario) the total number of new lots created by 2048 is the same (around 1,600) but the area of the combined lots is smaller at 4,150 ha with the NPS – HPL (the average lot size decreases to 2.6 ha). This shift arises from redirecting a portion of demand to areas that were potentially less desirable (relative to current patterns of lifestyle properties) but where minimum lots sizes are smaller.

Under the status quo (creation of nearly 1,600 additional lifestyle lots by 2048), the net value uplift to landowners able to subdivide off land to create lifestyle properties is estimated at $112m on HPL land and $403m on non-HPL land. Total uplift (capital gain) to landowners would be $515m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $471m uplift for landowners on non-HPL. The decrease in capital gain compared to the Status Quo arises from more demand being allocated to smaller parcels that have a lower asking price.

Figure 6.11 – Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



This shows a net opportunity cost to landowners with the NPS – HPL at the district level of $44m driven solely by a different spatial distribution of lifestyle properties. Because it is possible that the Council would consider changes to better manage the redirection of lifestyle property to non-HPL areas, this is considered a maximum opportunity cost for WBoP District.

A key benefit of redirecting more rural lifestyle development to non-HPL land parcels would otherwise have been the case is that the productive output of HPL properties that would have been subdivided and developed with a dwelling by 2048 is able to continue into the long-term (and the option to undertake land-based primary production on HPL not already used for agriculture is also protected). However, the analysis for WBoP 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 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 district plan.

The calculation of foregone production also excludes any lifestyle property land area within the Lifestyle and Rural 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 Zone that is 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 MHWS).

The opportunity benefit (cumulative gross output from land-based primary production retained on HPL) would be $11.3m compared to the Status Quo future by 2048, however the foregone production on the non-HPL would be some $0.7m more than under the Status Quo. In net terms, the land-based primary production that is retained across the district would be $10.7m more in gross output terms (High Regulatory scenario). In present value terms (8% discount rate) this net opportunity benefit would be $3.2m and includes an estimated $2.4m of labour and resource costs to achieve that gross output (inputs to production). These results are directly affected by the assumptions applied in the rural lifestyle demand modelling described above.

6.4.7 Future Urban Growth and Potential Implications

As discussed above, the SmartGrowth settlement plan (excluding potential growth areas for further investigation) has been incorporated in the RPS which sets urban limits around the growth areas. Urban growth can only occur inside the urban limits in accordance with the RPS. However, to combat any inflexibility in that process, the SmartGrowth partners agreed on a mechanism that allows areas outside the current urban limits to be investigated. As the urban limits have been through the schedule one process of the RMA, the land within the limits can be excluded from land mapped as HPL, meaning no additional transaction costs would apply for plan changes that up-zone or live-zone that land.

The urban limits in the RPS are expected to be periodically updated to incorporate updates of the SmartGrowth settlement plan/FDS and the uptake of short-term growth areas. The RPS sets an urban limit for the short term (currently set at pre 2021) and a limit for the medium-long term (currently set at post 2021). The RPS therefore plays a key role in the sequencing of urban expansion. Because the urban limits currently include areas for medium and long-term growth in WBoP District (i.e. a 30 year outlook), shifting the outer urban limit may not be required in the short to medium-term, although there is always potential for the direction of growth to change, particularly if any potential or long-term growth areas being investigated prove to be more feasible options. Council officers estimated that the next expansion of the urban limits might not be for 10 years (if everything goes to plan), however there is a short-term need to make some smaller scale adjustments.

"*Finding alternative capacity options for potential long-term growth areas (that sit outside the RPS) is likely to be challenging. The total sub-region has a relatively simple settlement pattern and many urban centres are partially or totally constrained by HPL (or primary production). This is evidenced by the fact that two thirds of potential growth areas under investigation occupy HPL – showing that it is getting harder to find appropriate land for urban growth that avoids HPL*" (Urban Expansion Report, 2019, M.E, page 92). The FDS shows several areas under investigation in WBOP District for longer-term growth (not limited to the fringe of Tauranga City). If these areas are deemed suitable for urban growth, then these are the areas that may be expected to be included in any future changes to the RPS urban limits.

Since the district plan was made operative (2012), none of the plan changes that have been completed enabled urban development on rural zoned land. Any future council initiated growth related plan changes in WBOP will only be to give effect to strategic growth areas identified in the RPS. Any private plan changes that have occurred in WBoP District in the recent past have tended to be small scale. If and when urban limits are expanded onto HPL, private plan changes are expected to make up only a minor share of total urban growth plan changes over the next 30 years according to Council.

Upon discussion with Council, plan changes that incorporate a structure plan currently cost in the order of $250,000, "*especially with all the constraints, natural hazard and infrastructure*" aspects that need to be assessed. It was considered that the implementation of the NPS - HPL could result in a 10-20% increase (indicatively) in plan change preparation costs. To avoid underestimating potential transaction costs, M.E have adopted the upper limit for the purpose of this CBA (20% or a base transaction cost of $50,000 per plan change). Acceptance of the additional costs by private developers is expected to be in proportion to the yield in lot numbers and hence return on investment.

A higher net additional preparation cost (i.e. greater than 20%) was considered unlikely on the basis that plan changes can only give effect to strategic growth areas; higher order strategic planning documents will have covered other options for growth in detail; and the district plan has a planning framework that helps protect HPL. The horticultural sector already ensures that careful consideration is given to any potential loss of HPL in WBoP District.

For the WBoP District, Council considers that implementing the NPS - HPL will anchor good practice but not materially alter the approach to urban growth planning already carried out under SmartGrowth. In council's view, the net additional preparation cost may only relate to the need to strengthen the reasoning within a section 32 report in a way that specifically targets the requirements of the NPS – HPL, particularly assessing costs and benefits in requirement 3.4(2)(c) (i.e. not so much new work, but perhaps presented in a different way).

While submissions and appeals on plan changes always "*chew up the money*", Council did not specifically identify if there would be net additional transaction costs for these plan change stages under the NPS - HPL. They generally felt that litigation might ease up under the NPS - HPL thanks to national direction, although they did anticipate that the mapping of HPL by the Regional Council could be litigious.

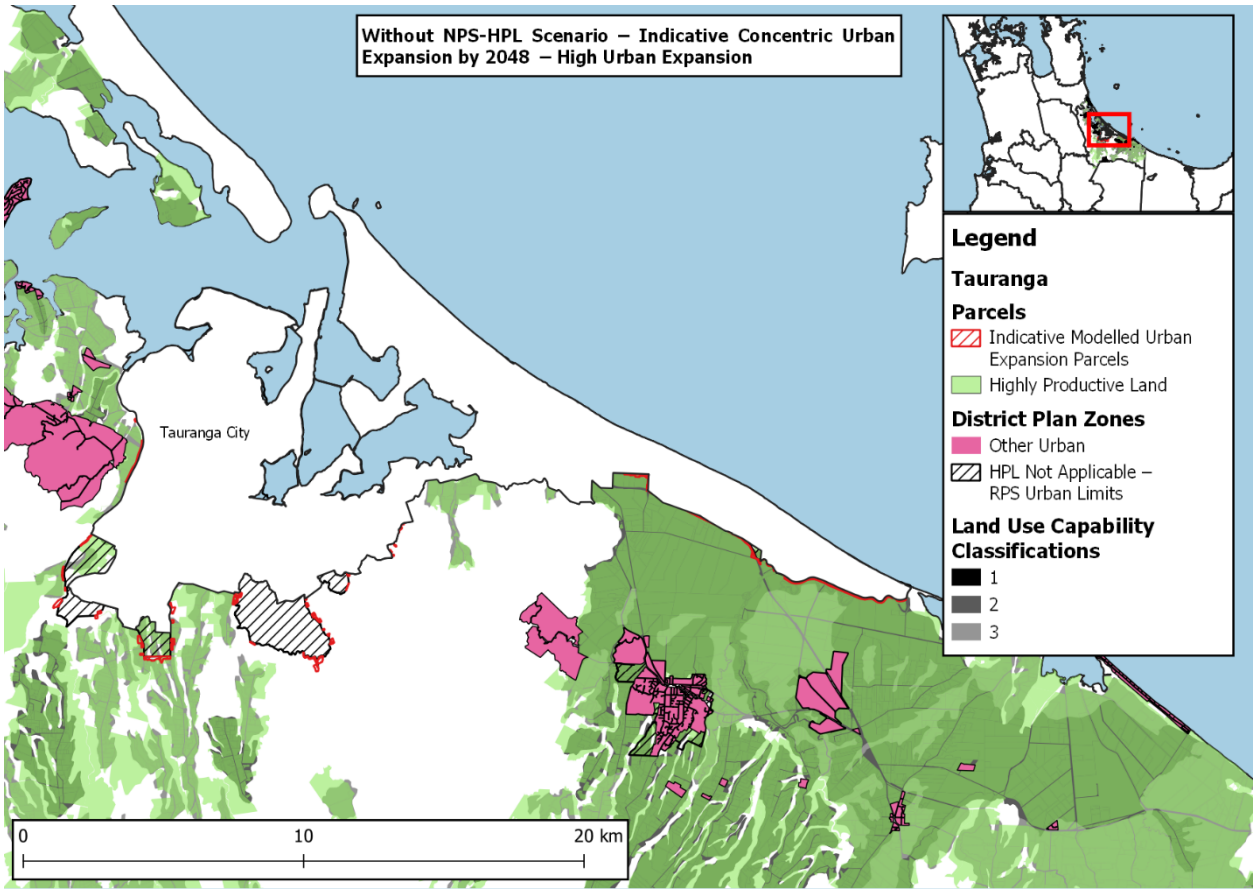
In total, M.E project 3 discrete urban expansion plan changes on land mapped as HPL in the long-term in WBoP District (and treating any plan changes run by Tauranga City Council as part of the WBOP case study for the purpose of this CBA). These are anticipated to all be council plan changes. While the base transaction cost modelled is estimated at $50,000 per plan change, Council agreed that this transaction cost might diminish over time through greater efficiency at addressing NPS – HPL requirements, so that by the third

plan change, the transaction cost is estimated at $40,000. Over the study period, there are total estimated transaction costs attributable to the NPS - HPL (clause 3.4(2)) of $135,000 (undiscounted) for Council and zero transaction costs for private developers[142]. This equates to $37,000 in present value terms (discount rate of 8%).

To examine the potential for the NPS – HPL to create opportunity costs for landowners and developers associated with future urban expansion in WBoP District (through a change in the potential for their land to be urbanised in the next 30 years), M.E has modelled indicative urban expansion of Tauranga (on the basis that this is the urban area facing the strongest growth pressure and any expansion will be onto WBoP land).

M.E estimates that once capacity inside the current urban limits is accounted for, there may be demand for an additional 1,500-3,000 urban dwellings on greenfield land in WBoP District (on the Tauranga urban fringe). M.E has assumed a density of 15 dwellings per (gross zone) hectare. This equates to an additional 100 to 200 ha of urbanised land[143].

Figure 6.12 – Status Quo Simple Tauranga Concentric Urban Expansion Scenario 2048 – High



As the exact location and configuration of future urban expansion is not known (including whether areas under investigation for future growth will prove feasible), M.E has adopted a simple and indicative

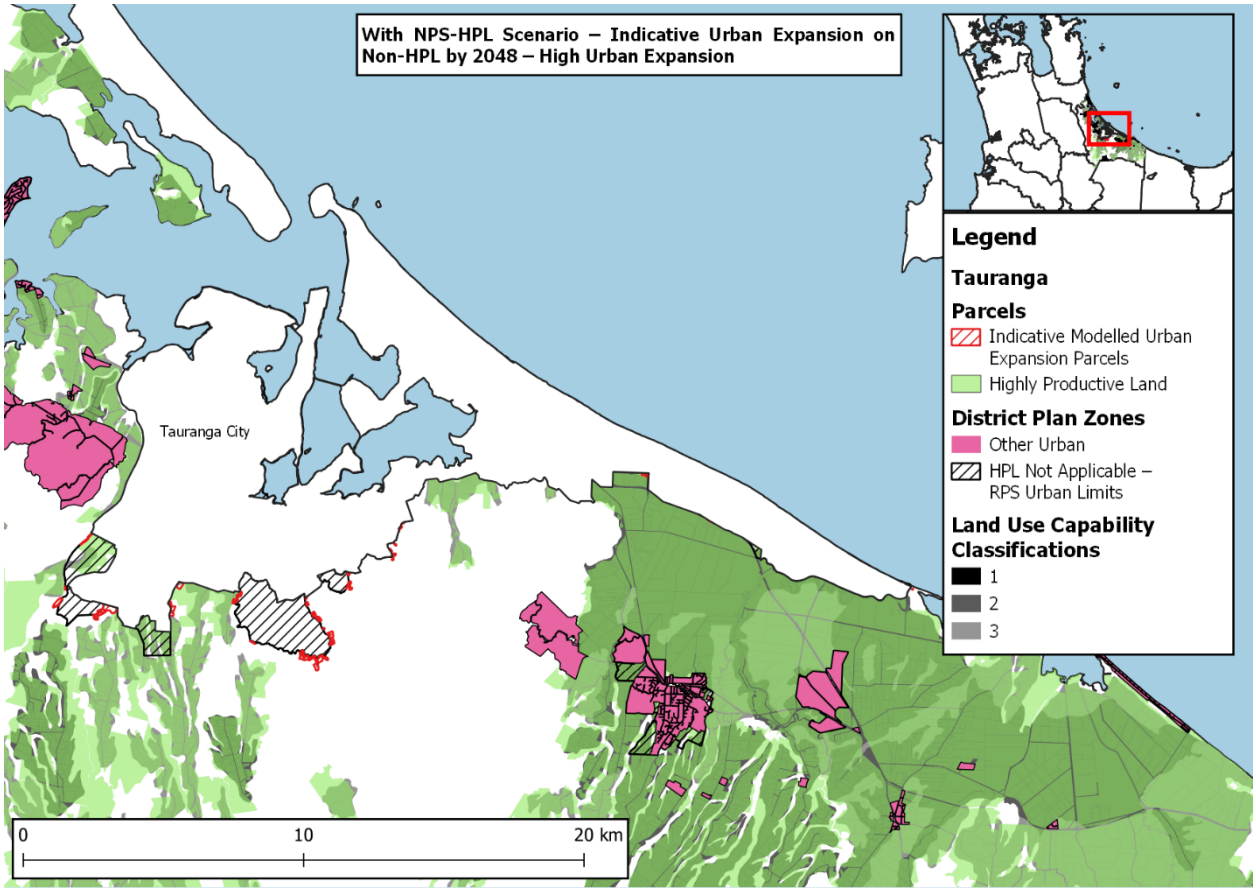
[142] Any private plan changes in future for urban expansion in WBOP District are estimated to be limited to those that avoid HPL.

[143] It is assumed that 30% of the land area is allocated to roads, reserves, and other non-residential uses, meaning that 70% of the land area represents that taken up by private land parcels. This equates to an average section size of 470m2 per dwelling.

approach to modelling urban growth for the status quo scenario based on incremental (concentric) expansion, selecting the closest parcels to the urban fringe until a total area of 100-200 ha is reached. No other constraints have been factored into the model (including existing designations, land use, natural hazards or LUC 1-3). As 100-200 ha is a small area relative to the length of the urban fringe, relatively few parcels are selected in the model (so appear random and dispersed in Figure 6.12).

Under the 'with NPS – HPL' scenario, M.E tested the implication of all 100-200 ha of projected greenfield growth redirected to non-HPL land in the model, while still selecting qualifying parcels based on closest distance to the urban boundary (Figure 6.13). The outcome is a slightly different distribution of growth compared to the status quo scenario, but the same quantum of growth provided for. Spatial assessment of the changes in the distribution of these growth patterns shows there is likely to be little effect in the overall efficiency of the growth pattern that emerges under each scenario.

Figure 6.13 – With-NPS Simple Tauranga Concentric Urban Expansion Scenario 2048 – High



The landowners on HPL selected in the status quo scenario lose the potential to urbanise their land under the 'with NPS – HPL' scenario (by 2048) and as a result, lose the value uplift associated with the opportunity for urban development. Using the results from the high growth outlook (200 ha), this is a modelled opportunity cost of -$6.78m spread over several land parcels. Elsewhere there is also some increase in value for non-HPL which has greater potential to be urbanised (by 2048) but would otherwise have likely remained Rural Zone. This is a modelled opportunity gain of $66,000, again spread over a number of land parcels. Small increases may also occur on land that is modelled to be urbanised under both scenarios, but

where the timing of urbanisation is brought forward because of constraints to urbanise the HPL. This is a modelled opportunity gain of $105,000.

The reason that costs and benefits of reallocation of urban expansion are so different in this case study is because land values on the fringe of Tauranga City are already high based on their proximity to a high growth urban area. There is scope for land values to drop if urbanisation potential is lost, but only limited scope for land values to increase further if urbanisation potential is enhanced/accelerated.

Overall, M.E estimates a potential net cost of some $6.61m to landowners as a result of lost and gained urbanisation potential on land adjacent to the Tauranga's urban boundary. In present value terms (8% discount rate), this net cost is $1.09m (High growth outlook)[144].

6.5 Auckland – Summary

6.5.1 Key Findings Auckland

- Significant demand for additional lifestyle lots is estimated for Auckland by 2048 (in the order of 7,770).
- Under the NPS – HPL there would be slightly fewer options for lifestyle subdivision that avoids HPL. Demand growth may be slightly (4%) constrained compared to the status quo future.
- The net opportunity cost to landowners associated with lifestyle subdivision under the NPS – HPL is modelled at $475m. This is however driven mainly by fewer lots able to be created compared with the status quo, rather than simple the redistribution of lifestyle properties.
- Because we would expect Auckland Council to respond to a shortfall of capacity for rural properties over time, this is considered a maximum opportunity cost.
- Council considers that the Future Urban Zone provides sufficient capacity for long-term urban growth. As such, no opportunity costs to landowners associated with urban expansion arise in the period to 2048 as a result of the NPS – HPL.
- Transaction costs for private plan changes for urban expansion on HPL under the NPS – HPL are indicatively estimated at $344,000 ($183,000 in present value terms) to 2048. This is a minor cost over the long-term.

6.5.2 HPL Resource (LUC 1-3)

Auckland contains New Zealand's largest city as well as several satellite urban areas in the north and the south. The region includes offshore islands, ranges in the west and south and adjoins the coast on both the western and eastern boundary. Most of the rural land resource is found within the northern and southern parts of the region. In 2018 Auckland was home to an estimated 1.7m residents (35% of New Zealand population) in nearly 560,000 households. The majority (85%) live in the 'Major Urban' area as defined by

[144] A similar result applies when a 1% per annum increase in land values is modelled (net opportunity cost of $1.53 in present value terms). Results for the medium growth outlook (i.e. 100 ha by 2048) are $301,000-$434,000 in present value terms (8%).

StatisticsNZ. A further 6% live in the 'Rural Other' area and the balance (9%) live in the 'smaller urban areas and 'Rural Settlements'.

This CBA has relied on the NZLRI database to inform the quantum and geography of LUC class 1-3 land (HPL). That data shows a substantial HPL resource in Auckland. It accounts for 25% of the unitary authority area or 123,717 ha. This coverage ranks 18th across all territorial and unitary authorities. There is just over 4,383 ha of LUC class 1 land, just over 54,860 ha of LUC class 2 land and approximately 64,470 ha of LUC class 3 land. Excluding the existing urban land use zone area, there is approximately 96,990 ha of HPL in the rural environment (inclusive of the Future Urban Zone), indicating that an estimated 26,727 ha of LUC 1-3 land is now covered by urban land use (and not already classified as 'town' area in the LRI database). Notwithstanding that not all LUC 1-3 land in Auckland is necessarily available in a rural or greenfield area, the region's mapped LUC 1-3 land makes up an estimated 3.2% of all LUC 1-3 land mapped in New Zealand so is significant in that context (the 7th highest contribution to the national total).

We note that Auckland Council identified several issues with the application of the NZLRI database across the region and have developed a new LUC database for the purpose of regional planning called FARMLUC[145]. The FARMLUC dataset contains a different distribution of soils across the eight LUC classes – notably more LUC class 1 and 5 soils and less LUC class 2 and 6 soils. However, the total amount of LUC class 1-3 soil is roughly the same across NZLRI and FARMLUC datasets. The following assessment is based on the NZLRI LUC dataset to be consistent with other case studies, but the spatial analysis results would be slightly different if run with the FARMLUC dataset (and these have not been included).

6.5.3 Economy

Agriculture plays a small role in the overall economy of the region, but Auckland is a nationally significant growing hub for certain horticultural products. There are over 1,000 horticultural businesses within Auckland as at 2017. They employ approximately 3,440 workers and businesses located on LUC 1-3 land employ more staff than businesses located on other land classifications (i.e. are more productive/intensive). There are also 3,000 pastoral farming businesses within the region in 2017. Collectively they employ 1,670 workers. They are not as concentrated on HPL as horticultural enterprises.

Only 40% of total High Producing Exotic Grassland is located on LUC 1-3 land. The presence of HPL appears to play only a moderate role in the location of this activity. However, this land cover is significant as it makes up 83% of the total HPL resource in the combined rural area of Auckland. In contrast, the HPL resource makes up 92% of all Short Rotation Cropland in Auckland, meaning that only a very minor share (8%) is located on other soils. The presence of HPL plays an extremely significant role in the location of this activity 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). Orchard, Vineyard or Other Perennial Crop land makes up just 2,320 ha of HPL (2% of the total). This is also highly concentrated on HPL (88%) suggesting a high dependency on that resource (or at least significant advantages).

6.5.4 Current Rural Zoning Approach

The Auckland rural zones identified for the purpose of this analysis include the Rural Countryside Living Zone which is approximately 22,530 ha, the Mixed Rural Zone (approximately 39,094h), the Rural Coastal

[145] http://www.knowledgeauckland.org.nz/assets/publications/ARPB-004-05May-21-2018-FARMLUC-classification.pdf

Zone (73,279 ha), the Rural Conservation Zone (3,095 ha), the Rural Production Zone (162,752 ha), The Waitakere Foothills Zone (2,871 ha), the Waitakere Ranges Zone (3,141 ha). We have also included the very small Green Infrastructure Corridor Zone (8 ha) and for interest, the Future Urban Zone (10,548 ha) – on the basis that it is likely to be in rural land use at present.

While the Rural Countryside Living Zone accounts for just 7% of the combined rural environment, 42% of it contains HPL (9,396 ha). The HPL resource in this zone accounts for 10% of the total HPL resource in the rural area. The Mixed Rural Zone makes up 12% of the rural land area but the HPL resource in this zone (which covers 50% of zone area) accounts for 20% of the total rural HPL resource. The Rural Coastal Zone is almost twice as large again and accounts for 23% of the rural land area. HPL accounts for 24% of the zone area and this makes up 18% of the total rural HPL resource. The Rural Production Zone is the dominant zone, accounting for 52% of the rural land area. On average, 26% of this zone contains HPL, but given its size, this makes up 44% of the total rural HPL resource.

It is relevant to note that the Future Urban Zone is small relative to the total rural area identified (3%), but a significant 64% of this zone contains HPL. It makes up 7% of the total rural HPL resource. Given that the NPS - HPL excludes areas already zoned for urban growth from consideration when identifying HPL, this 7% of rural HPL (6,757 ha) is already a sunk cost.

6.5.5 Current Planning Approach as it Relates to HPL

There are significant pressures for urban expansion in Auckland, with the region expecting to account for around half of New Zealand's population growth projected between 2018 and 2048. 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. Objectives and policies seek a compact urban form where growth is contained within a Rural Urban Boundary (RUB).

The RUB is stated as needing to supply a minimum of seven years growth, but Council consider that in conjunction with provisions and opportunities for intensification and efficient use of greenfield and brownfield land within the RUB, that the RUB indicatively provides (through a Future Urban Zone (FUZ) covering a significant 10,500 ha) sufficient capacity for long-term growth. This was confirmed in the Council's recent Housing and Business Development Capacity Assessment (HBDCA).

That said, there are provisions that allow for the RUB to be expanded where they can be shown to avoid elite soils (LUC class 1 land) and avoid where practicable prime soils (LUC class 2 and 3 land) which are significant for their ability to sustain food production. As noted above, Council does not foresee a need for the RUB to be pushed further into the rural zone(s) for many years, particularly in the next 20 years, and potentially in the next 30 years. They will however continue to monitor capacity through HBDCA updates and general Auckland Plan monitoring which includes tracking consents for intensification and greenfield development.

The FUZ came about because of a long-term spatial plan (The Auckland Plan) which is a requirement of the Local Government (Auckland Council) Act 2009. This was informed by The FULSS (Future Urban Land Supply Study) strategy that indicates the timing and location of when the FUZ should be live-zoned for urban development. While recent private plan changes do not typically challenge the strategic direction provided by the FUZ, occasionally they seek to live-zone the greenfield land sooner than anticipated by Council.

In terms of rural fragmentation pressure, 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. 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.

As with other policies, rural fragmentation for the purpose of rural lifestyle development must avoid elite soils but is otherwise discouraged (i.e. where practical) on prime soils. Like WBoP District, Auckland Council has provided a Countryside Living Zone where development rights can be transferred to help reduce the impact of fragmentation on productive land while also consolidating rural population growth and protecting areas of high natural value in the region. Under the NPS – HPL, the avoidance of rural lifestyle subdivision on what Auckland Council refers to as prime soils is likely to be key change to the provisions of the Unitary Plan (i.e. where a stricter avoid approach is required to be implemented).

Despite already having provisions in the Auckland Unitary Plan that protect LUC 1-3 soils and a clear strategic growth plan for urban expansion, Council have told M.E that they welcome strong national guidance in the form of the NPS – HPL to help them more effectively deal with consents and private plan changes in the rural environment and protect their valuable food growing hubs.

6.5.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties (as defined by CoreLogic data) in Auckland grew rapidly between 1993 and 1995. This was followed by slow but steady growth through to 2014. The 2015 data shows a slight drop in the count of lifestyle properties. This may indicate conversion of lifestyle properties for other property types (but presumably residential properties)[146]. The latest data shows a count of 19,224 improved lifestyle blocks (i.e., lots containing a dwelling), so there has been an estimated increase of 388 lifestyle properties between 2015 and 2019 (around 97 per year on average over that period).

M.E examined the land parcels in Auckland's rural area that could be further subdivided under the operative minimum lot size provisions (based only on the size of the parent lots and no other constraints). The analysis has not been able to account for transferable development rights or other concessions for subdivision so is indicative only. The analysis showed that there is significant potential for further land

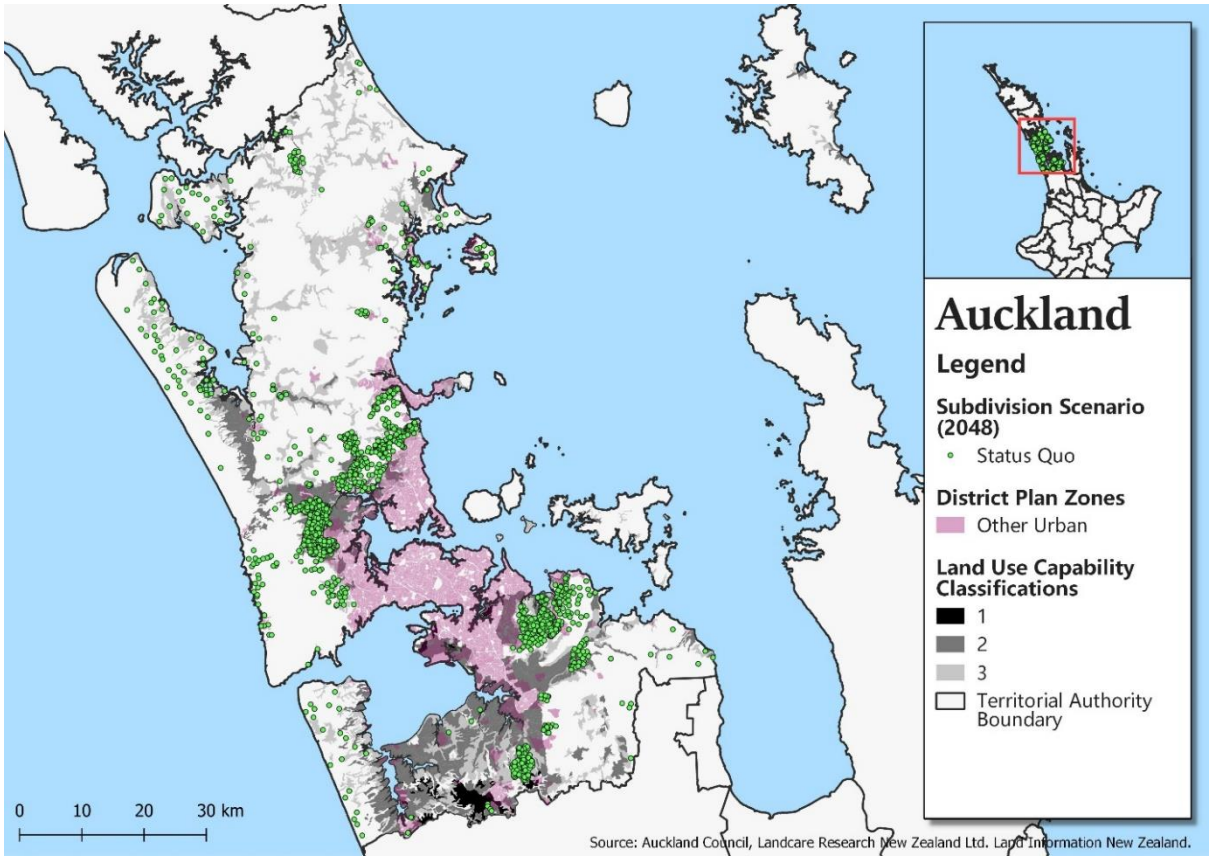
[146] M.E is not aware of any change in the way the data was collected that might explain the decrease.

fragmentation in areas with HPL (LUC class 1-3) - an estimated 1,013 parcels totalling 44,161 ha that include 12,608 ha of LUC class 1-3 land. This area represents 14% the total HPL area in rural zones that could be further subdivided, so only a moderate share of the total HPL. This is helped by the fact that large minimum average lot sizes in some zones are effective in deterring further subdivision and over half of the subdivision potential is vacant capacity within the Countryside Living Zone (which is where lifestyle development is encouraged, and the zone does not qualify as HPL under the NPS – HPL). There are also areas where subdivision can occur that do not contain HPL.

The NPS – HPL does not seek to avoid all subdivision on HPL, just that related to rural lifestyle development and other inappropriate land use and development. Further, not all of the subdivision potential will yield lots desirable or broadly suitable for rural lifestyle living, particularly given the minimum average lot size in the Rural Production Zone is 100 ha and the minimum average lot size of the Mixed Rural Zone and Rural Coastal Zone is 50 ha – both of which are significantly larger than the typical lifestyle block.

Future demand for additional lifestyle lots that include a dwelling has been estimated on a direct pro rata basis with projected household growth in the region, assuming that the number of lifestyle parcels remain more or less constant with the current share of total households (an implied 3.4%). The underlying Medium household projections (StatisticsNZ) indicate an additional 3,500 lifestyle parcels would be demanded by 2028 and 7,770 by 2048.

Figure 6.14 –Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo

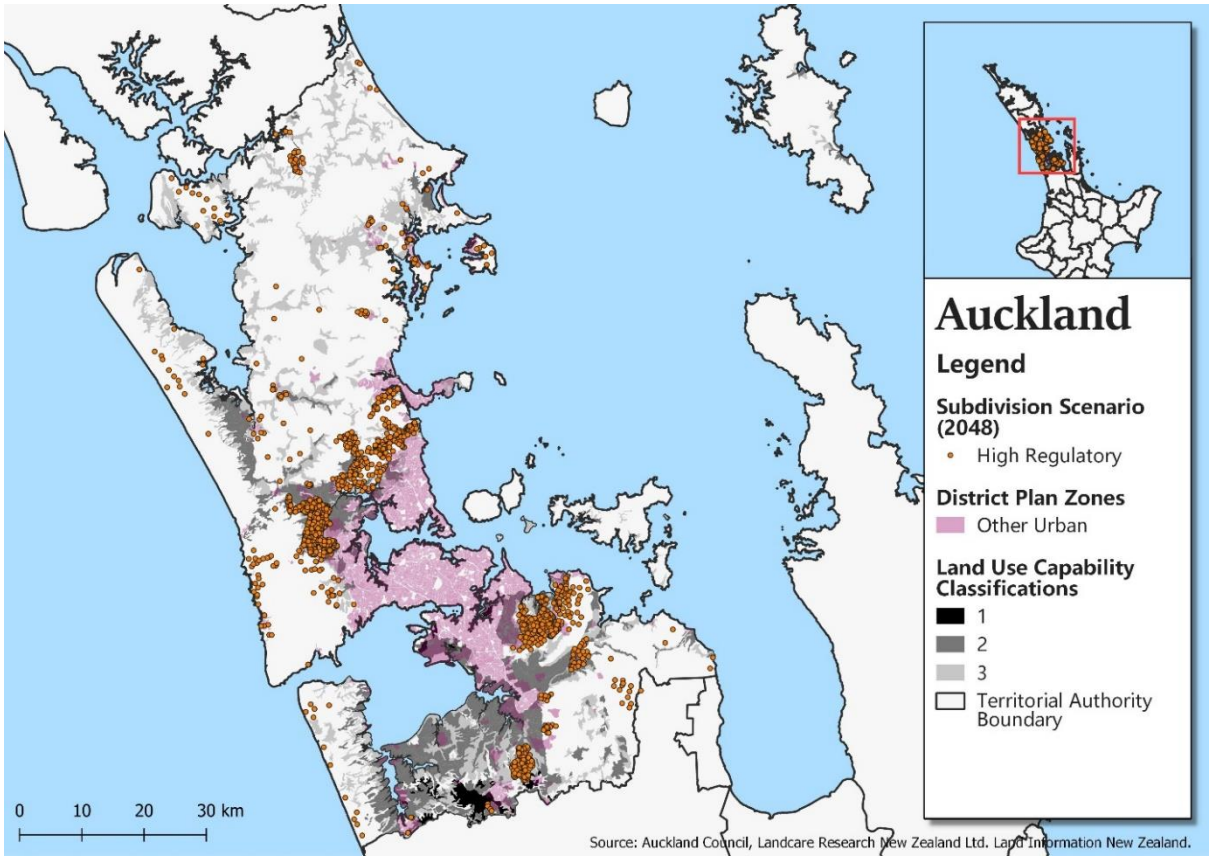


In the absence of the NPS – HPL (i.e. the status quo scenario), all long-term demand for lifestyle properties is able to be met in M.E's modelling even with current zones and minimum lot sizes remaining unchanged

(which is considered unrealistic but a necessary assumption for modelling purposes). Under the Status Quo future, the nearly 7,770 additional lifestyle parcels would be distributed with 2,390 (31%) on HPL parcels, and the balance (5,380) on land without significant HPL resource. The additional parcels would take up 5,690 ha of HPL resource (Figure 6.14). The model prioritises uptake in the Countryside Living Zone (2 ha minimum lot size) and Large Lot Residential zone (which has a minimum lot size of 4,000sqm).

With the NPS – HPL (High Regulatory scenario) a high share of new lifestyle lots can still be created in the Countryside Living and Large Lot Residential zones, but there are fewer options for subdivision of lifestyle lots that avoid HPL. The result is less demand able to be allocated in the model – 7,425 out of total demand of 7,770 (Figure 6.15). This means that a minor amount of lifestyle property demand by 2048 (345 lifestyle lots or 4%) would be constrained compared to the status quo, although the model tests a worst case outcome. However, the effect of applying the NPS - HPL provisions would still substantially reduce the loss of HPL over the period to 2048. The High Regulatory NPS - HPL future would see 2,444 ha of HPL resource retained for primary production.

Figure 6.15 –Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



Under the status quo (creation of nearly 7,770 additional lifestyle lots), the value uplift to land owners able to subdivide off land to create lifestyle properties is estimated at $200m on HPL land (149 new lots) and $4,211m on non-HPL land (7,619 new lots). Total uplift (capital gain) to landowners would be $4,410m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $3,935m uplift for landowners on non-HPL (associated with approximately 7,425 new lots). The net opportunity cost to landowners with the NPS – HPL is therefore estimated at $475m, although this is largely driven by

approximately 345 fewer lots able to be created compared with the status quo (rather than simply a different spatial distribution of lifestyle properties). Because we would expect the Council to respond to a shortfall of capacity for rural lifestyle properties over time (through changes to the operative provisions), this is considered a maximum opportunity cost for Auckland.

A key benefit of redirecting more rural lifestyle development to non-HPL than would otherwise have been the case is that the productive output of HPL properties that would have been subdivided and developed with a dwelling by 2048 is able to continue into the long-term (and the option to undertake land-based primary production on HPL not already used for agriculture is also protected). The opportunity benefit (cumulative gross output from land-based primary production retained on HPL) would be $78m compared to the Status Quo future by 2048, however the foregone production on the non-HPL would be some $117m more than under the Status Quo. In net terms, the land-based primary production that is retained across the district would be $195m more in gross output terms (High Regulatory scenario). In present value terms (8% discount rate) this net opportunity benefit would be $37m and includes an estimated $27.5m of labour and resource costs to achieve that gross output (inputs to production).

6.5.7 Future Urban Growth and Potential Implications

As discussed above, council initiated urban expansion plan changes (i.e. that extend the RUB) are not anticipated over the study period of this CBA (i.e., to 2048). However, Council has fielded several enquiries for urban-like development on the rural fringe or in the rural coastal environment since late 2018 (once the two year restriction period following the Unitary Plan becoming operative (in part) ended). Such private plan change enquiries outside the RUB are contrary to Council's strategic direction for urban growth and Council does its best to deter these enquiries from going further. While there are no such private plan changes currently listed on Auckland Council's website (i.e. formally received by Council), Council advises that there are about 4-5 active enquiries at present that are being considered.

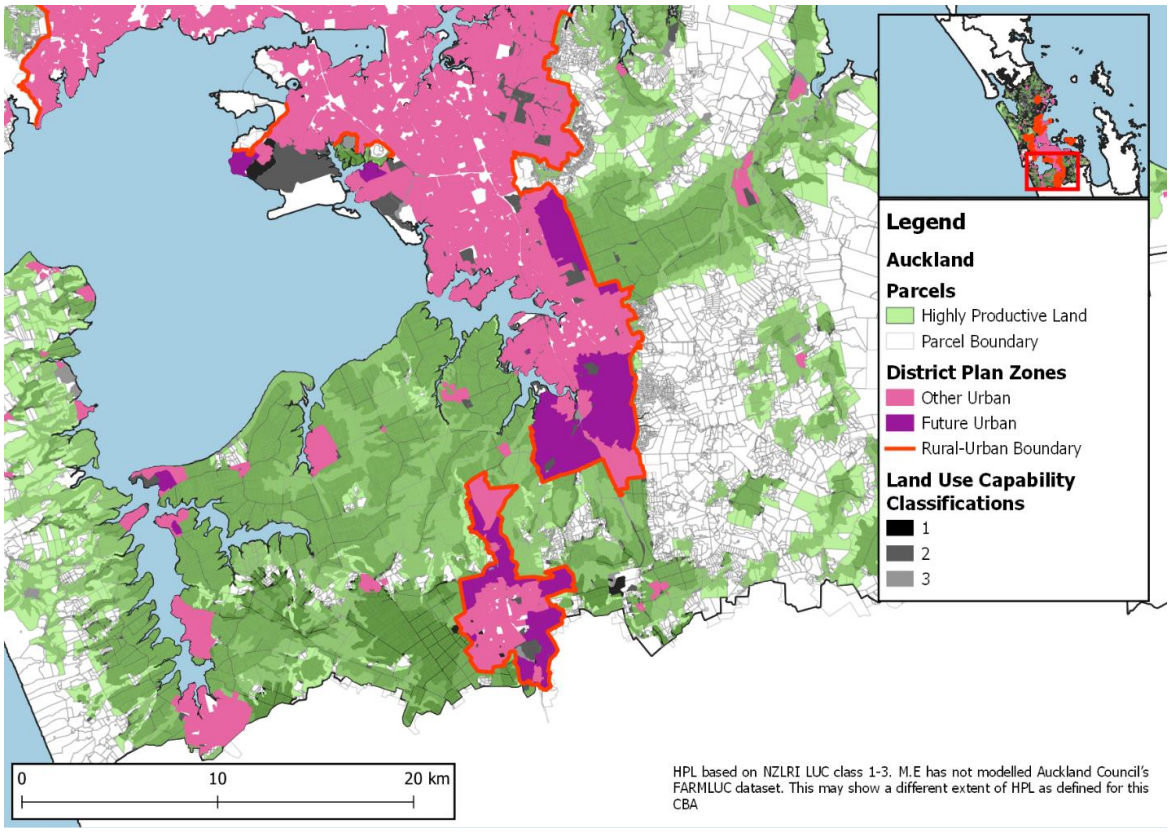
In terms of what impact the mapping of HPL might have on the count and frequency of private plan changes, Council officer feedback was mixed. On the one hand, it was speculated that private plan changes on HPL would not occur after the commencement date of the NPS - HPL as the costs of following through with such a plan change would not be economically viable. They wondered if the effect of the NPS – HPL would be that any urban expansion plan changes on HPL is left to the council, who could take a strategic approach. Conversely, council officer feedback was also that the NPS – HPL is likely to be effective in directing most rezoning requests to the non-HPL, but that there would always be some landowners that would propose urban expansion on HPL under the NPS – HPL despite the cost because the potential return on the land once developed would still be worth it.

Overall, private plan changes that do not give effect to strategic planning documents were estimated by Council to cost double that of a plan change that does. To what extent the NPS - HPL might further increase these plan preparation costs (if located on HPL) is less certain and was unable to be estimated by Council. M.E note that operative provisions relating to elite and prime soils already mean that plan changes in Auckland on HPL would be expected to provide specialist reports on soil capability and productive capacity. However, this alone does not mean that clause 3.4(2) will be addressed in a way intended by the NPS - HPL. A lift in practice may still be required according to Council to assess practical alternatives for growth and to assess net benefits and recover any council costs related to reviewing those components of the plan change request.

M.E consider that the scale and complexity of Auckland's urban area and growth dynamics would make that net additional transaction cost higher for Auckland compared to most of the other case study council's assessed (which often have a far simpler urban settlement pattern to evaluate), although closer in cost to equivalent plan changes in WBOP District. For the CBA, a base transaction cost per private plan change of $60,000 was applied (assuming an estimated current plan change preparation cost of circa $300,000 in Auckland (i.e. a 20% net additional transaction cost)). It is assumed this base cost would be slightly inflated (by 10%) during the transitional period but also reduced over time as the cumulative count of such plan changes under the NPS – HPL increased.

These indicative transaction costs were applied to an estimated 2 private plan changes for urban expansion on HPL in the transitional period (short-term), followed by one every four years following the notification of HPL maps. This is a total indicative count of 8 private plan changes for urban expansion on HPL over the next 30 years that choose to go against Council's strategic growth direction. In projecting this indicative count of future plan changes that trigger clause 3.4(2), M.E took into account the feedback from Council and the geography of LUC 1-3 land on the RUB (where there are large stretches of the boundary where urban expansion could avoid HPL (see Figure 6.16 for example).

Figure 6.16 – Indicative HPL on the Southern Auckland Urban Boundary[147]



Over the study period, there are total estimated transaction costs attributable to the NPS - HPL (clause 3.4(2)) of $344,000 for private developers ($183,000 in present value terms (discount rate of 8%)). This is

[147] Refer to the Supporting Analysis Report for maps of the rest of Auckland's urban boundary.

considered a minor cost when considered over a 30 year time period and in light of the potential returns from urban development.

While some transaction costs are likely under the NPS – HPL in relation to urban expansion, opportunity costs are not likely. As Auckland has capacity to meet its long-term urban growth requirements within strategic growth areas, the region's long-term growth future would not be affected by the implementation of the NPS - HPL during that period. On that basis, introduction of the NPS - HPL would not result in net opportunity costs for existing rural landowners on the RUB as a result of foregone opportunity for urban development between now and 2048. Since the NPS - HPL is not expected to impact on urban development prospects, we would expect nil or minimal opportunity costs to accrue to the property development sector over the period.

6.6 Waipa District Summary

6.6.1 Key Findings Waipa District

- There is limited potential for further fragmentation of the Rural Zone on HPL or non-HPL. The minimum lot size of 40 ha is effective in deterring lifestyle subdivision.
- The NPS – HPL further exacerbates a modelled shortfall of rural lifestyle capacity if HPL is to be avoided. I.e. projected demand growth is likely to be more constrained than under the status quo.
- Net opportunity costs for rural subdivision are modelled at $129m, although this is driven by fewer lots being created compared to the status quo rather than simply the redistribution of subdivision to non-HPL.
- This potential opportunity cost should be considered a maximum as Council may be expected to respond to provide more capacity for lifestyle properties on non-HPL. Modelling also did not factor in the ability of the Large Lot Residential Zone to cater for a share of rural lifestyle demand growth.
- Council considers that the operative urban zones provide sufficient capacity to meet long-term urban growth. As such, no opportunity costs associated with urban expansion apply under the NPS – HPL in the period to 2048.
- Nonetheless, a small number of urban expansion plan changes on HPL may arise. Indicatively additional transaction costs for Council are estimated to be very minor under the NPS – HPL (in the order of $40,000 by 2048 ($12,000 in present value terms)).

6.6.2 HPL Resource (LUC 1-3)

Most of Waipa 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. In total, the district has an estimated population of 53,900 living within 20,300 households. Just over half (57%) of all households are spread between Cambridge and Te Awamutu, and 34% are located in the 'Rural Other' area (and not within 'Rural Settlements[148]').

Waipa District falls within the Future Proof partnership sub-region, which is a 'high growth' urban area in accordance with the NPS – UDC and includes Waikato District and Hamilton City. Proximity to Hamilton is a key driver of growth in and around the towns of Waipa District and there are additional layers of strategic planning because of Future Proof that guide how Waipa District grows and develops.

The district has over 77,560 ha of LUC 1-3 land (Figure 6.17). LUC 1-3 land covers a considerable 53% of total land area in the district and this coverage is the 5th highest of all territorial authorities[149]. Waipa District's LUC 1-3 land makes up an estimated 2.0% of all LUC 1-3 land in New Zealand so is significant in that context (the 18th highest contribution to the national resource). There is approximately 9,070 ha of LUC class 1 land, just over 47,210 ha of LUC class 2 land and 21,280 ha of LUC class 3 land.

6.6.3 Economy

Waipa District is mostly a pastoral farming area. In total there are 1,560 pastoral farming businesses employing 1,550 people or 7% of the District's total employment (2017). There is a strong (57%) overlap between the location of the High Producing Exotic Grassland and LUC 1-3 land. High Producing Exotic Grassland accounts for 94% of all LUC 1-3 land cover in Waipa. By comparison, Short Rotation Cropland or Horticultural land use account for just 1% of the LUC 1-3 resource each. Horticulture employs 760 workers in 126 businesses (3% of employment) but is highly dependent on locations with LUC 1-3 as is the case elsewhere.

The District Plan identifies that the "*economic wealth and prosperity in the District is largely derived from the land. Its soils support an exceptionally 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*".

6.6.4 Current Rural Zoning Approach

Waipa District has a single Rural Zone that covers 136,482 ha. There are also a number of special purpose zones in the rural area (including the Significant Mineral Extraction Zone and the Tokonui Dairy Research Centre Zone), although they are not relevant for this CBA. The Operative District Plan makes significant use of Deferred zoning. There are Deferred zones for future industrial, residential and large lot residential development. These zones comprise between 51-100% LUC 1-3 land but are only small relative to the Rural Zone (and occupy a total of 0.3% of total LUC 1-3 resource in the rural area). The extensive Rural Zone contains 74,064 ha of HPL - this makes up an average of 54% of the zone and accounts for 99% of the total HPL resource in Waipa.

[148] 3% of current households are located in Rural Settlements and 5% in Small Urban areas in the district.

[149] Including unitary authorities.

The operative district plan is very focussed on maintaining the productive potential of the Rural Zone and this is supported by a minimum lot size of 40ha. This, combined with the gentle topography of much of the district, has resulted in a more uniform subdivision pattern in the rural areas than found in other case study areas, as shown in Figure 6.17. This large minimum lot size has been an effective deterrent of lifestyle block subdivision (particularly large concentrations of lifestyle properties). While there is strong demand for lifestyle properties in all areas near Hamilton, Waipa has notably fewer than the two adjoining territorial authorities that also border Hamilton City (and where subdivision rules are more enabling of lifestyle development).

6.6.5 Current Planning Approach as it Relates to HPL

As a high growth area, Waipa needs to manage the conflict between urban expansion and protection of rural resources and primary production activity. This is highlighted in the District Plan 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 conflicting land uses closer together in a geographic sense.

The Waipa District Plan (operative in 2016) is 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. The RPS requires Waipa to set urban limits and densities in the deferred zones and future growth areas while also protecting rural land.

In 2017 Waipa District Council adopted the Waipa 2050 growth strategy. This replaced an earlier growth strategy from 2009 and identified future urban growth areas. These growth areas are discussed in detail in the Urban Expansion Report (M.E, 2019). They provide for long-term growth anticipated in Waipa District and have been zoned through a plan change (making use of deferred zoning). This strategic and proactive approach means that all medium and long-term growth areas in Waipa District would sit outside the Regional Council's identification of land to be mapped as HPL under the NPS - HPL (Clause 3.2). Furthermore, direction on where medium and long-term growth is anticipated is now cemented in the District Plan, Waipa 2050 and the Future Proof FDS/settlement plan. This sends a strong and consistent message to anyone considering private plan changes outside of the current urban zoning.

Approximately 20% of projected long-term growth is expected to occur outside of the urban areas of the District. Council recognises this demand and the need to protect high class soils, rural character, reduce the potential for reverse sensitivity and manage infrastructure. The Council's approach is to provide a Large Lot Residential Zone which is focused around existing towns or rural villages. The Waipa Growth Strategy (and subsequent plan change) identified and zoned Deferred Large Lot Residential Zones to cater for long-term growth in this rural residential market. There is a specific policy in the plan (3.3.2.2) that provides for farming activities on undeveloped Large Lot Residential Zone land until such time as that land is required for development.

In terms of managing subdivision, use and development in the Rural Zone, the District Plan is already strongly aligned with the objective of the NPS – HPL. The policy framework is weighted towards protecting

existing farming activity and productive potential of the land. Non-farming activities in the rural area are limited to those that[150]:

- *(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.

Ensuring that large rural lots are retained (through the minimum lot size of 40ha) helps provide for a wide range of rural productive activities and helps retain HPL. Subdivision in the Rural Zone is a restricted discretionary activity. Care is also taken to ensure that boundary adjustments do not lead to further dwelling development opportunities or detract from the productive potential of rural lots.

Overall, having reviewed the district plan, Waipa District Council has already achieved a lot of what the NPS – HPL might require of district Councils. One area of difference would be the need to include a map of HPL (to be supplied by the Regional Council) and link provisions specifically to that area.

6.6.6 Future Rural Lifestyle Growth and Potential Implications

Lifestyle properties (as defined by CoreLogic data) in Waipa District grew rapidly between 2003 and 2006, followed by a moderate rate of growth to 2009 and a slower rate of growth through to 2015. Between 2015 and 2019 there was an estimated 394 additional rural lifestyle properties containing dwellings according to CoreLogic (just under 100 per year on average over that period).

As at 2019 there is an estimated 5,620 total lifestyle properties in the district (CoreLogic). 85% of these lifestyle properties are estimated to contain a dwelling but no other significant productive use. The balance (15%) are mainly vacant lifestyle properties that do not currently contain dwellings and indicatively contain some form of primary production activity. As many of these lots may be capable of having a dwelling (under current zone standards), the CoreLogic data may suggest that there is some capacity to accommodate more dwellings in the rural area without further fragmentation[151].

According to the CoreLogic data, the lifestyle properties in the Rural Zone occupy 6,851 ha of HPL. This represents 9% of the total HPL resource in Waipa District (as defined here) so is a relatively small share in that context. It should be noted that the average size of lifestyle properties in that dataset is 3 ha. This highlights that while the minimum lot size of the Rural Zone is 40 ha, there are other mechanisms[152] through which lifestyle properties can be created in the Rural Zone. The modelling described below does not take this into account and so is a conservative estimate of subdivision potential for lifestyle property creation.

M.E examined the land parcels in Waipa's Rural Zone that could be further subdivided under the operative minimum lot size provisions (based only on the size of the parent lots and no other constraints). We have not examined the subdivision potential of the Large Lot Residential Zone or Deferred Zone in this case. The

[150] Policy 4.3.12.1 of the Waipa District Plan.

[151] M.E has not factored in this potential capacity in its modelling of rural lifestyle subdivision demand.

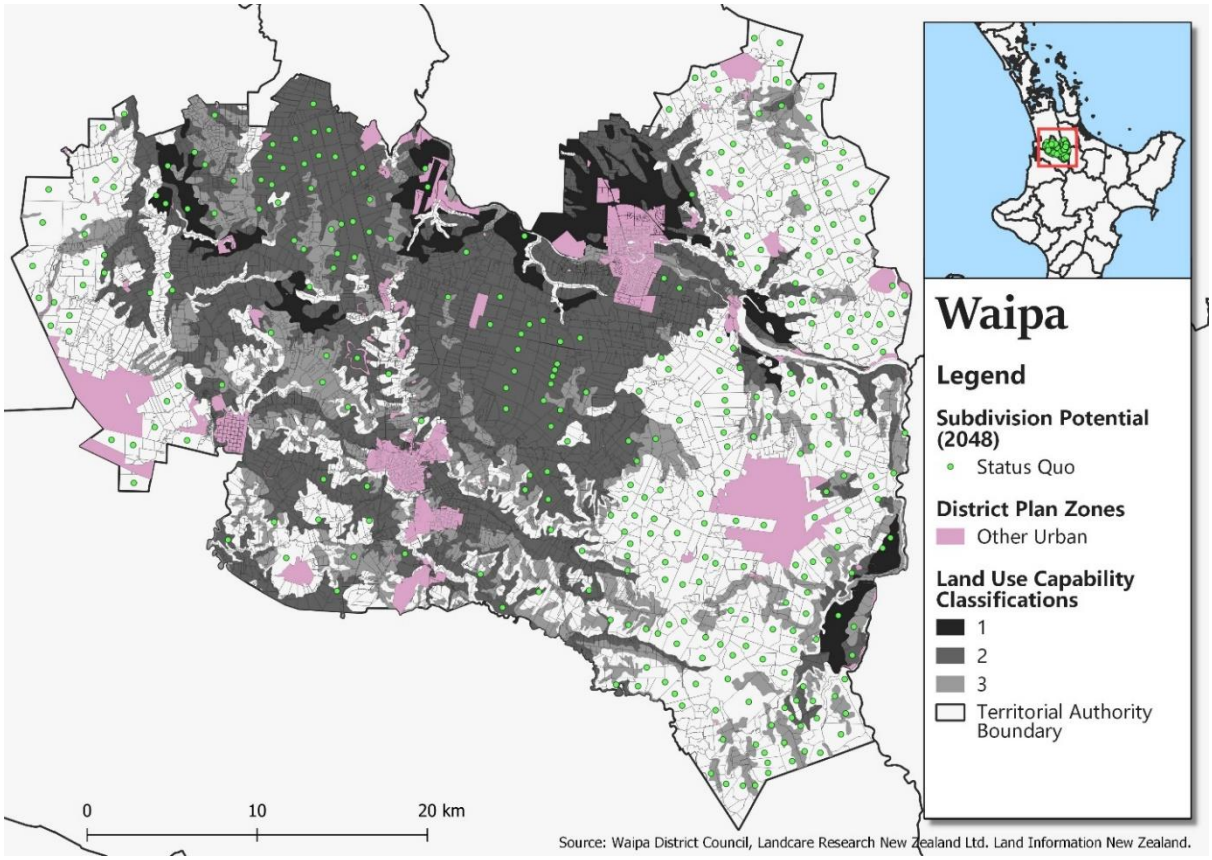
[152] M.E has used high-level minimum lot sizes only and have not captured the other forms of subdivision associated with clusters, existing dwellings, conservation lots, transfer lots etc in the modelling.

analysis showed that there is limited potential indicated for further fragmentation of the Rural Zone, including in areas with significant HPL (LUC class 1-3). In total there are 293 rural parcels with potential to subdivide off one or more 40 ha lots. Of these, 216 of those rural parcels with potential to subdivide are within HPL.

Future demand for additional lifestyle lots that include a dwelling has been estimated in part pro rata with projected household growth in the district and in part pro rata with projected growth in Hamilton City (being a significant influence on the demand for lifestyle properties in Waipa). Using this approach, the underlying Medium household projections could indicate an additional 500 lifestyle parcels would be demanded by 2028 and 1,100 by 2048 (if growth were unconstrained).

Current district plan rules mean that subdivision of rural land *is* constrained in M.E's modelling. The large minimum lot size (40 ha) is likely to have a substantial effect on curbing demand for lifestyle properties[153] in Waipa. On that basis, the 2048 modelling of the status quo future is based on just under 640 additional properties being created, well short of projected demand of 1,100[154].

Figure 6.17 – Indicative Modelled Long-Term Lifestyle Subdivision Patterns (2048) – Status Quo



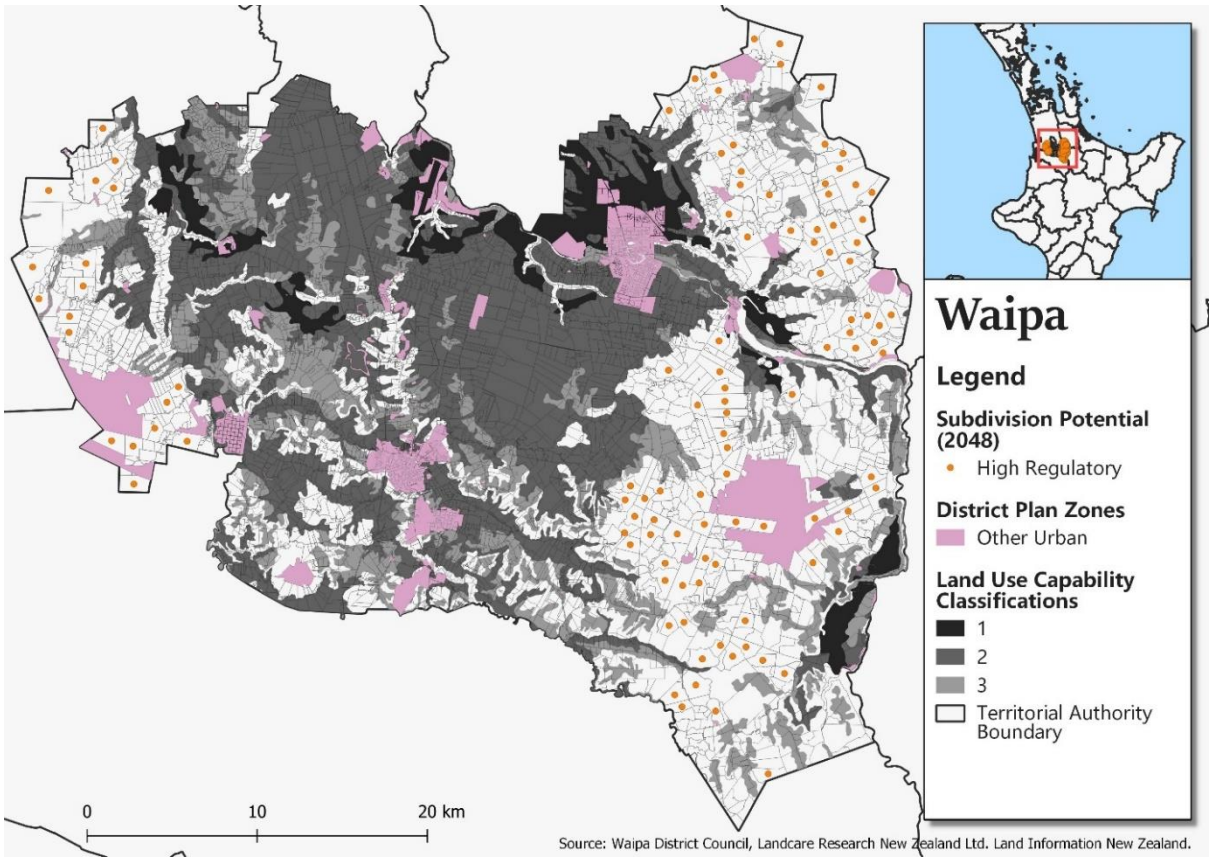
[153] As is intended by Council.

[154] The shortfall of 460 could potentially be met by adding dwellings to lifestyle properties that don't currently contain improvements and/or utilising capacity in the Large Lot Residential Zone. M.E's modelling suggests a worst case outcome because these alternatives are not factored in.

Under the Status Quo future, the nearly 640 additional parcels would be distributed with 37% on HPL parcels, and the balance (63%) on land without significant HPL resource. The additional parcels would take up a total area of 25,360 ha, including 9,280 ha of HPL resource (Figure 6.17).

Under the 'with-HPL' outcome, it is assumed (High Regulatory Scenario) that all rural lifestyle subdivision on HPL is redirected to non-HPL within the district (Figure 6.18). The operative minimum lot size for the Rural Zone (and zone extent) is also assumed to remain in place in the model. Again, this key assumption may be unlikely but avoids the need to speculate on council's response to demand and supply of rural lifestyle activity in the future.

Figure 6.18 – Indicative Modelled Lifestyle Subdivision Patterns (2048) – High Regulatory



Under the High Regulatory future, an even smaller share of lifestyle property demand can be met in the Rural Zone while avoiding HPL. There would be 211 additional parcels on land without significant HPL resource (compared to just under 640 in the Status Quo scenario and total indicative demand of 1,100), taking up an area of 8,440 ha[155].

The effect of applying the NPS - HPL provisions would keep down the fragmentation of HPL over the period to 2048. The High Regulatory NPS - HPL future would see 194 fewer (arguably very large) lifestyle parcels on HPL than would otherwise be the case in the Status Quo future, and 7,750 ha of HPL resource retained

[155] Again, the ability of vacant lifestyle properties and the Large Lot Residential Zone to cater for the implied shortfall of capacity relative to projected demand (i.e. a shortfall of nearly 890 dwellings) has not been modelled but is a realistic outcome.

for primary production (although at 40 ha, new lifestyle lots in Waipa District are unlikely to result in a 'loss' of primary production activity simply as a result of subdivision and development of a dwelling).

Under the status quo (creation of nearly 640 additional lifestyle lots by 2048), the value uplift to landowners able to subdivide off land to create lifestyle properties (albeit 40 ha lots for the purpose of the modelling) is estimated at $281m by 2048. However, with the NPS – HPL, there would be no value uplift to landowners on HPL and $151m uplift for landowners on non-HPL. The decrease in capital gain compared to the Status Quo arises from less demand able to be met as opposed to any significant differences in parcels sizes or locations where lifestyle subdivision is redirected within the district. Overall, the net opportunity cost to landowners with the NPS – HPL at the district level is $129m but this should be considered a maximum opportunity cost. This is because it is possible that the Council would consider changes to better manage the redirection of lifestyle property to non-HPL areas in the Rural Zone (through changes to the operative provisions). And/or, if the capacity of the Large Lot Residential Zone was considered, then demand may not in fact be constrained in either the Status Quo or 'with NPS – HPL' scenario.

As discussed in other case studies, a key benefit of redirecting more rural lifestyle development to non-HPL in the Rural Zone than would otherwise have been the case is that the productive output of HPL properties (if applicable) that were modelled as being likely to be subdivided and developed with a dwelling by 2048 is able to continue into the long-term. The opportunity benefit (cumulative gross output from land-based primary production retained) on HPL properties would be $664m compared to the Status Quo future by 2048, however the foregone production on the non-HPL would also be less than under the Status Quo (an opportunity benefit of $111m). In net terms, the land-based primary production that is retained across the district would be $775m more in gross output terms (High Regulatory scenario) when compared to the Status Quo. In present value terms (8% discount rate) this net opportunity benefit would be $171m and includes an estimated $127m of labour and resource costs to achieve that gross output (inputs to production). However, this large difference is driven mainly by the smaller quantum of subdivision possible in the 'with NPS – HPL' scenario compared to the Status Quo scenario as discussed above, as distinct from the difference in productivity between the HPL resource and other land.

Care is needed with these modelling results for retained primary production output as while the approach is well suited to other case studies (where the size of lifestyle blocks created through subdivision is much smaller and often leads to non-productive use of the land once subdivided), it is less applicable to Waipa where 40 ha is presumably a commercially viable pastoral farm. As such, this benefit may be overstated.

6.6.7 Future Urban Growth and Potential Implications

Council officers have indicated that, assuming their current growth projections hold true over the long-term, and allowing for potential intensification of existing urban areas over time, they do not expect to initiate any urban expansion plan changes over the next 30 years, as current zoned (including deferred zone) capacity should be sufficient.

Council discussed one potential exception to that - a growth area that could, at some point, be likely to be zoned through a plan change that sits outside the Council's growth strategy (and operative zoning). There is an area of land that sits north of the Hamilton Airport (in Waipa District) and south of Hamilton City's Peacocke growth areas that is where the Southern Links road network is designated. Waipa District Council speculate that the land on the northern side of the Southern Link (and joining up to Hamilton's urban

boundary) could be zoned for urban development (industrial or residential) in the future. Given the strategic nature of this land, any plan change may be more likely to be council initiated plan change, and likely to be located on HPL (based on the presence of LUC 1-3 soils).

Council's statutory and non-statutory documents have been effective in avoiding private plan changes for urban expansion in recent years and they expect this to continue to be the case in the long-term. This deterrence will only be strengthened under the NPS - HPL on land mapped as HPL in Council's view. Council's experience is that private plan changes are focussed on the up-zoning of deferred urban zones (although some of those private plan changes may challenge the staging of up-zoning anticipated by the Council – i.e. to bring areas on sooner than anticipated). Such private plan changes would not accrue any transaction costs under the NPS - HPL requirements in any case because they are in urban zones.

The overall view of the Council officer was that any net additional transaction costs (for plan changes) attributable to the NPS - HPL over the long-term would be negligible in the context of Waipa District and limited to costs on the Council. While there is no current expectation of council initiated plan changes over the study period, for the purpose of the CBA only M.E have tested a more conservative outcome of two council initiated urban expansion plan changes occurring within what is currently Waipa District boundary over the next 30 years. One of which captures the potential of the Southern Links development and the other relates to a district plan review in the long-term future (acknowledging that zoned and deferred urban capacity may be diminishing by that time, and the NPS-UD would require them to look 10 years ahead for zoning).

The Council representative commented on the third test to be satisfied by plan change requestors (3.4(2)(c)) – assessing net benefits of urban expansion. Council felt that there was not a lot of experience in Council at present on assessing costs and benefits and that this capability would need to improve for the purpose of plan changes under the NPS - HPL. Council considered that a net additional cost of $20,000 per plan change would be a reasonable transaction costs attributable to the NPS - HPL for those two plan changes.

M.E estimated a base transaction cost per plan change of $20,000 (assuming an existing plan change cost of circa $100,000 in Waipa District and a 20% net increase under the NPS – HPL). This transaction cost is not assumed to diminish over time (through greater efficiency and increasing expertise/knowledge) due to the low frequency of the plan changes over time. Over the study period, there are total estimated transaction costs attributable to the NPS - HPL (clause 3.4(2)) of $40,000 (undiscounted) for Council ($12,000 in present value terms (discount rate of 8%)) – a very minor cost.

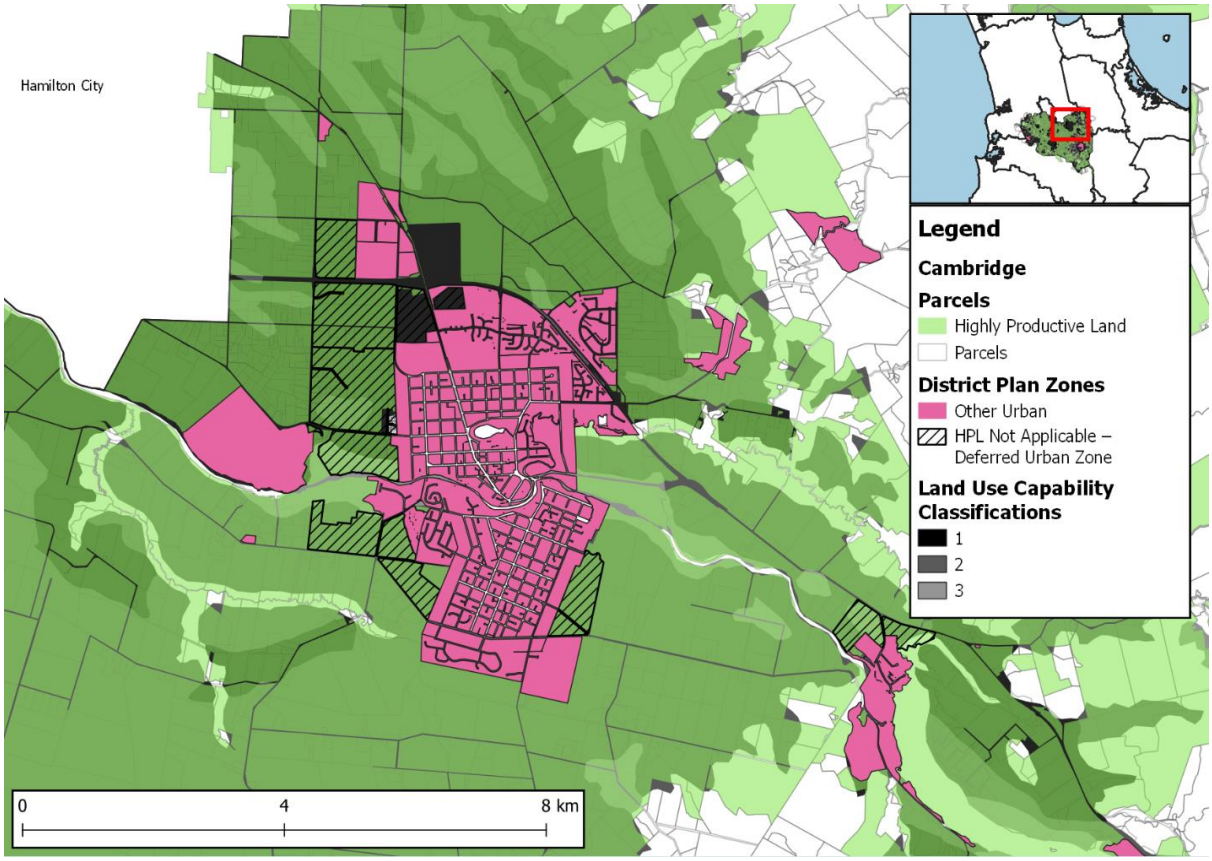
As Waipa's strategic urban growth planning indicatively provides sufficient capacity to cater for long-term urban development, no opportunity costs associated with urban expansion for either landowners or developers are anticipated for the study period of this CBA. M.E has however examined the growth prospects of Cambridge township, being the largest urban area in Waipa to test any potential impacts arising from the NPS - HPL.

The growth outlook for Cambridge town is in the order of 2,000 households (dwellings) by 2048, which *a priori* would equate to demand for about 150-160 ha of greenfield land. The deferred urban growth zones of Cambridge (shown in the hatched areas of Figure 6.19) cater for this expansion.

A key issue for Cambridge in the longer-term (i.e. beyond 2048) is that it is surrounded by HPL (Figure 6.19). The closest non-HPL is some 4 kilometres away from the town edge. This situation means that there is no real practicable alternative for Cambridge town to accommodate net additional greenfield growth on non-HPL. Accordingly, the provisions of clause 3.4(2) and 3.4(3) can be expected to take effect when the need arises. It would not be feasible to retain Cambridge as a "*well-functioning urban environment*" if significant urban expansion were diverted to that land some kilometres from the established urban economy.

On that basis, introduction of the NPS - HPL would not result in opportunity costs for existing landowners resulting from foregone opportunity for urban development in the next 30 years considered for this CBA (or beyond). Since the NPS - HPL is not expected to impact on urban development prospects, we would expect nil or minimal opportunity costs to accrue to the property development sector over that period.

Figure 6.19 – Indicative HPL on the Cambridge Urban Boundary



7 Costs and Benefits Conclusions

This section draws together the findings (including monetised estimates where possible) on the potential costs and benefits that may be expected from the NPS – HPL if introduced as a national planning instrument under the RMA. The costs and benefits have been informed primarily from the six case studies, including spatial-economic modelling carried out by M.E in those areas as well as feedback from each council. Other benefits have been examined at a higher-level, not specific to each case study. They are however expected to apply to the case studies.

7.1 Scope of Monetised Costs and Benefits

Monetising costs and benefits is a common goal in CBA but is not always practical and at times not appropriate. The NPS – HPL seeks to protect HPL for use in land-based primary production, both now and for future generations. As natural capital, the HPL resource delivers a wide range of intangible benefits that are not practical to quantify or monetise – they are non-market values. However, this CBA has attempted to monetise as many of the market values (costs and benefits) as practical given the time and information available. They have been discussed throughout this report and the following provides a brief recap of what has and has not been monetised.

Plan change implementation costs for regional councils and territorial authorities have been estimated as well as implementation costs for central government. However, not all implementation costs for councils have been estimated. The key gap is the cost for regional councils to identify and map HPL.

The benefit to primary production output from redirecting urban expansion away from HPL (where feasible alternatives exist) has not been quantified, but the potential net opportunity costs to landowners and the development sector has. This is based on modelling scenarios of incremental urban growth to 2048 under the status quo and with-NPS – HPL scenario. Transaction costs to councils and developers requesting urban expansion plan changes over the long-term on HPL have also been estimated.

Using a similar value uplift approach, the potential net opportunity cost to rural landowners unable to subdivide off rural lifestyle lots on HPL has also been monetised (in terms of forgone value uplift/capital gain over 30 years of rural lifestyle demand growth). In this case, the converse benefit of maintaining the opportunity for primary production output on HPL that would otherwise have been subdivided for lifestyle properties has been monetised. The cost of that 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.

This CBA has not attempted to quantify (or monetise) some other costs and benefits considered relevant to the NPS - HPL, including some that have market values. Time and practical challenges have not allowed for the following specific effects to be quantified and/or analysed (although they are included in the following cost and benefit summaries):

- The export value of primary produce (or associated processed products). Data is however provided in the NPS – HPL Discussion Document.
- Food price impacts associated with potential loss of primary production output under the status quo scenario (and avoided under the NPS – HPL). This is a complex and dynamic issue that has not been investigated by M.E.
- Total (indirect and induced) economic impacts arising from primary production gross output protected from rural fragmentation associated with lifestyle block demand. 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 through the costs of production).
- Benefits of greater consistency in resource management practice (cost savings through greater efficiency), including between government and councils.
- Benefits of greater certainty for landowners and communities on the location of HPL and the management of effects on that land.
- Advocacy and RMA participation costs. While the NPS – HPL may cause an increase in advocacy and participation cost for primary production sectors, landowners and other stakeholders in the short-term - as HPL is mapped and plan changes are consulted on to implement the NPS – HPL at the regional and district level - there may be long-term savings on advocacy and participation costs for those same groups that arise from more consistent and effective management of HPL and land-based primary production across New Zealand's planning framework.

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). Each total cost or benefit estimate comes with its own limitations and caveats. Many are sensitive to key assumptions. They provide an indication only of the relative scale and significance of those effects.

7.2 Summary of NPS – HPL Benefits

The key benefits of the NPS – HPL are largely associated with the tangible and intangible services provided by the HPL resource, including social and cultural benefits as well as contributions to economic and social wellbeing.

The benefits of the NPS – HPL over and above the status quo stem from greater protection that is given to HPL and ensuring that this remains accessible for land-based primary production today and for future generations (i.e. that the option of agriculture and forestry (provisioning ecological services) remains available). This ensures that New Zealand's primary production sector maximises sustainability (by protecting the land that allows plants to be grown more efficiently) and that our present and future food (and fibre) security (including export earning potential) is assured and resilient to changes in demand, climate or natural hazards. This is achieved by maintaining a network of growing hubs across New Zealand. These same areas are where significant investment has been made in food and beverage processing, distribution, and manufacturing – the primary production supply chain is a significant employment sector.

In protecting HPL, particularly from urban expansion where the loss of the resource is permanent, the regulating functions (services) delivered by HPL are also retained. These benefit the wider public and include water purification, water storage for plants, supporting diversity/habitat, flood regulation and carbon sequestration. These intangible benefits need to be reflected in decision making regarding the use (and protection of) HPL.

A key outcome of the NPS – HPL objective 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 land-based 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[156] there is generally sufficient capacity on non-HPL to cater for demand. In Auckland, the NPS - HPL could create a shortfall of capacity for lifestyle subdivision 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 that avoid HPL) by making changes to the operative district plan. This response is not modelled but is anticipated. Such changes could 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 production 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. Because M.E does not factor in the likelihood that territorial authorities will respond to demand for lifestyle properties under the NPS – HPL, and a portion of projected lifestyle demand to 2048 is constrained in the modelling in Auckland, Ashburton and Waipa. This means that the benefits of avoiding loss of land-based primary production output on HPL are an underestimate. The net benefit, estimated at $265m of land-based primary production gross output in present value terms across all case study areas to 2048 (8% discount rate), should therefore be considered a minimum (and significant).

While some existing and potential primary production output (and HPL) can be expected to be lost due to urban expansion occurring between now and 2048 in the case study areas, this is likely to have occurred

[156] Although higher rural growth projections for Horowhenua (as indicated in the Council's growth strategy) have not been tested.

irrespective of the NPS – HPL. Relative to continuous demand for land extensive rural lifestyle demand, any losses of HPL as a result of urban expansion are expected to be small in each district (and infrequent over the long term). The benefit of the NPS – HPL is that it may help to limit that loss over time and could redirect some future urban expansion projected in the next 30 years to non-HPL land where practical in Horowhenua and WBoP District. (At some point beyond the next 30 years, this benefit is likely to apply to all case study councils but is outside the scope of M.E's modelling).

The consequent benefit of avoiding forgone productive output on HPL on the urban fringe is however expected to be very minor when compared to the benefit arising from redirecting lifestyle subdivision. In most cases, rural land adjoining the urban boundary is not intensively used for primary production, although there are some examples in WBoP District and Auckland where orchards and market gardens may be under threat from urban sprawl and the NPS – HPL will give those councils a stronger mandate to protect that land.

The avoided loss of primary production output (whether from redirecting urban expansion (minor) or rural lifestyle development (significant)) 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 and supports a diverse economy. 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 delivers opportunities for social connections as well as supporting cultural identify and a sense of place/connection to the land. These benefits arising from the NPS - HPL, while unquantified, are considered significant, particularly to Māori.

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 on the productive capacity of land (which leads to better and more strategic decision making) and greater certainty for primary producers and rural landowners. Better management of reverse sensitivity effects through strategic planning processes and strengthened provisions focussed on primary production activities on HPL are also key benefits.

7.3 Summary of NPS – HPL Costs

The key costs of the NPS – HPL are largely economic effects. Costs to natural capital and social and cultural wellbeing are, if any, considered to be very minor.

A 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 planning 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 (i.e. incorporating changes to HPL maps in district plans or monitoring the effectiveness of provisions) 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 HPL. 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 HPL to include (potentially) LUC class 3 land where not already done so and providing greater clarity on what is inappropriate subdivision, use and development on HPL.

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. This 'degree of change' was not able to be factored in M.E's implementation plan change cost estimates given limitations in the available data (which also limits the certainty of the final cost estimates). The total costs to regional councils (including Auckland) in the case study areas to implement the NPS – HPL through a change to the regional policy statement is estimated at $6.96m in present value terms (8% discount rate). The total costs to territorial authorities (including Auckland) to carry out changes to their district plans is estimated at $7.31m in present value terms.

All Regional Councils will need to map HPL and consult with the community and other stakeholders prior to notification. This cost has not been quantified but may be moderately significant. The hearing related costs for the HPL maps is incorporated in the costs above (on the assumption of a single plan change for maps and new/amended provisions in the RPS). All territorial authorities containing HPL will need to incorporate those maps in their district plans, although the cost of doing so is expected to be minimal (as the NPS – HPL exempts this change from the schedule 1 process).

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 several 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. The total cost for central government (MPI) to support councils during the implementation period (and provide guidance) is estimated to be $350,000 in present value terms (8% discount rate).

As discussed above, a key outcome of the NPS – HPL objective 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 land-based primary production. M.E's modelling showed that the NPS - HPL *could* exacerbate

long term shortfalls in rural lifestyle capacity in some locations (constraining household growth compared with the status quo) but only if alternative living options don't satisfy demand and Councils don't respond to ensure sufficient capacity by introducing changes to operative district plans. This is the more likely and expected outcome.

Net opportunity costs for landowners and developers of HPL have been estimated under the 'with NPS – HPL future' for the period of 2018-2048. Analysis across the 6 case studies shows that under a High Regulatory response by councils to redirect lifestyle subdivision demand to non-HPL land would result in a gross reduction in capital gain (cost) to landowners on HPL of -$687m (undiscounted) and a gross opportunity gain of $277m to landowners on non-HPL. The transfer of opportunity is not even as sale price may vary according to location, land quality, attractiveness, and lot size (as set out in minimum lot size rules in district plans). This is a net opportunity cost in the combined case study areas of -$411 (undiscounted) or -$140m in present value terms (8% discount rate). Importantly, this is associated with supply of nearly 11,900 new lifestyle lots over the long-term and this is 7.6% less than demand under the status quo (due to capacity constraints assumed to be fixed in M.E's model). A portion of the net opportunity cost is therefore attributable to potential for fewer lifestyle properties. This overstates the opportunity cost and so should be considered an upper limit. While opportunity costs to individual landowners on HPL may be significant, at an aggregate level, the net opportunity cost is (at most) a 5.5% loss of potential realisable capital compared to a future without the NPS – HPL. In wider economic terms, this foregone opportunity for capital gain is considered only minor.

Net opportunity costs for landowners of HPL who potentially lose the opportunity for urban expansion does not apply to all case studies, due to the provisions of the NPS – HPL which do not constrain future urban growth on land already zoned for future urban development or identified in strategic planning documents (published prior or HPL mapping) as being suitable for urban development in the short-medium term. These provisions mean that the planned growth pathway of most cast study councils is not impacted by the NPS – HPL (over the next 30 years that have been assessed). And, that the NPS – HPL will act to limit the effect on the value of HPL in terms of its urbanisation potential. Only landowners in WBoP District and Horowhenua District are potentially impacted and in aggregate these are opportunity costs are estimated to be immaterial or very minor.

Around Levin in Horowhenua District, M.E has estimated 30 ha of additional urban land is needed to cater for long-term growth over and above existing zones. The reduction in value uplift for HPL properties that may have been developed for urban expansion is estimated at -$685,000 in total (-10%, undiscounted). However, the opportunity benefit on non-HPL land under the NPS – HPL is almost equivalent. The net opportunity cost is just $5,000-$6,000 in present value terms (8% discount rate) which is less than 1% compared with the status quo outcome.

In WBOP District, the net opportunity costs associated with an estimated 100 ha of additional urban land in the long-term is between $2.06m and $3.0m (undiscounted). This is a 19% net loss compared to the status quo. In present value terms, the net opportunity cost is between $301,000 and $435,000 (8% discount rate). Across both districts, the present value of the net opportunity costs associated with urban expansion is $429,000 (8% discount rate and allowing for price rises over time). The present value is low because the WBoP District impact is expected to occur late in the assessment period. In Auckland, Waipa, Selwyn and Ashburton District, opportunity costs to landowners from policies around urban expansion are zero – no net change from the status quo.

Since the NPS - HPL is not expected to substantially impact on urban development prospects, especially as to the scale of urban development, we would expect nil or minimal opportunity costs to accrue to the property development sector. This conclusion applies to all the case study areas.

Transaction costs for councils and developers wanting to carry out plan changes for urban expansion on HPL have been estimated across all case studies. In the next 30 years, 16 such council plan changes and 21 such private plan changes are projected (37 in total). This includes discrete plan changes and District Plan Reviews. Most are projected to occur in the long-term because most case study councils have already provided from short-medium urban growth, and in some cases (i.e. Auckland and Waipa District), had zoned for long-term growth.

In aggregate over the long-term, additional plan change costs attributable to the NPS – HPL provisions is estimated at $397,000 for councils (present value of $175,000 (8% discount rate)) and $461,000 for developers (present value of $246,000). The total present value transaction cost is $421,000. This equates to an average present value cost per plan change of $11,000. This is estimated to account for 14% of total plan change costs for urban expansion on HPL. This share would be much lower (and minor) if the transaction costs were compared against the total expenditure on urban expansion plan changes over the next 30 years (i.e. including those on non-HPL). The average transaction costs are expected to have a negligible impact on development returns (if plan changes are successful) and are not expected to deter (from a financial perspective) councils or developers from pursuing urban expansion plan changes on HPL in the future.

Other costs of the NPS - HPL may arise from the externalities of primary production on HPL, although this is expected to be managed through other planning instruments and so is not examined further in this CBA. There may also be an opportunity cost for other land use activities on HPL (other than urban or rural lifestyle development) when HPL is prioritised for land-based primary production and those activities are considered inappropriate. This cost has not been analysed but the incidence of this is anticipated to be relatively low and partially offset by the opportunity benefit accruing to non-HPL locations. Any potential costs and inefficiencies associated with redirecting urban or rural growth to non-HPL areas is acknowledged 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. These costs[157] of production (over 30 years) are estimated at just under $200m in present value terms (8% discount rate, High Regulatory scenario).

7.4 Combined Costs and Benefits

Figure 7.1 provides a summary of benefits and costs of the NPS – HPL – side by side and according to biophysical, economic, social, and cultural wellbeing. It identifies 'who' bears the benefits and costs where applicable and incorporates the estimated present value monetised results of the case study analysis where quantified by M.E (using an 8% discount rate).

Figure 7.1 – Summary of Costs and Benefits with the NPS – HPL

Issue	Costs	Benefits
Biophysical		
Urban expansion		Reduced loss of regulating ecosystem services provided by the HPL resource now and in the future (carbon sequestration, biodiversity, water filtration, flood mitigation, nutrient cycling) through greater protection of HPL when expanding urban areas (where practical). *Low significance on account of the relatively small losses of HPL to urban expansion in the long-term.*
Rural subdivision, use and development		The productive capacity (food provision) of HPL is maintained through avoidance of land fragmentation for rural lifestyle properties and potential provision of appropriately located rural lifestyle zones. *High significance*
		Reduced loss of regulating ecosystem services provided by the HPL resource now and in the future (carbon sequestration, biodiversity, water filtration, flood mitigation, nutrient cycling) through greater protection of HPL from rural lifestyle subdivision and other inappropriate activity. *Moderate significance on account of the large areas of HPL potentially protected from lifestyle development and the likelihood that ecological services etc may not be highly compromised by lifestyle development (even if primary production is highly compromised).*

[157] 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) to adjust the cost to sales rates for displacement effects and opportunity costs of labour.

Issue	Costs	Benefits
	Potential losses of some HPL if the identification of highly productive land is not sufficiently accurate (data accuracy issues) or Regional Councils choose not to protect all areas of the resource. *Low significance.*	
Primary producers / production		Less rural land is required for primary production because the most productive land is protected for land-based primary production activities. Greater sustainability of the rural production sector with potentially lower impacts on the biosphere. *Significance uncertain.*
Economic		
Urban expansion	Landowners may face opportunity costs (lost value uplift) where HPL on the urban fringe is no longer likely to be developed for urban expansion because other practical alternatives that avoid HPL exist. Net costs estimated at $429,000 (PV) across all case studies. *Low significance. In some 5 of the 6 case studies the net opportunity costs was zero or negligible compared with the status quo*.	
	Developers may face opportunity costs (lost development returns) where HPL on the urban fringe is no longer likely to be developed for urban expansion because other practical alternatives that avoid HPL exist. Net costs estimated to be minimal across all case studies. *Low significance.*	
	Councils and landowners proposing urban expansion plan changes on HPL will face higher transaction costs in order to assess practical alternatives and assess net benefits. Total costs estimated at $421,000 (PV) across all case studies. *Low significance.*	

Issue	Costs	Benefits
Rural subdivision, use and development	Landowners cannot free up capital by subdividing/selling redundant rural land that would enable a rural lifestyle dwelling in areas identified as HPL. Opportunity costs for landowners in areas of HPL but opportunity benefit to non-HPL landowners. Net costs estimated at $140m (PV). *Minor/low significance on the basis that this net loss in capital gain is just 5.5% less than the status quo.*	
	Potential opportunity costs to landowners to develop activities on HPL that are considered 'inappropriate' under the NPS. This may be countered by opportunity benefits to develop those activities on non-HPL. Any net opportunity cost associated with inappropriate activities or less efficient locations considered to be minor. *Low significance*.	
	Opportunity costs for rural landowners adjacent to areas identified as HPL where buffers/setbacks or activity rules are used to manage or mitigate reverse sensitivity effects. *Low significance.*	
Primary producers/ production	Time cost of labour and cost of resources that are directly used/consumed by primary producers on HPL that would otherwise have been subdivided for rural lifestyle demand. Total costs of production (over 30 years) are estimated at just under $200m in present value terms.	The mix and quantum of output (by sector) sustained directly and indirectly (upstream and downstream supply chains) from activity on HPL will be less likely to be impacted from the pressures of land use change. GDP benefits. The present value loss of primary production gross output avoided through redirecting lifestyle subdivision to non-HPL over the next 30yrs (to 2048) in the six case study areas is estimated at $265m (net output $65m). *High significance as ongoing cumulative cost.*
		The present value loss of primary production gross output avoided through redirecting urban expansion to non-HPL over the next 30yrs (to 2048) in the six case study areas is estimated at very minor. *Low significance.*

Issue	Costs	Benefits
		The mix and quantum of employment (by sector) sustained directly and indirectly (upstream and downstream supply chains) from primary production activity on HPL will be less likely to be impacted from the pressures of land use change. Sustains a diverse economy. *High significance.*
		Greater potential for primary producers to maintain, expand, intensify or adjust land use on HPL to meet growing/changing demand for primary products. A more resilient primary production sector (current and future food security). *High significance.*
		Greater opportunities for economies of scale in primary production activities through the avoidance of fragmentation of HPL and any incentives put in place to facilitate amalgamation of land titles. *Low significance*.
		The productive capacity of HPL (option value) 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.*
		Potential increase in agglomeration benefits in the primary production sector if they are encouraged to locate/develop in cohesive areas of protected HPL. Shared resources, labour efficiencies, technology transfer. *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. Long-term advocacy savings. *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. Less constraints on primary production activities. *Low significance*.

Issue	Costs	Benefits
Resource management	Additional resourcing costs for Regional Council's to complete the identification, engagement, and mapping of highly productive land, including outsourced expertise and any new data. Costs borne by rate payers. Some opportunities for government funding for S-Map data. *Moderate significance but primarily a one-off cost.*	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 and a short-term benefit.*
		Greater understanding of the values and long-term benefits of HPL, including for primary production. *Low significance.*
		Benefits associated with collaboration between Councils, and potential to share resources through consideration of inter-regional and district/regional issues. *Low significance.*
	Additional resourcing costs for Regional Councils to develop objectives and policies to manage effects on HPL, with an associated plan change to the RPS that also incorporates the maps of HPL. The plan change may be stand-alone or integrated as part of another plan change/plan review. Costs borne by rate payers. Total RPS plan change costs across the case studies is estimated at $6.96m (present value). *Moderate significance*.	Greater consistency in how HPL is managed across New Zealand is achieved. Consistency for growers operating in multiple regions. *Low significance.*
	Additional resourcing costs for territorial authorities to develop objectives and policies to manage effects on HPL, with an associated plan change to incorporate the provisions in the operative district plan. The plan change may be stand-alone or integrated as part of another plan change/plan review. Total district plan change costs across the case studies is estimated at $7.31m (present value). Costs borne by rate payers. *Moderate significance*.	Better quality and more efficient decision making on plan changes and consents (in and outside of HPL) as a result of clear policy direction and an improved evidence base, including that required from applicants. Decision making on plan changes and consents will better consider aggregate costs and benefits and cumulative effects. *Low significance.*
		Reduced litigation costs for councils and communities. *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*.	

Issue	Costs	Benefits
	Costs to upskill resource management practitioners (including Council staff) on the new policy. *Low significance.*	
	Additional resources required for central government to provide technical assistance and guidance to Regional Councils and territorial authorities. Costs are borne by taxpayers. Total present value costs estimated at $350,000. *Low significance.*	Benefits arising from greater collaboration between Councils and central government agencies. *Low significance.*
Social		
Rural subdivision, use and development	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, or at the aggregate level, outweigh the benefits of primary production. *Significance uncertain.*	Primary production job opportunities and livelihoods in HPL areas are maintained (and potentially increase). *High significance.*
	Existing rural communities on HPL 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.*	
	Lifestyle blocks may be directed to less optimal locations from a market perspective. *Low significance.*	
		The character, heritage and sense of place associated with HPL (existence values) are maintained by reducing the opportunities for land fragmentation and the development of dwellings and inappropriate activities. *Significance uncertain.*
Resource management		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		

Issue	Costs	Benefits
		Areas and sites of significance to Māori are further protected from changing land use and fragmentation of highly productive land. *Low significance on the basis that taonga are already likely to be protected in district plans.*
		Māori cultural and spiritual values of HPL are protected. Potential loss of mauri – essential lifeforce of an area associated with productive capacity is avoided. *High significance*.

7.5 Conclusions

The current analysis of monetised costs and benefits of the six case study councils suggests a net negative outcome for the NPS – HPL – that is the long-term net costs outweigh the long-term net benefits when expressed in present value terms. It is however critical that consideration is also given to costs, and in particular benefits, that have not been monetised in these case studies, particularly the non-market values (benefits) of HPL. It is for this reason that a benefit cost ratio has not been calculated for this CBA. As discussed in the sections above, there are wide range of costs and benefits that could be generated by implementing and achieving the objective of the NPS – HPL and the monetised effects cover relatively few and not all of those considered to have high significance (i.e. those of greatest relative importance and consequence).

It is relevant that in the case of the NPS – HPL the costs fall on relatively few (and in specific geographic areas which may be identified as HPL), but the benefits are often felt by the public at large. Short-term costs (such as implementation costs that are not unique to this national planning instrument) must be weighed against long-term benefits (and not limited to the assessment period of 30 years adopted for this CBA). Economic costs are generally borne by landowners on HPL while economic benefits general fall landowners on non-HPL or primary producers on HPL. We note that all primary producers on HPL are also landowners[158], although not all landowners on HPL are primary producers (but have the option to be if their land is of a commercially viable size). This means that many landowners on HPL will experience both benefits and costs under the NPS – HPL. Last, while the major share of costs identified impact on economic wellbeing, the benefits of the NPS – HPL are spread across economic, biophysical, social and cultural wellbeing.

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

[158] Leasing arrangement notwithstanding.

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 HPL in these zones is a sunk cost. If anything, this highlights how effective these Rural Lifestyle or Rural Residential 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 (i.e. In Waikato District). 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 objective 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. While the urban growth pathway of districts and cities already set out in strategic planning documents is potentially unimpacted by the NPS – HPL, gains can still be made by better managing rural lifestyle demand growth to avoid HPL. Case study councils all agreed that national direction would be effective in helping them better manage rural fragmentation. Equally though, this CBA has not examined councils that are experiencing declining rural populations or contracting primary production sectors, and this may be relevant to consider. In these areas, it will not be household 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 food production) for future generations (although generate a range of other benefits outside the scope of the NPS - HPL.

Overall, this CBA has not found any of the implementation, net opportunity or transaction costs arising from the NPS – HPL to be significant. Implementation costs for regional and territorial authorities are considered moderately significant but the estimates may be an upper limit as they do not account for potential efficiency savings of combining the NPS – HPL plan change with other upcoming plan changes or District Plan Reviews. Nor was the change required to operative plans/policy statements to give effect to the NPS – HPL able to be factored in a case study level.

Transaction costs would not be significant in present value terms. As strategic planning improves and becomes entrenched in territorial authorities, ad hoc private plan changes have tended to decrease in the case study areas. The quantum of urban expansion private plan changes that may be expected in the case study councils over the next 30 years is not significant and the portion that may be expected to occur on HPL is lower still. The long-term average increase in urban expansion plan change costs on HPL for councils or developers ($11,000 in present value terms and an 8% discount rate) is only minor and unlikely to deter or impact private plan changes from a financial sense.

For the WBoP District, Council considers that implementing the NPS-HPL will anchor good planning practice but not materially alter the approach to urban growth planning already carried out under Smart Growth. In this (and other) council's view, the net additional plan change preparation cost may only relate to the need to strengthen the reasoning within a section 32 report in a way that specifically targets the requirements of the NPS-HPL (i.e. not so much new work, but perhaps presented in a different way). This was considered achievable and well within the capabilities of councils (and private plan change requestors – especially when council documentation/resources were made available for that purpose).

Finally, M.E's analysis found that opportunity costs to landowners and developers would be minor when considered over the next 30 years, and were weighted towards opportunity costs to landowners associated with redirecting lifestyle subdivision to non-HPL under the NPS – HPL. The analysis demonstrates that gross opportunity costs on HPL are offset (although not in full) by gross opportunity benefits on non-HPL. The net effect is however a net opportunity cost across the combined case studies. That said, while the $ values seem high (i.e. a net cost $140m in present value terms), the net percent loss of capital gain was just 5.5% less than under the status quo (and may be lower still once limitations in M.E's model regarding responsive planning by case study councils are accounted for).

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.

- **Housing Business Development Capacity Assessment (HBDCA)**: An assessment required to be updated every three years in accordance with the NPS – UDC. It examines the demand for housing and business land over the short, medium and long-term relative to the existing capacity to cater for that growth. The purpose of the assessment is to guide territorial authorities on the timing and scale of urban land required to be zoned in a district plan or identified in a strategic growth plan to ensure that urban growth is not constrained.

- **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.

- **Long Term Plan**: The long-term plan (LTP) is the key planning tool for councils. It describes the council's activities, services, investments and the community outcomes it aims to achieve over the next 10 years. It provides integrated decision-making and coordination of the resources, as set out in section 93 (6)(c) of the RMA. The timing of investment on infrastructure determines when land identified for urban development will be development ready (commercially feasible). As such, an LTP is a key determinant of when land can be live zoned (plan enabled).

- **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) aims to improve the way highly productive land is managed under the RMA so that HPL is protected for use in land-based primary production, both now and for future generations.

- **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[159].

- **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 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.

- **Revealed Preference Approach**: An approach used to measure non-market values and most used to estimate use value. Estimation of the values people place on environmental amenities and disamenities proceeds by specifying a theoretical framework and conducting data analyses from purchase decisions (prices paid, and quantities purchased) according to this conceptual framework. Relies on activities in an actual market.

- **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

159 http://www.mfe.govt.nz/sites/default/files/media/Towns%20and%20cities/National_Policy_Statement_on_Urban_Development_Capacity_2016-final.pdf

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.

- Stated Preference Approach: An approach used to measure non-market values and most commonly used to estimate non-use value. Uses carefully constructed surveys to ask individuals what their preferences are. Those answers—in the form of monetary amounts, choices, ratings, or other indications of preference—are scaled following an appropriate model of preference to yield a measure of value.

- Transaction Cost: Transaction costs are expenses incurred when buying or selling a good or service. Transaction costs represent the labour required to bring a good or service to market. In the context of the NPS – HPL, transaction costs are additional cost faced to prepare a plan change.

- 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 StatisticsNZ '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.