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NATIONAL POLICY STATEMENT FOR INDIGENOUS BIODIVERSITY – SECTION 32 EVALUATION AND COST BENEFIT ANALYSIS – APPENDIX C CASE STUDY SPATIAL ANALYSIS

Department of Conservation
Strategic Policy

DRAFT REPORT

October 2019

REPORT INFORMATION AND QUALITY CONTROL

Prepared for:		
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1 INTRODUCTION

This report contains Appendix C of the NPSIB draft section 32 evaluation and indicative cost benefit analysis (CBA) (**the main report**). It describes the results of the detailed spatial analysis for each case study council and should be read in conjunction with the main report.

As discussed in **Section 2.1** of the main report, the draft section 32 evaluation and indicative CBA is largely based on a case study approach to illustrate the potential impacts, benefits and costs that are anticipated from the NPSIB provisions in a selection of districts. This is the preferred approach at this time until to a full national assessment of benefits and costs is undertaken following public consultation. **Section 2.3** of the main report provides more detail on how the case study councils were selected, and which provisions of the NPSIB are focussed on for the spatial and quantitative analysis. This appendix should also be read in conjunction with **Section 9.1.2** (approach to spatial analysis) and **Section 9.1.3** (approach to identifying indicative SNAs as well as indicative High and Medium SNAs) of the main report. **Section 8.4.2** of the main report also provides a discussion on the approach to opportunity costs and how this can and cannot be informed by the spatial analysis.

Section 9 of the main report contains a high-level summary of the spatial analysis of each case study council, alongside other information collated for each council. Where relevant, quantitative analysis in this appendix has been used to provide further context to costs and benefits identified for selected provisions in **Section 7** of the main report.

Approach, Assumptions and Limitations

1.1 There are a number of additional assumptions or approaches to those discussed in **Section 9** of the main report that apply across all case study analyses. It is important to consider these when reading the spatial analysis sections.

- The analysis includes data supplied by MfE (provided in a GIS shapefile). This data underpinned analysis provided to the BCG. M.E has used that data for the six case study council areas. The key layers utilised are the Threatened Environments Classification (TEC) and tenure. The report prepared by MfE provides a clear discussion of the methods used to create the data/layers and the limitations of each dataset. Rather than repeat those caveats and limitations here, we refer readers to the original document[1].
- The analysis relies on the NZ Land Cover Database (LCDB). For this study, we have defined indigenous land cover according to four categories:
    - Indigenous Forest: combines indigenous forest and broadleaved indigenous hardwoods.
    - Indigenous Scrub/Shrubland: combines Manuka and kanuka, Matagouri or Grey Scrub, Fernland, Sub-alpine shrubland, Mangrove.
    - Grasslands: combines tussock grassland and depleted grasslands.
    - Flaxlands: flaxlands only.
- Wetlands is not a specific land cover in the LCDB. While there is 'Lake or Pond' and 'Estuarine Open Water', these have not been included. Mangroves are however included in Indigenous Scrub/Shrubland.
- The LCDB has also been used to define plantation forestry for the purpose of provisions in the NPSIB relating specifically to plantation forestry. The two land covers included are:
    - Exotic Forest
    - Forest – Harvest
- The LCDB has also been used to define pastoral farming for the purpose of provisions in the NPSIB relating to improved pasture. The two land covers included are:
    - High producing exotic grassland
    - Low producing grassland
- Where a case study council has not carried out SNA mapping, we have developed a 'proxy' for SNAs in that district to allow for consistent analysis. This applies for Far North, Tasman, Westland and Southland. There is no accurate way to estimate what areas will form SNAs without ground truthing (and the approach outlined in the NPSIB). In consultation with DOC, we have adopted the current indigenous land cover (defined above)

[1] Analysis from data on land ownership, land cover, and the Threatened Environments Classification. Ministry for the Environment, 17th August 2018, Wellington. https://www.biodiversitynz.org/documents.html

in each district from the LCDB as a proxy for SNA identification. This potentially overestimates likely SNAs – ground truthing would be expected to remove a portion of this area and add in other areas not captured by the indigenous land cover. The 'indicative SNAs' for those case studies relate only to this CBA and section 32 report (and associated appendices) and should not be used to guide a robust SNA identification process.

- Certain provisions in the NPSIB require SNAs to be distinguished into High and Medium SNAs. As this is not included in Waikato's and Auckland's SNA mapping, we have taken a simple approach to allocate their SNAs to the two categories. In consultation with DOC we have indicatively allocated all SNAs that fall with TEC classes of '<10% cover left', and '10-20% cover left' to High. We note that 'rarity' is just one of four criteria that should be applied, and so this approach may potentially underestimate the number of SNA that would be classified as High following a thorough application of the criteria. All other SNA's have, by default, been indicatively allocated as Medium SNA. This same approach has been applied to the 'indicative SNAs' described above.
- Slight variations may exist for the totals/sub-totals between tables in some instances. These arise from the different ways in spatial layers have been combined. The differences are generally minor. Further in some cases the incidence of different spatial layers with each other has either been calculated exactly (i.e. calculating the overlapping areas) or a simpler process has been applied where practicable; where a property (in most cases) has been attributed a particular variable based on the centroid (central point) of the property parcel relative to what layer sits below that centroid. The sum of the parcels attributed to a variable will be different from the exact calculated extent of that variable (which may not cover total parcel area). This may also explain some variation between tables.
- Case study councils have kindly supplied GIS files to assist with this analysis and have had the opportunity to review and provide feedback on the application of that data (and associated write up) in the spatial analysis sections below[2]. Numbers and results may still differ from approaches used by councils in their current plan processes, and particularly where they have more detailed local data.
- With regard to provisions in the NPSIB relating to managing adverse effects on SNAs, we have sourced a selection of GIS layers that help provide some context on the likelihood of new use, subdivision and development. These include policy or overlay areas that already generate some constraints on development and subdivision. This analysis does not capture all such policy or overlay areas (i.e. is not likely to be comprehensive).
- Similarly, due to time constraints we have not fully captured proposed nationally significant infrastructure in each case study at this time. Waikato District Council was able to supply GIS files of the proposed highway bypass and the gas line. Far North District Council was not aware of any nationally significant infrastructure proposed in their district. Further information on proposed nationally significant infrastructure (if any) in the remaining case studies (with the key gap expected to be Auckland) will be captured in the update of the CBA and section 32 report following public consultation. This may require feedback from a wider group of stakeholders.
- The discussion of impacts in the following sections does not factor in operative provisions (i.e. the status quo), other than the definition of SNAs if available. It does not identify the net impact of the NPSIB. Rather, it examines selected NPSIB provisions (broad direction) consistently across all councils, irrespective of what the operative policy framework (or granted consents) already achieve. This is particularly relevant for Waikato and Auckland who have defined SNAs and have a policy and rule framework around those SNAs, but also for those councils that have provisions that manage effects on indigenous biodiversity (but with no SNAs mapped). This is an important caveat. By way of example, the spatial analysis looks at the issue of subdivision and existing activities in relation to SNAs but does not specifically address or comment on operative provisions relating to subdivision and existing activities where there are SNAs (unless this has been specifically provided through Council feedback).

The following sections describe the results of the detailed spatial analysis for each case study council. A summary of key findings is included in Section 9, alongside other information collated for each council (which covers operative or proposed provisions for managing effects on indigenous biodiversity at a high level).

[2] While the spatial analysis has been reviewed by each Council, the results have not been specifically validated (this would require replicating the GIS analysis and this is not practical for the purpose of providing feedback).

2 WAIKATO DISTRICT SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 1 and Table 1 compare the TEC with the latest data on indigenous land cover for Waikato District. It shows that there is an estimated 66,883ha of indigenous cover remaining, of which indigenous forest makes up 75% and indigenous scrub/shrubland makes up the remaining 25% (with flaxlands covering just 19ha or less than 1%). In total, indigenous cover makes up 15% of the district's land area.

2.1 Table 1 – Threatened Environment Classification by Indigenous Land Cover - Waikato

	Flaxlands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Waikato District Land Cover
	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	7	4,178	1,895	6,081	*9%*	185,266	191,347
10-20% indigenous cover left	6	4,707	4,361	9,074	*14%*	101,756	110,830
20-30% indigenous cover left	5	4,287	2,244	6,536	*10%*	28,787	35,323
> 30 % left and < 10% protected	-	14	-	14	*0%*	93	107
> 30 % left and 10-20% protected	-	240	172	411	*1%*	306	717
> 30 % left and > 20% protected	-	36,831	7,688	44,519	*67%*	50,832	95,351
Rest of area/water	1	201	47	249	*0%*	1,366	1,614
Total Waikato District Land Environment	19	50,457	16,406	66,883	*100%*	368,406	435,289
Land Cover Share of Total District	0%	12%	4%	15%	0%	85%	100%
Land Cover Share of Indigenous Cover	0%	75%	25%	100%	na	na	na

Source: Ministry for the Environment, M.E.

Table 1 shows that 9% of total indigenous land cover (or 1.4% of total Waikato land area) falls into environments where there is less than 10% of estimated original indigenous cover left. A further 14% falls into environments where there is between 10% and 20% of estimated original cover left (still very threatened) and 10% falls into environments where there is between 20% and 30% of original cover remaining (moderately threatened). Most of the indigenous land cover (44,519ha, or 67%) falls into environments where there is more than 30% cover remaining and has a high degree of current protection; there are large areas of this cover to the south and north east of the district.

Figure 2 and Table 2 summarise the location and mix of terrestrial SNAs recently defined by Waikato District Council, in conjunction with preliminary work provided by the regional council. Waikato's SNA dataset contains 22 different types of SNA, ranging from singular types like coastal, sand dune, terrestrial and freshwater wetlands, through to combination SNAs. In total, there are 697 discrete SNAs that cover 70,693ha[3]. The average size is 101ha. A total of 54% of SNAs are identified as 'Terrestrial' (376 discrete areas), although these make up 35% of the total SNA hectares. The next most common SNA type is 'Multiple – Terrestrial, Wetland – Freshwater' with 73 SNAs (10% of the total). They also account for 10% of the SNA hectares.

[3] The following spatial analysis relates to 69,223ha of SNAs in Waikato District (i.e. 98% of the actual total). This is due to the process needed to attribute Waikato District's SNAs to High and Medium categories using the TEC rarity indicator. Not all defined SNAs had a centroid that fell within the TEC spatial layer (i.e. there are some gaps in the TEC coverage), hence the slightly lower SNA coverage utilised in the subsequent GIS analysis.

Figure 1 – Threatened Environment Classification by Indigenous Land Cover - Waikato

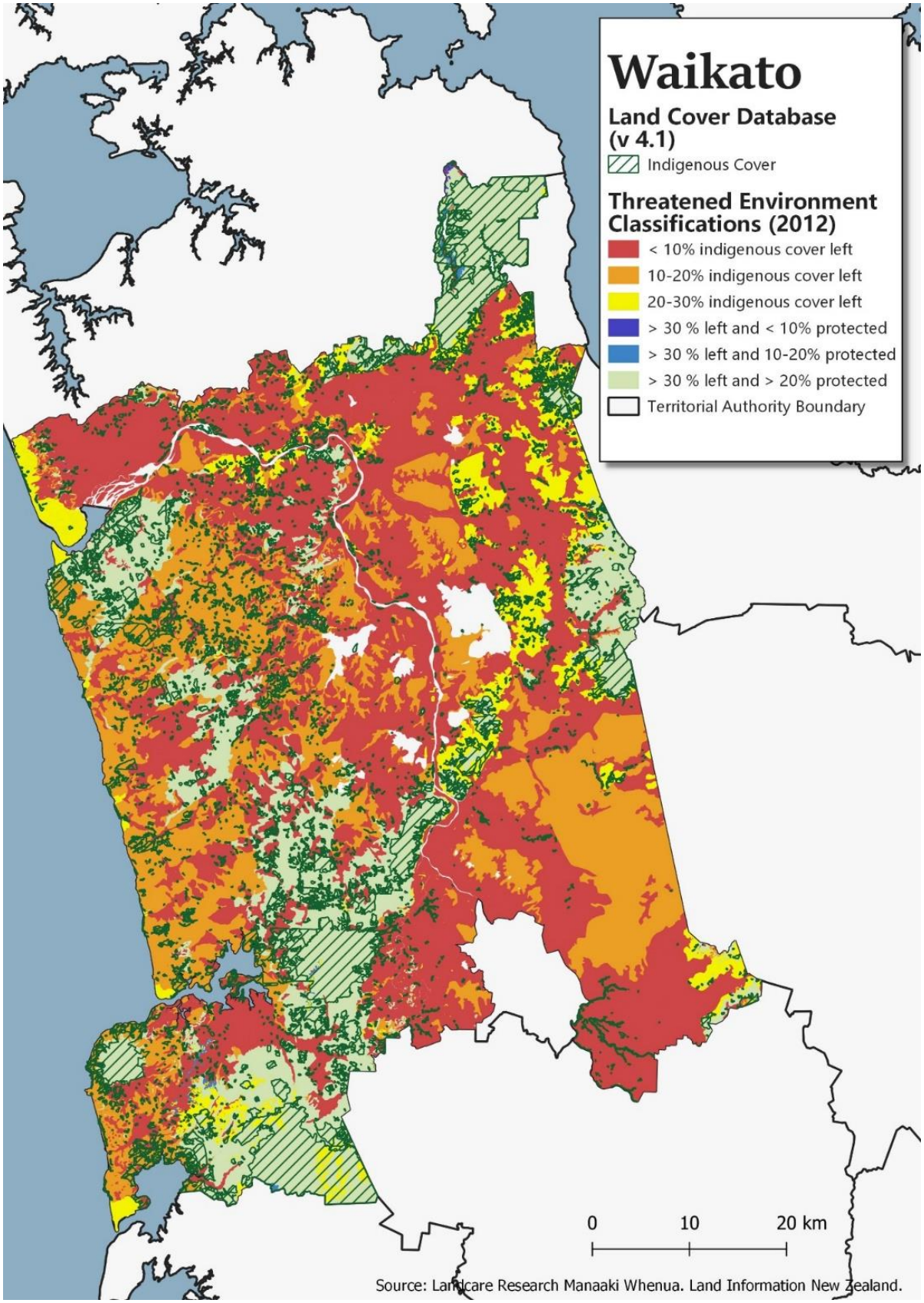


Figure 2 – Significant Natural Areas by Type - Waikato

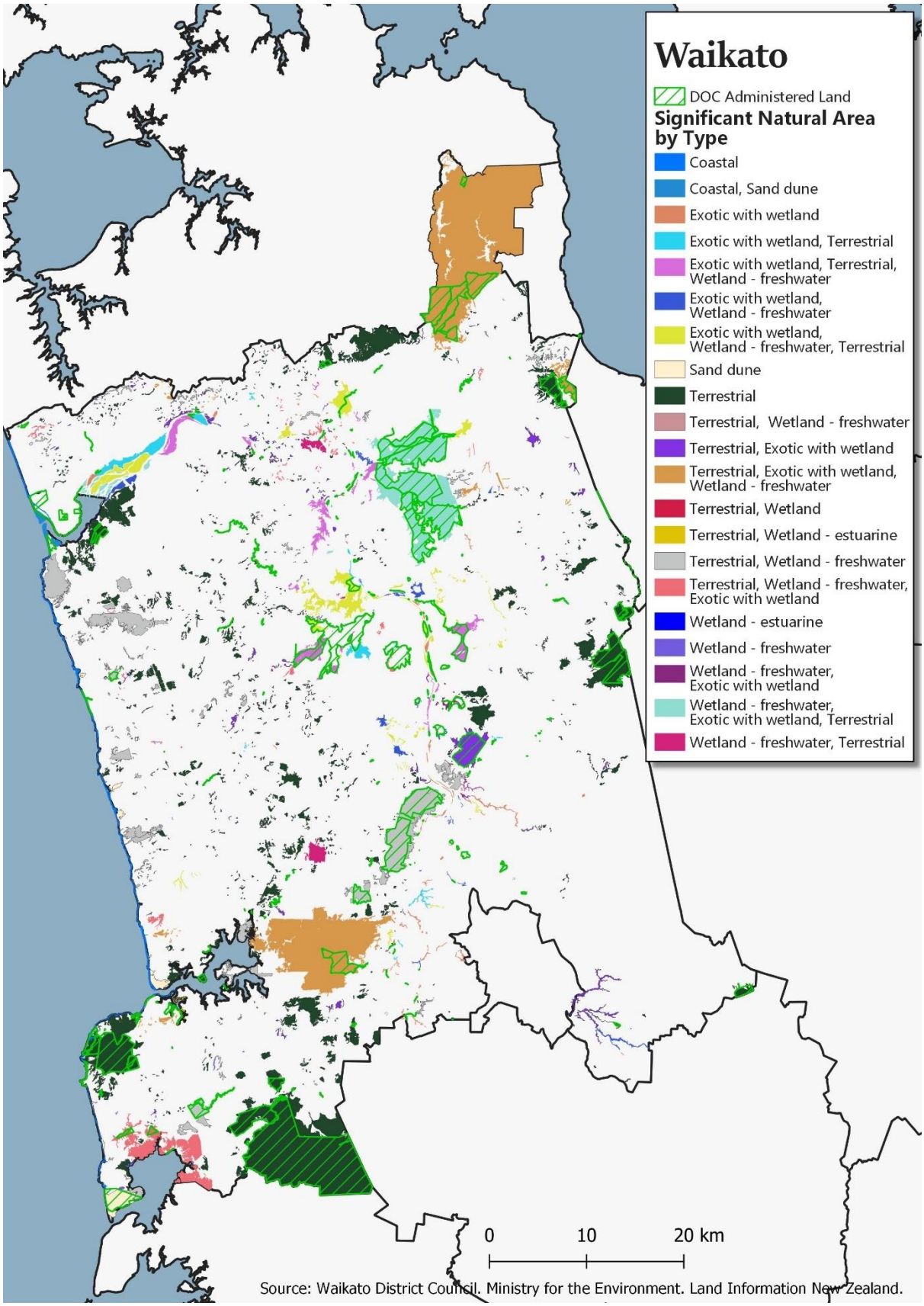


Table 2 – Significant Natural Areas by Type - Waikato

Waikato District SNA Type	Area (ha)	Share of SNA Area (%)	Count of SNA	Share of SNA Count (%)	Average SNA Size
Coastal	976	1%	4	1%	244
Exotic with wetland	451	1%	47	7%	10
Sand dune	890	1%	25	4%	36
Terrestrial	24,788	35%	376	54%	66
Terrestrial, Wetland - freshwater	10	0%	1	0%	10
Wetland - estuarine	5	0%	2	0%	3
Wetland - freshwater	113	0%	29	4%	4
Multiple - Terrestrial, Wetland	2	0%	1	0%	2
Multiple - Coastal, Sand dune	248	0%	1	0%	248
Multiple - Exotic with wetland, Terrestrial	912	1%	12	2%	76
Multiple - Exotic with wetland, Terrestrial, Wetland - fresh	1,885	3%	12	2%	157
Multiple - Exotic with wetland, Wetland - freshwater	558	1%	14	2%	40
Multiple - Exotic with wetland, Wetland - freshwater, Terres	2,540	4%	14	2%	181
Multiple - Terrestrial, Exotic with wetland	1,819	3%	37	5%	49
Multiple - Terrestrial, Exotic with wetland, Wetland - fresh	18,971	27%	13	2%	1,459
Multiple - Terrestrial, Wetland - estuarine	28	0%	1	0%	28
Multiple - Terrestrial, Wetland - freshwater	7,286	10%	73	10%	100
Multiple - Terrestrial, Wetland - freshwater, Exotic with we	2,029	3%	11	2%	184
Multiple - Wetland - freshwater, Exotic with wetland	144	0%	8	1%	18
Multiple - Wetland - freshwater, Exotic with wetland, Terres	6,506	9%	3	0%	2,169
Multiple - Wetland - freshwater, Terrestrial	519	1%	12	2%	43
Multiple - Wetland - freshwater, Terrestrial, Exotic with we	12	0%	1	0%	12
Total SNA Area (Notified July 2018)	70,693	100%	697	100%	101

Source: Waikato District Council

Table 3 – Significant Natural Areas by Land Cover – Waikato

	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Waikato District Council SNA	Area outside SNAs	Total Indigenous Land Cover
Area (ha)					
Flaxlands	6	0	6	13	19
Indigenous Forest	4,527	38,109	42,636	7,821	50,457
Indigenous Scrub/Shrubland	2,230	7,722	9,952	6,454	16,406
Total Indigenous Land Cover	**6,764**	**45,831**	**52,594**	**14,288**	**66,883**
Other Land Cover	13,475	3,153	16,628		
Total SNA Coverage	20,239	48,984	69,223		
SNA Share of Indigenous Land Cover (%)					
Flaxlands	33%	1%	34%	66%	100%
Indigenous Forest	9%	76%	84%	16%	100%
Indigenous Scrub/Shrubland	14%	47%	61%	39%	100%
Total Indigenous Land Cover	**10%**	**69%**	**79%**	**21%**	**100%**
Total SNA Coverage					
Land Cover Share of SNA (%)					
Flaxlands	0%	0%	0%		
Indigenous Forest	22%	78%	62%		
Indigenous Scrub/Shrubland	11%	16%	14%		
Total Indigenous Land Cover	**33%**	**94%**	**76%**		
Other Land Cover	67%	6%	24%		
Total SNA Coverage	100%	100%	100%		

Source: Waikato District Council, MfE, M.E.

When comparing how the defined SNAs relate to indigenous land cover in Waikato District, 79% of indigenous cover is captured by SNAs (52,594ha) and 21% is not. This is relevant for the amount of indigenous cover that will be managed by provisions relating to areas outside of SNAs. An above average share of indigenous forest cover is captured by the SNAs (84%) but just 34% of flaxlands cover and 61% of indigenous scrub/shrubland is captured (Table 3 and Figure 3).

When looking at the land cover composition of the identified SNAs, indigenous cover makes up 76% of the area, with other land covers making up 24%. This highlights the limitations of the LDCB and the fact that the SNA criteria is broader than just indigenous cover. Hence the importance of a comprehensive approach that includes (but is not limited to) desktop analysis, aerial photographs and site visits to accurately identify SNA on the ground.

Figure 3 – Significant Natural Areas and Indigenous Land Cover - Waikato

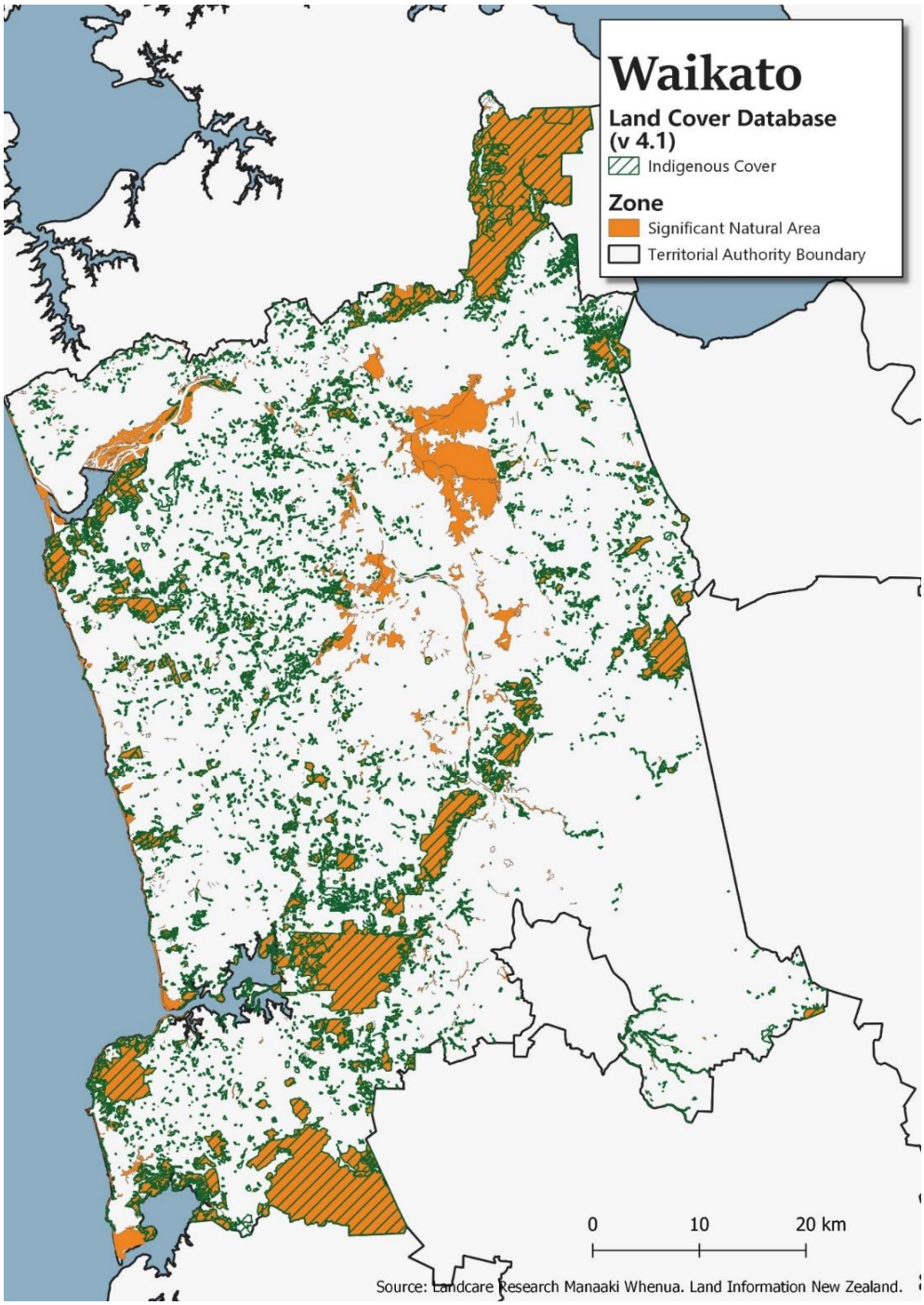


Table 3 also provides a breakdown of Waikato District SNAs into indicative High and Medium categories by area using TEC. Indicative High SNAs equate to 20,239ha and capture 10% of indigenous land cover. Indicative Medium SNAs equate to 48,894ha and capture 69% of indigenous land cover. The Indicative Medium SNAs are much more dominated by indigenous land cover (94% of their area), while Indicative High SNAs pick up a much greater range of land covers, with indigenous cover only making up 33% of their total area.

Figure 4 and Table 4 provide a summary of the tenure of Waikato District SNAs, including by indicative High and Medium status. Overall, there is very little (783ha) of Crown owned land in the district. A total of 13% of Crown land falls within SNAs, but relative to other tenures, Crown land makes up less than 1% of SNAs.

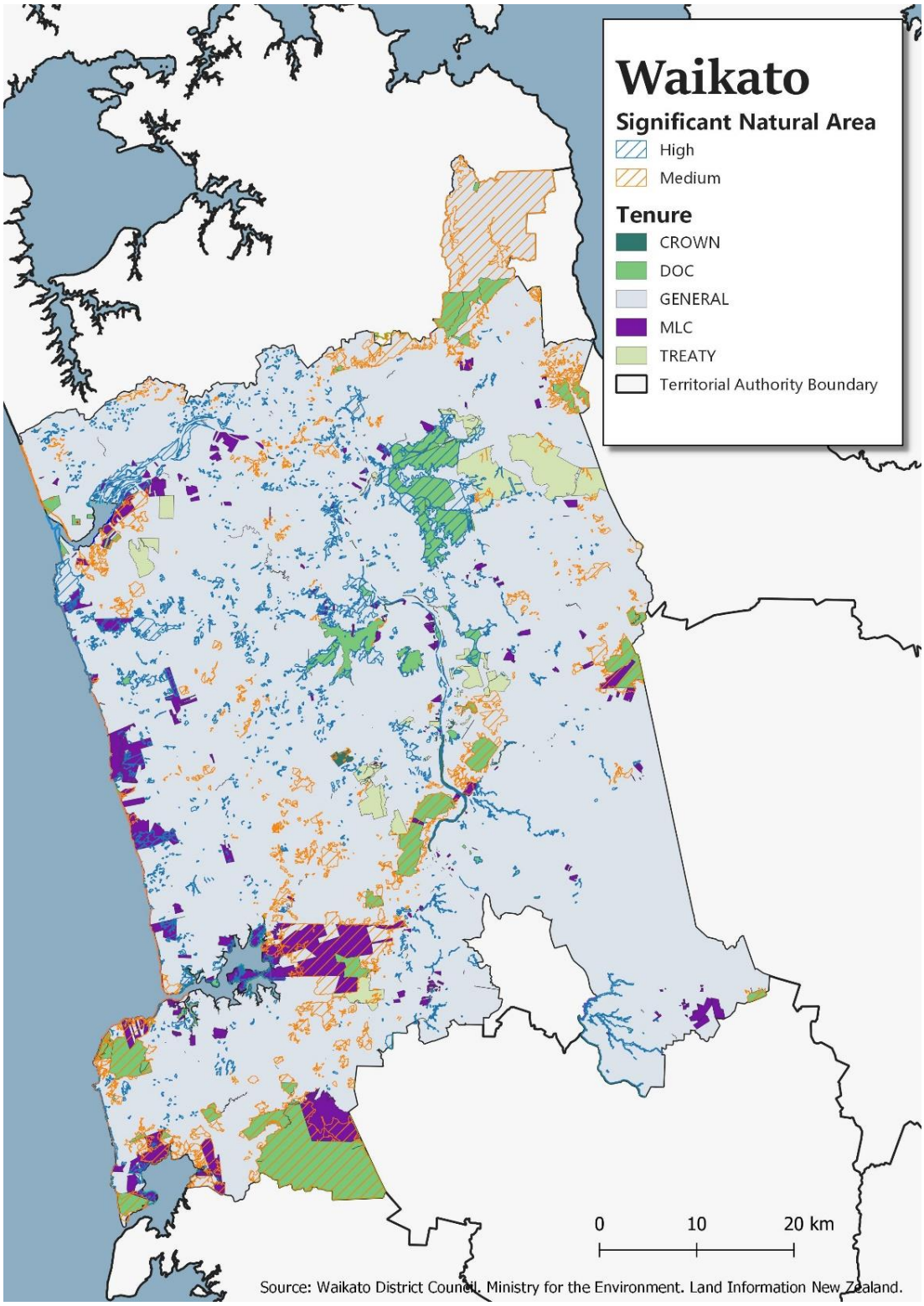
There is a moderate amount of DOC land in Waikato (25,283ha). A significant 87% of this is captured by the SNAs, and 13% is not. DOC land makes up 33% of total SNA hectares (with a similar share for both High and Medium SNAs). Nearly half (47%) of land administered under the Māori Land Court in Waikato falls within identified SNAs (particularly Indicative Medium SNAs). This is discussed further below with respect to provisions in the NPSIB relating to managing adverse effects on SNAs. In terms of all the SNA coverage in Waikato, Māori land accounts for 13% of the SNA coverage in the district. In contrast, Treaty Settlement Land is largely excluded from SNAs (just 4% captured) and this accounts for 1% of SNA area.

Table 4 – Significant Natural Areas and Land Tenure - Waikato

Tenure	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA	Area outside SNAs	Total Land Area
Area (ha)					
Crown	63	40	103	680	783
DOC	6,013	16,894	22,907	3,375	26,283
General	11,678	24,412	36,090	351,902	387,992
Maori Land Court	2,112	7,051	9,164	10,409	19,573
Treaty Settlement	182	271	453	9,970	10,423
Not Specified	*189*	*316*	*505*	*560*	*1,065*
Total Land Area	20,239	48,984	69,223	376,896	446,119
Share of Land by Tenure (%)					
Crown	0%	0%	0%	0%	0%
DOC	30%	34%	33%	1%	6%
General	58%	50%	52%	93%	87%
Maori Land Court	10%	14%	13%	3%	4%
Treaty Settlement	1%	1%	1%	3%	2%
Not Specified	*1%*	*1%*	*1%*	*0%*	*0%*
Total Land Area	100%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%)					
Crown	8%	5%	13%	87%	100%
DOC	23%	64%	87%	13%	100%
General	3%	6%	9%	91%	100%
Maori Land Court	11%	36%	47%	53%	100%
Treaty Settlement	2%	3%	4%	96%	100%
Not Specified	*18%*	*30%*	*47%*	*53%*	*100%*
Total Land Area	5%	11%	16%	84%	100%

Source: MfE, Waikato District Council, M.E

Figure 4 – Significant Natural Areas and Land Tenure - Waikato



The greatest share of SNA land is in general ownership. This makes up 52% of total SNA area and a slightly higher share of Indicative High SNA area (58%). However, relative to all general tenure land, SNAs cover just 9%. This highlights that general land owners will be most impacted by the protection of SNAs (all else being equal), but that only a very small share of general landowners will be affected. This is examined further below.

SNAs & Provisions Managing Adverse Effects – Specific Activities

2.2 The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs , including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierachy.

Figure 5 – Current and Proposed National Infrastructure and Mining/Extraction - Waikato

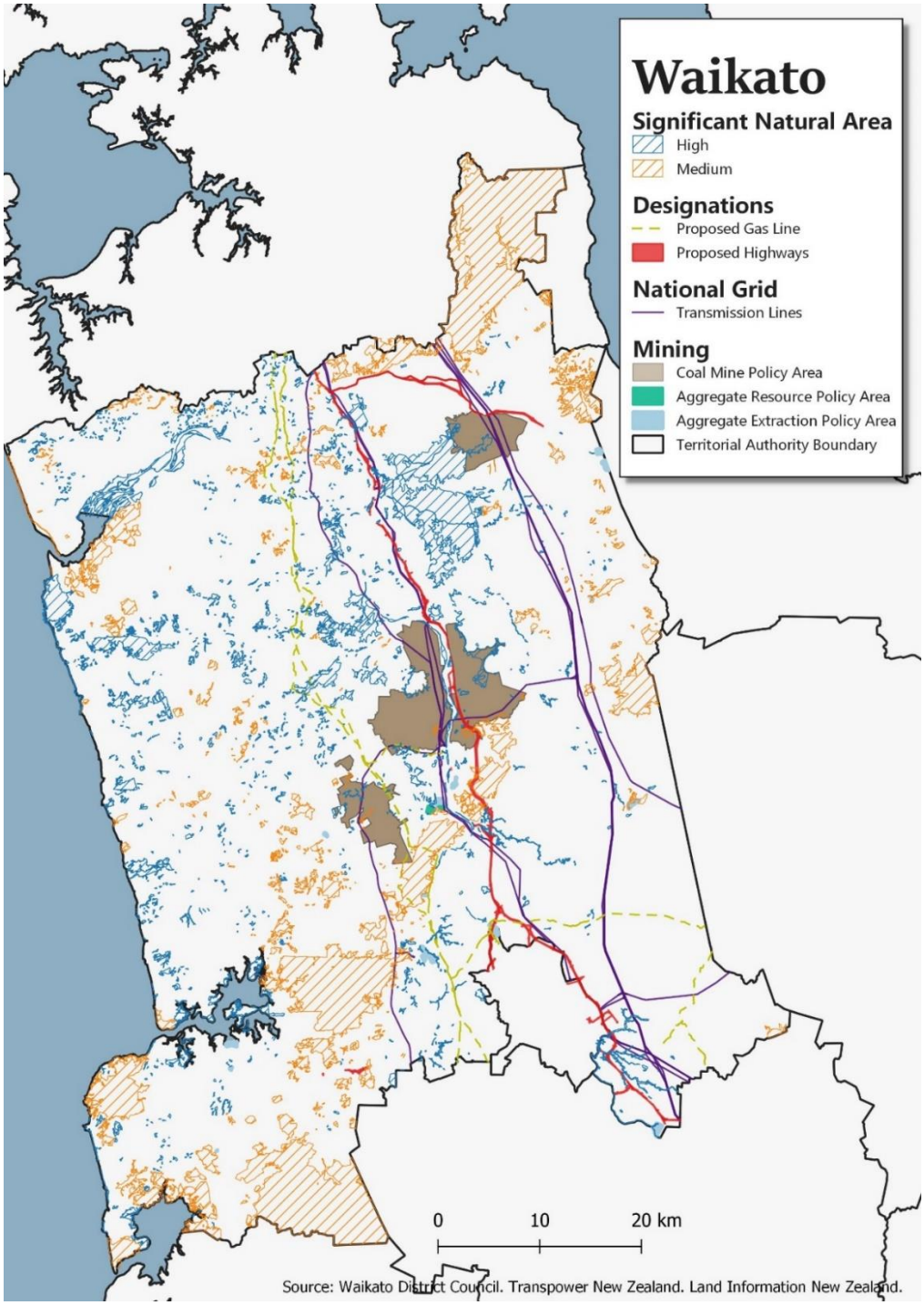


Figure 5 illustrates the incidence of Waikato's mining policy areas relative to Indicative High and Medium SNAs. Table 6 shows that (for the policy layers included), between 1% and 6% of these mining areas fall within SNAs generally, and that these mining areas account for immaterial shares of the total SNA coverage (i.e. estimated at 0.1%). While it is not certain whether there is any likelihood that mining activities within these policy areas would impact on the defined SNAs, on average 2% each of the Aggregate Extraction and Aggregate Resource policy areas that contain Indicative High SNAs might be constrained in accordance with provisions in the NPSIB that require certain adverse effects to be avoided. This represents a very small risk to operations in those areas. Similarly, just 1% of the Coal Mine Policy Area would be highly constrained under provisions requiring certain adverse effects to be avoided, and just 2ha (less than 1%) would need to manage effects in accordance with NPSIB provisions that apply to mineral and aggregate extraction in Medium SNAs.

Table 5 –SNAs Within Mining Resource/Extraction Overlay Areas - Waikato

Selected Policy Area	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA	Area Outside SNAs	Total WDC Policy Area
Area (ha)					
Aggregate Extraction Policy Area	13	24	37	578	615
Aggregate Resource Policy Area	1	1	3	68	71
Coal Mine Policy Area	12	2	14	1,505	1,520
Share of Policy Area (%)					
Aggregate Extraction Policy Area	2%	4%	6%	94%	100%
Aggregate Resource Policy Area	2%	2%	4%	96%	100%
Coal Mine Policy Area	1%	0%	1%	99%	100%
Share of SNA Area (%) *					
Aggregate Extraction Policy Area	0.1%	0.0%	0.1%		
Aggregate Resource Policy Area	0.0%	0.0%	0.0%		
Coal Mine Policy Area	0.1%	0.0%	0.0%		
Sub-Total Selected Policy Areas *	0.1%	0.1%	0.1%		

*Source: Waikato District Council, M.E. * Assumes selected policy layers are mutually exclusive.*

It is not possible to quantify the area of SNAs that might be impacted by the Proposed Gas Line, but Figure 5 shows that the proposed route does cross both Indictive High and Indicative Medium SNAs. This indicates that some tension exists with this proposed infrastructure and the NPSIB provisions, in some isolated locations. Similarly, the proposed Highway route intersects some SNAs (including Indicative High SNAs).

While the National Grid corridor is existing, this is shown as additional context to the NPSIB provision that apply to nationally significant infrastructure. As an existing activity it will have ongoing maintenance and upgrade requirements and this activity may coincide with SNAs in parts of the corridor.

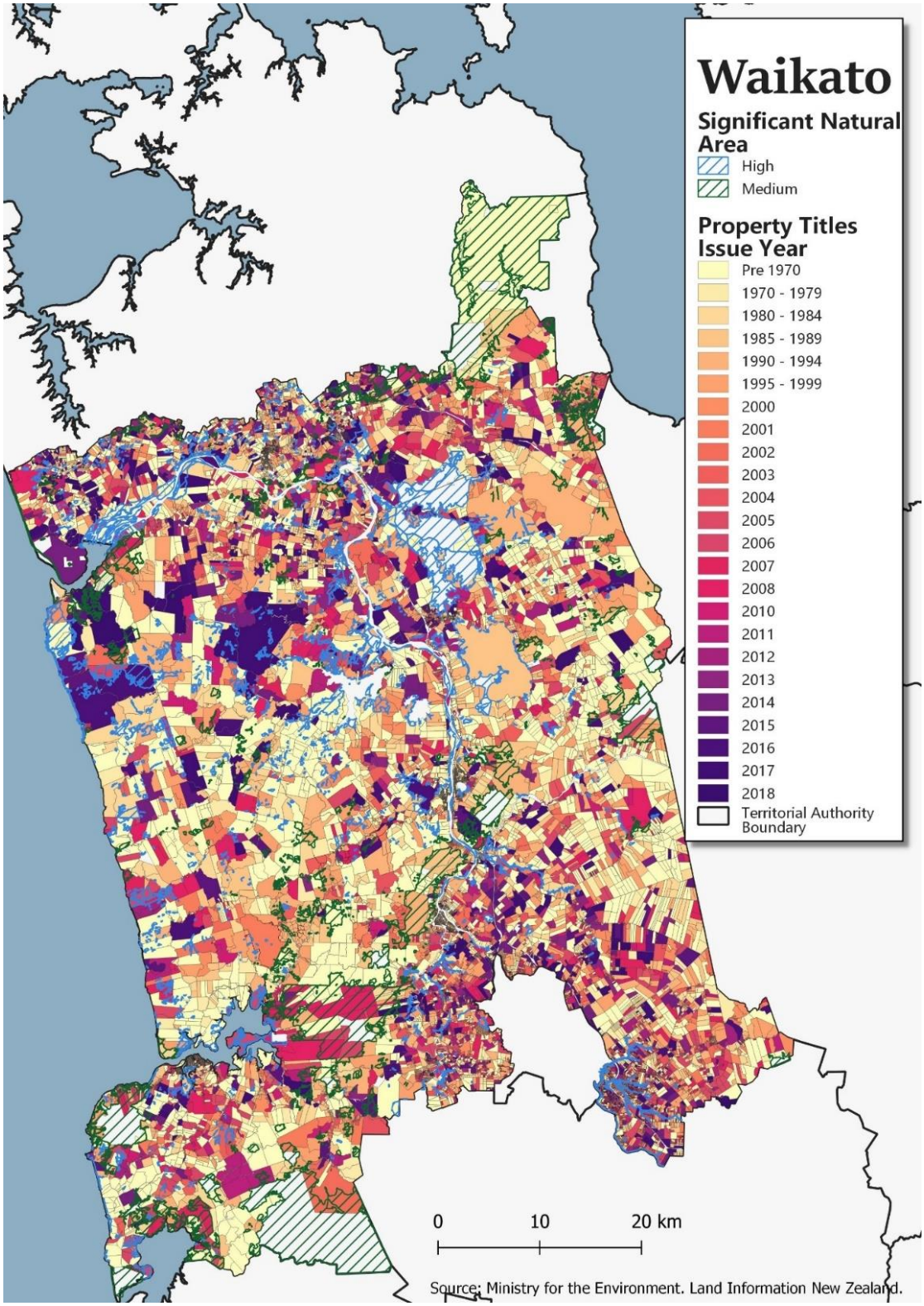
While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard). Figure 6 is included to provide some context on how active subdivision activity is in Waikato District. It shows that a lot of subdivision has occurred recently and is widespread across the rural environment. This is not unexpected given that Waikato is a high growth council under the NPSUDC.

To the extent that subdivision is occurring on general land, Figure 6 shows some of the locales where subdivision activity is concentrated often includes both Indicative High and Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a more relevant (although not necessarily significant) issue under the NPSIB for Waikato compared to councils where growth is slow and there is not the same pressure for rural lifestyle living within proximity of large centres.

Table 6 considers the issue of potential opportunity costs for general landowners in Waikato District. The analysis combines SNA coverage of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing

a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

Figure 6 – Location and Temporal Trends for Land Subdivision - Waikato



The results show that 88% of general owned properties have no SNA coverage. This means that the clear majority of households will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs). Just 4% (1,039) of general owned properties include an area of Indicative Medium SNA. An estimated 0.4% of total general owned properties (123) have 80% or greater property coverage of indicative Medium SNA. Most of these are large sized properties (greater than 10ha) and many are moderately large properties (2-10ha), so for the purpose of locating a dwelling for example, there would still be a potentially large area of land free of SNAs that may be appropriate for development.

Table 6 – Count of General Land Parcels by Size and SNA Coverage - Waikato

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	18,263	-	-	-	-	-	-	-	18,263	70%
1ha-2ha	2,489	-	-	-	-	-	-	-	2,489	10%
2ha-5ha	2,153	-	-	-	-	-	-	-	2,153	8%
5ha-10ha	935	-	-	-	-	-	-	-	935	4%
10ha-20ha	693	-	-	-	-	-	-	-	693	3%
20ha-50ha	680	-	-	-	-	-	-	-	680	3%
50ha-100ha	514	-	-	-	-	-	-	-	514	2%
100ha-150ha	171	-	-	-	-	-	-	-	171	1%
150ha-250ha	116	-	-	-	-	-	-	-	116	0%
250ha-500ha	48	-	-	-	-	-	-	-	48	0%
500ha-1,000ha	4	-	-	-	-	-	-	-	4	0%
>1,000ha	2	-	-	-	-	-	-	-	2	0%
Total Properties	26,068	-	-	-	-	-	-	-	26,068	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	19	34	33	11	14	22	7	16	156	15%
1ha-2ha	9	30	13	11	15	7	6	5	96	9%
2ha-5ha	13	30	21	21	13	9	6	11	124	12%
5ha-10ha	10	26	15	10	8	5	6	6	86	8%
10ha-20ha	19	56	13	14	9	9	11	11	142	14%
20ha-50ha	24	75	19	9	9	7	9	11	163	16%
50ha-100ha	12	38	10	4	4	4	2	2	76	7%
100ha-150ha	5	33	7	3	1	-	-	5	54	5%
150ha-250ha	15	33	3	3	-	2	4	3	63	6%
250ha-500ha	20	27	9	2	-	2	-	1	61	6%
500ha-1,000ha	2	11	2	-	-	-	-	-	15	1%
>1,000ha	-	1	1	-	-	-	1	-	3	0%
Total Properties	148	394	146	88	73	67	52	71	1,039	100%
Share of Properties	*14%*	*38%*	*14%*	*8%*	*7%*	*6%*	*5%*	*7%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	61	174	73	43	33	20	8	34	446	19%
1ha-2ha	20	114	72	48	29	15	6	5	309	13%
2ha-5ha	51	113	67	30	23	16	10	9	319	13%
5ha-10ha	20	135	38	16	7	4	4	2	226	10%
10ha-20ha	34	153	29	15	9	2	3	2	247	10%
20ha-50ha	39	167	13	8	4	4	2	5	242	10%
50ha-100ha	44	140	16	5	5	1	5	6	222	9%
100ha-150ha	33	76	6	-	-	-	1	4	120	5%
150ha-250ha	28	53	6	3	1	-	-	3	94	4%
250ha-500ha	17	60	2	4	1	1	1	-	86	4%
500ha-1,000ha	11	31	-	1	-	-	1	-	44	2%
>1,000ha	1	9	3	-	-	-	-	-	13	1%
Total Properties	359	1,225	325	173	112	63	41	70	2,368	100%
Share of Properties	*15%*	*52%*	*14%*	*7%*	*5%*	*3%*	*2%*	*3%*	*100%*	

Source: Waikato District Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

Table 6 also shows that 8% (2,368) of general owned properties include an area of Indicative High SNA. Note, where those properties also included an area of Indicative Medium SNA, this assessment combines the coverage. An estimated 0.4% of total properties (111) have 80% or greater indicative High SNA property coverage. Many of these are large sized properties (greater than 10ha) and most are moderately large (between 2-10ha), so for the purpose of

locating a dwelling for example, there would still be a potentially large area of land free of SNAs that may be appropriate for development.

Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the District Plan) are important to recognise as the NPSIB may only have a marginal impact.

Figure 7 – SNAs & Selected Overlays that Constrain Development & Subdivision - Waikato

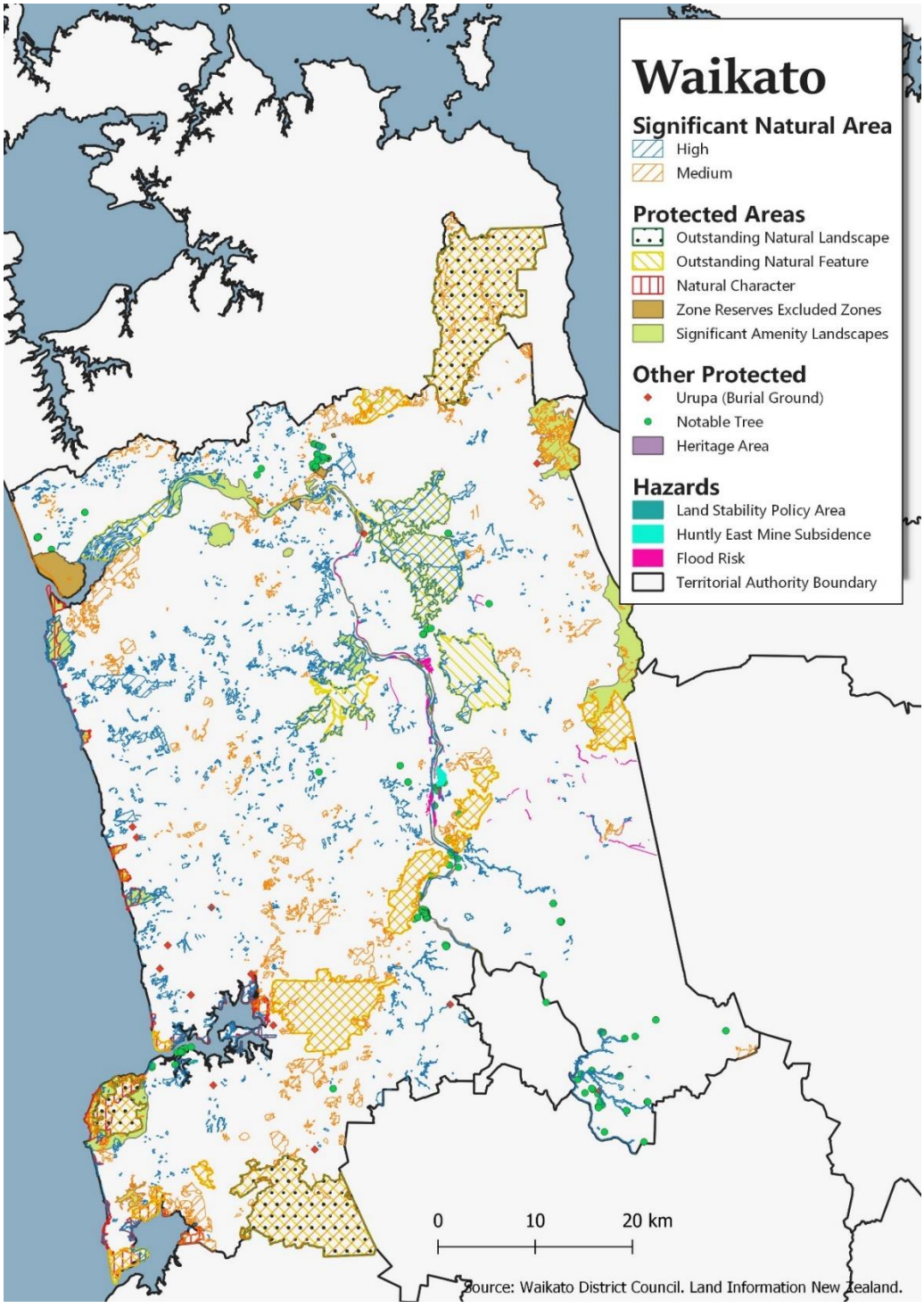


Figure 7 illustrates a selection (not all) of potentially relevant policy or overlay areas in the Waikato District Plan that are expected to constrain (to some degree) what can and cannot be done on properties that fall within these areas as well as SNAs. The results are summarised in Table 7.

Table 7 –SNAs & Selected Overlays that Constrain Development & Subdivision - Waikato

Selected Policy Area	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA	Area Outside SNAs	Total WDC Policy Area
Area (ha)					
Flood Risk	24	1	25	513	538
Heritage Area	-	-	-	4	4
Huntly East Mine Subsidence	-	-	-	125	125
Land Stability Policy Area	-	-	-	17	17
Outstanding Natural Features	9,019	13,694	22,713	6,253	28,966
Outstanding Natural Landscapes	-	22,691	22,691	534	23,225
Significant Amenity Landscapes	2,447	2,030	4,477	8,739	13,216
Share of Policy Area (%)					
Flood Risk	4%	0%	5%	95%	100%
Heritage Area	0%	0%	0%	100%	100%
Huntly East Mine Subsidence	0%	0%	0%	100%	100%
Land Stability Policy Area	0%	0%	0%	100%	100%
Outstanding Natural Features	31%	47%	78%	22%	100%
Outstanding Natural Landscapes	0%	98%	98%	2%	100%
Significant Amenity Landscapes	19%	15%	34%	66%	100%
Share of SNA Area (%) *					
Flood Risk	0%	0%	0%		
Heritage Area	0%	0%	0%		
Huntly East Mine Subsidence	0%	0%	0%		
Land Stability Policy Area	0%	0%	0%		
Outstanding Natural Features	45%	28%	33%		
Outstanding Natural Landscapes	0%	46%	33%		
Significant Amenity Landscapes	12%	4%	6%		

*Source: Waikato District Council, M.E. * Treats selected policy layers as mutually exclusive.*

Of the layers selected, no SNAs fall within Heritage Areas, the Huntly East Mine Subsidence Area, or the Land Stability Policy Area. A total of 25ha of SNA fall within the defined Flood Risk area, although this makes up just 5% of the total Flood Risk policy area. Of greater relevance, 78% of SNA hectares fall within areas defined as Outstanding Natural Features (these make up a third of SNA land area across the district. A significant 98% of Outstanding Natural Landscapes fall within SNAs, and these policy areas also make up third of SNA land area across the district. Last, 34% of Significant Amenity Landscapes fall within SNAs, although this makes up just 6% of SNA hectares.

The incidence of some other site-specific features in the district was also tested. Only 1% (n = 2) of notable trees identified in the proposed district plan fall within SNAs, and 25% (n = 5) of Urupa fall within SNAs. These protected features impact on very few SNAs. They are likely to benefit more from the added protection provided from the SNA provisions under the NPSIB than the other way around.

Table 8 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). Of the estimated 659 Māori land properties, 66% (433) have no SNA coverage. A further 16% (107) have some Indicative Medium SNA coverage. An estimated 9% of the total (60) have 80% or more indicative Medium SNA coverage. These tend to be large sized land parcels (greater than 10ha) but with many facing greater than 90% SNA coverage, this is likely to mean some additional costs to develop a sufficient area (if not already) under NPSIB provisions relating to managing adverse effects on SNA.

The remaining 18% (119) of all Māori land parcels contain an area of Indicative High (or combined High and Medium) SNA. Much less (3% or 23 Māori land properties) have 80% or greater indicative High SNA coverage. Most of these properties are large properties (greater than 10ha), with just one less than 1ha.

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is particularly evidence in Waikato District.

Table 8 – Count of Māori Land Parcels by Size and SNA Coverage - Waikato

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	187	-	-	-	-	-	-	-	187	43%
1ha-2ha	31	-	-	-	-	-	-	-	31	7%
2ha-5ha	59	-	-	-	-	-	-	-	59	14%
5ha-10ha	42	-	-	-	-	-	-	-	42	10%
10ha-20ha	53	-	-	-	-	-	-	-	53	12%
20ha-50ha	48	-	-	-	-	-	-	-	48	11%
50ha-100ha	10	-	-	-	-	-	-	-	10	2%
100ha-150ha	2	-	-	-	-	-	-	-	2	0%
150ha-250ha	1	-	-	-	-	-	-	-	1	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	433	-	-	-	-	-	-	-	433	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	-	-	-	-	-	2	-	1	3	3%
1ha-2ha	-	2	1	-	-	-	-	-	3	3%
2ha-5ha	-	-	1	-	-	-	1	1	3	3%
5ha-10ha	-	1	-	-	1	1	2	3	8	7%
10ha-20ha	2	5	1	1	2	3	1	13	28	26%
20ha-50ha	2	3	3	-	1	4	-	15	28	26%
50ha-100ha	-	1	2	-	4	2	2	8	19	18%
100ha-150ha	-	1	-	-	-	-	-	2	3	3%
150ha-250ha	-	-	-	-	-	-	-	5	5	5%
250ha-500ha	-	-	-	-	-	-	-	3	3	3%
500ha-1,000ha	-	-	-	-	-	-	-	2	2	2%
>1,000ha	-	-	-	1	-	-	-	1	2	2%
Total Properties	4	13	8	2	8	12	6	54	107	100%
Share of Properties	*4%*	*12%*	*7%*	*2%*	*7%*	*11%*	*6%*	*50%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	-	7	2	1	1	1	-	1	13	11%
1ha-2ha	-	3	-	1	-	1	1	-	6	5%
2ha-5ha	-	4	2	-	-	-	-	2	8	7%
5ha-10ha	-	2	-	1	1	1	1	1	7	6%
10ha-20ha	1	6	2	1	4	3	2	3	22	18%
20ha-50ha	-	9	3	5	4	1	4	3	29	24%
50ha-100ha	1	4	4	2	-	3	3	-	17	14%
100ha-150ha	-	3	1	1	2	1	-	1	9	8%
150ha-250ha	-	-	-	-	-	-	-	1	1	1%
250ha-500ha	-	3	1	1	1	-	-	-	6	5%
500ha-1,000ha	-	1	-	-	-	-	-	-	1	1%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	2	42	15	13	13	11	11	12	119	100%
Share of Properties	*2%*	*35%*	*13%*	*11%*	*11%*	*9%*	*9%*	*10%*	*100%*	

Source: Waikato District Council, MfE, M.E. Properties tagged to Maori Land based on the centroid of the property parcel relative to the tenure land areas.

Figure 8 provides some context on the exemption in the provisions specifically for plantation forestry. Using the two LCDB layers as a guide, Table 9 and 10 show that there are relatively few areas of exotic forestry in Waikato District and they are generally dispersed – 78% of them are less than 5ha in area so are not the big 'commercial' forestry blocks found in some parts of New Zealand.

In total, just 3% of the combined exotic forest area contains SNAs (likely to be indigenous remnants surrounded by plantation forestry). By far the majority (97%) does not include any SNAs within the forestry extent. Overall, exotic forestry cover makes up just 1% of Waikato SNAs by area. Four percent of all discrete forestry areas (polygons – not necessarily related to properties) have 50% or greater SNA coverage – these are all less than 20ha in size and most less than 5ha in size. Just 2% (31 discrete areas) have SNA coverage of 80% or greater. All the large forestry areas greater than 500ha have little or no SNA coverage.

Figure 8 – Significant Natural Areas Relative to Exotic Forestry Land Cover - Waikato

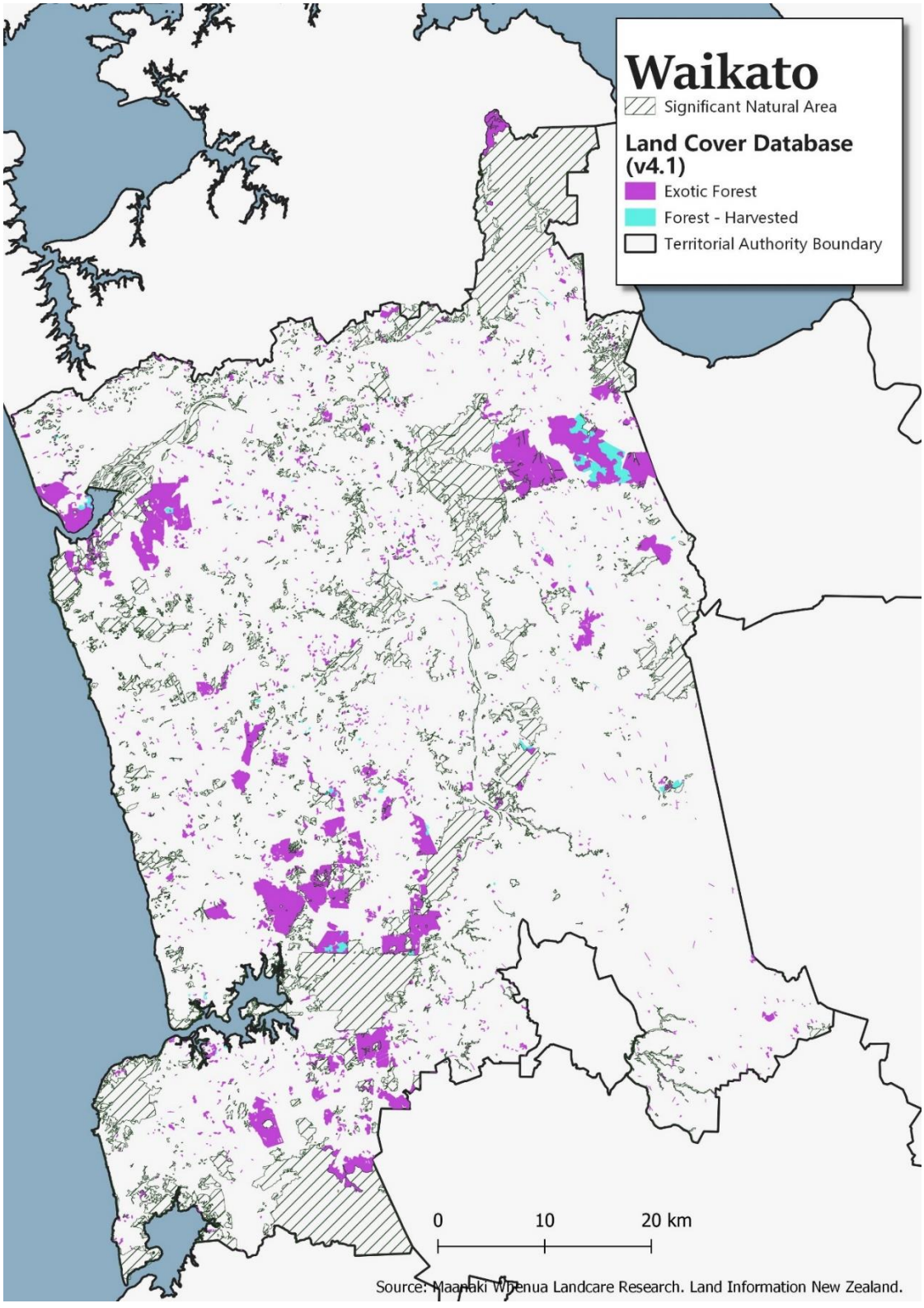


Table 9 – Significant Natural Areas Relative to Exotic Forestry Land Cover - Waikato

Land Cover	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA	Area Outside SNAs	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	199	437	636	23,540	24,176
Forest - Harvested	0	11	12	1,383	1,394
Sub-Total Plantation Forest	*199*	*448*	*648*	*24,923*	*25,571*
Other Land Cover	20,040	48,536	68,575		
Total SNA Area	20,239	48,984	69,223		
Share of Land Cover Area (%)					
Exotic Forest	1%	2%	3%	97%	100%
Forest - Harvested	0%	1%	1%	99%	100%
Sub-Total Plantation Forest	1%	2%	3%	97%	100%
Share of SNA Area (%)					
Exotic Forest	1%	1%	1%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*1%*	*1%*	*1%*		
Other Land Cover	99%	99%	99%		
Total SNA Area	100%	100%	100%		

Source: Waikato District Council, LCDB, M.E.

Table 10 – Count of Discrete Exotic Forestry Land Areas by Size and SNA Coverage - Waikato

Discrete Area Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Count of Exotic Forestry Areas	Share of Forestry Areas (%)
SNA Coverage Distribution (Count of discrete exotic forestry land cover polygons)										
<1ha	459	13	6	2	5	5	2	2	494	23%
1ha-2ha	559	41	10	6	11	7	8	2	644	30%
2ha-5ha	432	55	21	11	1	10	6	6	542	25%
5ha-10ha	139	42	10	3	5	2	4	1	206	9%
10ha-20ha	93	32	5	-	1	1	-	-	132	6%
20ha-50ha	56	26	1	-	-	-	-	-	83	4%
50ha-100ha	20	11	-	-	-	-	-	-	31	1%
100ha-150ha	10	3	-	-	-	-	-	-	13	1%
150ha-250ha	7	6	-	-	-	-	-	-	13	1%
250ha-500ha	6	5	-	-	-	-	-	-	11	1%
500ha-1,000ha	4	4	-	-	-	-	-	-	8	0%
>1,000ha	1	-	-	-	-	-	-	-	1	0%
Total Polygons	1,786	238	53	22	23	25	20	11	2,178	100%
Share of Polygons	*82%*	*11%*	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*	*100%*	

Source: Waikato District Council, LCDB, M.E. Exotic Forestry land cover areas are discrete but do not relate to property boundaries.

2.3

SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities. While it is not possible to determine existing activities on each property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered two datasets that provide some context for this issue.

Figure 9 and Table 11 summarise the incidence of SNAs with proposed district plan zones in Waikato District. In total, 81.7% of SNAs by area fall within the Rural Zone. A further 18.1% falls within the Reserve Zone (and this is made up mostly of Indicative Medium SNAs. The Country Living Zone and Road Zone (i.e. road reserves) account for just 0.1% of SNA area each.

Figure 9 – Significant Natural Areas by Proposed District Plan Zone - Waikato

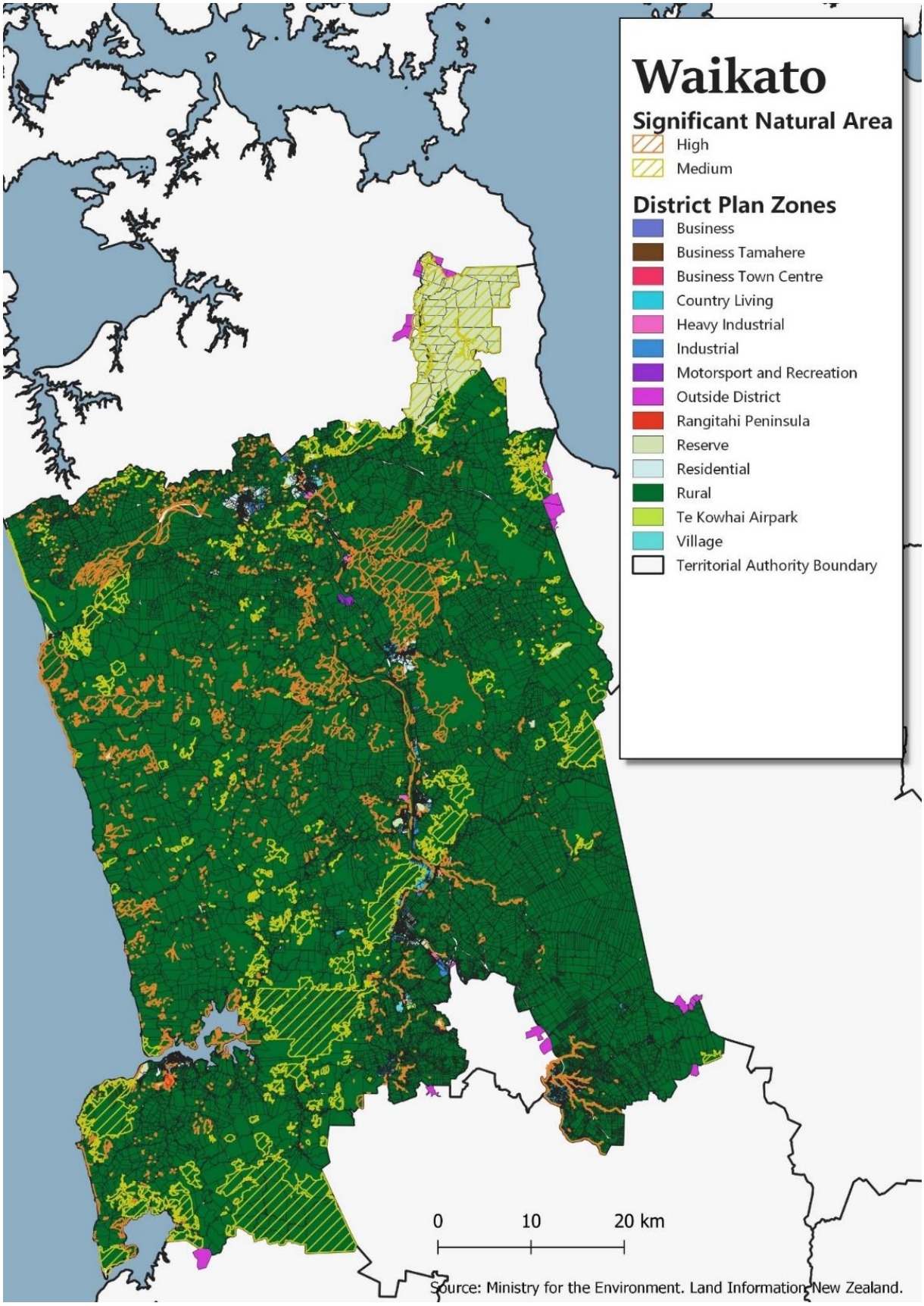


Table 11 – Significant Natural Areas by Proposed District Plan Zone - Waikato

Proposed District Plan Zone	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total WDC SNA
	(ha)			(% Share of Total)		
Country Living	43	-	43	0.1%	0.0%	0.1%
Industrial	2	-	2	0.0%	0.0%	0.0%
Rangitahi Peninsula	28	-	28	0.0%	0.0%	0.0%
Reserve	311	12,238	12,549	0.4%	17.7%	18.1%
Residential	8	5	12	0.0%	0.0%	0.0%
Road	41	-	41	0.1%	0.0%	0.1%
Rural	19,804	36,741	56,545	28.6%	53.1%	81.7%
Village	2	-	2	0.0%	0.0%	0.0%
Total SNA Area (2019)	20,239	48,984	69,223	29%	71%	100%

Source: Waikato District Council, M.E

It is possible to examine land use codes for properties in Waikato District. Table 12 shows the count of properties in general land ownership by land use category. This gives a more detailed indication of the sorts of activities that may be taking place on private land. As previously stated, 88% of all general properties have no SNA coverage. A total of 3,407 (12%) contain an area of SNA on the wider land parcel. Notable land uses with a relatively high share of SNA land cover include:

- 100% of Utility – wind turbine or power station properties contain an area of SNA;
- 100% of Other Utility properties;
- 59-74% of Pasture properties (discussed further below);
- 52-92% of Forestry properties;
- 33% of Horticultural – Market Garden properties; and
- 36% of Specialty Livestock – Other Livestock properties.

Figure 10 and Table 11 provide some contextual analysis on pastoral farming, given that this is specifically provided for in the NPSIB provisions in terms of land clearance activity. Pastoral farming is a significant component of Waikato's land use and economy and the extent of high and low producing grassland land cover in the LCDB is extensive. As such, there is a high degree of overlap with the defined SNAs.

Table 13 considers general, Māori and Treaty Settlement properties that overlap (based on their centroid) the two 'producing' grassland land covers. This indicates a total of nearly 16,000 properties that potentially maintain improved pasture. Overall, less than 1% of all pastoral properties have 50% or greater SNA coverage as defined by Waikato District Council. Most (89%) have no or less than 1% SNA coverage. This is to be expected given that indigenous land cover was predominantly cleared to enable pastoral farming in the past. Eight percent of pastoral properties have between 1% and 20% SNA coverage.

This data is not able to inform the degree of regeneration of indigenous cover on these properties. Rather, it highlights that in Waikato District, the exemption for continued land clearance to maintain pasture outside of SNAs may be highly relevant depending on whether indigenous species are still present in the pasture.

Table 12 – Significant Natural Areas by Property Land Use on General Owned Land - Waikato

Land Use Category	No SNA Coverage	Some SNA Coverage	Total Count of General Properties	Distribution of Properties with Some SNA Coverage	Properties Containing SNA as Share of Total
COMMERCIAL-ACCOMMODATION	21	3	24	0.1%	13%
COMMERCIAL-CHILD CARE CENTRE	29	-	29	0.0%	0%
COMMERCIAL-COMMERCIAL GENERAL	69	1	70	0.0%	1%
COMMERCIAL-HEALTH/DOCTORS	6	-	6	0.0%	0%
COMMERCIAL-LIQUOR	15	-	15	0.0%	0%
COMMERCIAL-MOTOR VEHICLES	10	-	10	0.0%	0%
COMMERCIAL-OFFICE	37	-	37	0.0%	0%
COMMERCIAL-PARKING	4	-	4	0.0%	0%
COMMERCIAL-REST HOMES	4	1	5	0.0%	20%
COMMERCIAL-RETAIL	198	-	198	0.0%	0%
COMMERCIAL-SERVICE STATION	10	-	10	0.0%	0%
COMMERCIAL-TOURIST ATTRACTIONS	3	-	3	0.0%	0%
COMMERCIAL-VACANT	47	-	47	0.0%	0%
DAIRYING-FACTORY	961	367	1,328	10.8%	28%
FORESTRY-EXOTIC	39	43	82	1.3%	52%
FORESTRY-INDIGENOUS	1	11	12	0.3%	92%
FORESTRY-PROTECTED	1	-	1	0.0%	0%
HORTICULTURE-BERRY	3	1	4	0.0%	25%
HORTICULTURE-CITRUS	3	1	4	0.0%	25%
HORTICULTURE-FLOWERS	9	1	10	0.0%	10%
HORTICULTURE-GLASSHOUSES	29	7	36	0.2%	19%
HORTICULTURE-KIWIFRUIT	17	3	20	0.1%	15%
HORTICULTURE-MARKET GARDEN	126	63	189	1.8%	33%
HORTICULTURE-OTHER LIFESTOCK	18	9	27	0.3%	33%
HORTICULTURE-VINEYARD	3	-	3	0.0%	0%
INDUSTRIAL-HEAVY	7	1	8	0.0%	13%
INDUSTRIAL-LIGHT	128	8	136	0.2%	6%
INDUSTRIAL-NOXIOUS	5	-	5	0.0%	0%
INDUSTRIAL-NZ GROWERS	1	-	1	0.0%	0%
INDUSTRIAL-OTHER	27	1	28	0.0%	4%
INDUSTRIAL-SERVICE	67	-	67	0.0%	0%
INDUSTRIAL-VACANT	101	1	102	0.0%	1%
INDUSTRIAL-WAREHOUSE	17	-	17	0.0%	0%
LIFESTYLE-BARE/CROPS	7	2	9	0.1%	22%
LIFESTYLE-IMPROVED	8,934	1,299	10,233	38.1%	13%
LIFESTYLE-VACANT	2,135	396	2,531	11.6%	16%
MINING-COAL	4	3	7	0.1%	43%
MINING-LIMESTONE	1	-	1	0.0%	0%
MINING-OTHER	1	-	1	0.0%	0%
MINING-PRECIOUS METALS	-	1	1	0.0%	100%
MINING-ROCK	6	5	11	0.1%	45%
NOT CLASSIFIED	31	10	41	0.3%	24%
OTHER-ASSEMBLY HALLS	52	4	56	0.1%	7%
OTHER-EDUCATION	71	7	78	0.2%	9%
OTHER-HEALTH	1	-	1	0.0%	0%
OTHER-MAORI SITES	14	10	24	0.3%	42%
OTHER-OTHER	85	20	105	0.6%	19%
OTHER-PASSIVE RESERVE	288	162	450	4.8%	36%
OTHER-RELIGOUS	53	2	55	0.1%	4%
OTHER-SPORTS	63	12	75	0.4%	16%
OTHER-UTILITIES	-	1	1	0.0%	100%
OTHER-VACANT	705	115	820	3.4%	14%
PASTURE-FATTENING	348	504	852	14.8%	59%
PASTURE-GRAZING	60	175	235	5.1%	74%
RESIDENTIAL-2+ DWELLING UNITS	59	-	59	0.0%	0%
RESIDENTIAL-BARE BLOCK	26	2	28	0.1%	7%
RESIDENTIAL-CONVERTED HOUSES	4	-	4	0.0%	0%
RESIDENTIAL-DWELLING	9,469	86	9,555	2.5%	1%
RESIDENTIAL-FLATS	334	4	338	0.1%	1%
RESIDENTIAL-HOME AND INCOME	53	4	57	0.1%	7%
RESIDENTIAL-RENTAL FLATS	37	-	37	0.0%	0%
RESIDENTIAL-VACANT SINGLE	1,064	30	1,094	0.9%	3%
SPECIALITY LIVESTOCK-DEER FARMING	12	4	16	0.1%	25%
SPECIALITY LIVESTOCK-HORSE	59	11	70	0.3%	16%
SPECIALITY LIVESTOCK-OTHER LIFESTOCK	7	4	11	0.1%	36%
SPECIALITY LIVESTOCK-PIGS	4	2	6	0.1%	33%
SPECIALITY LIVESTOCK-POULTRY	30	6	36	0.2%	17%
UTILITY-MISCELLENEOUS/UNMANED	24	-	24	0.0%	0%
UTILITY-RAIL CORRIDOR	1	-	1	0.0%	0%
UTILITY-TELCOM/CELL TOWER	1	-	1	0.0%	0%
UTILITY-WATER/RESERVOIR/TREATMENT	9	-	9	0.0%	0%
UTILITY-WIND TURBINE/POWER STATION	-	4	4	0.1%	100%
Total General Properties	26,068	3,407	29,475	100.0%	12%

Source: Waikato District Council, M.E

Figure 10 – Significant Natural Areas and Improved Pasture Land Cover - Waikato

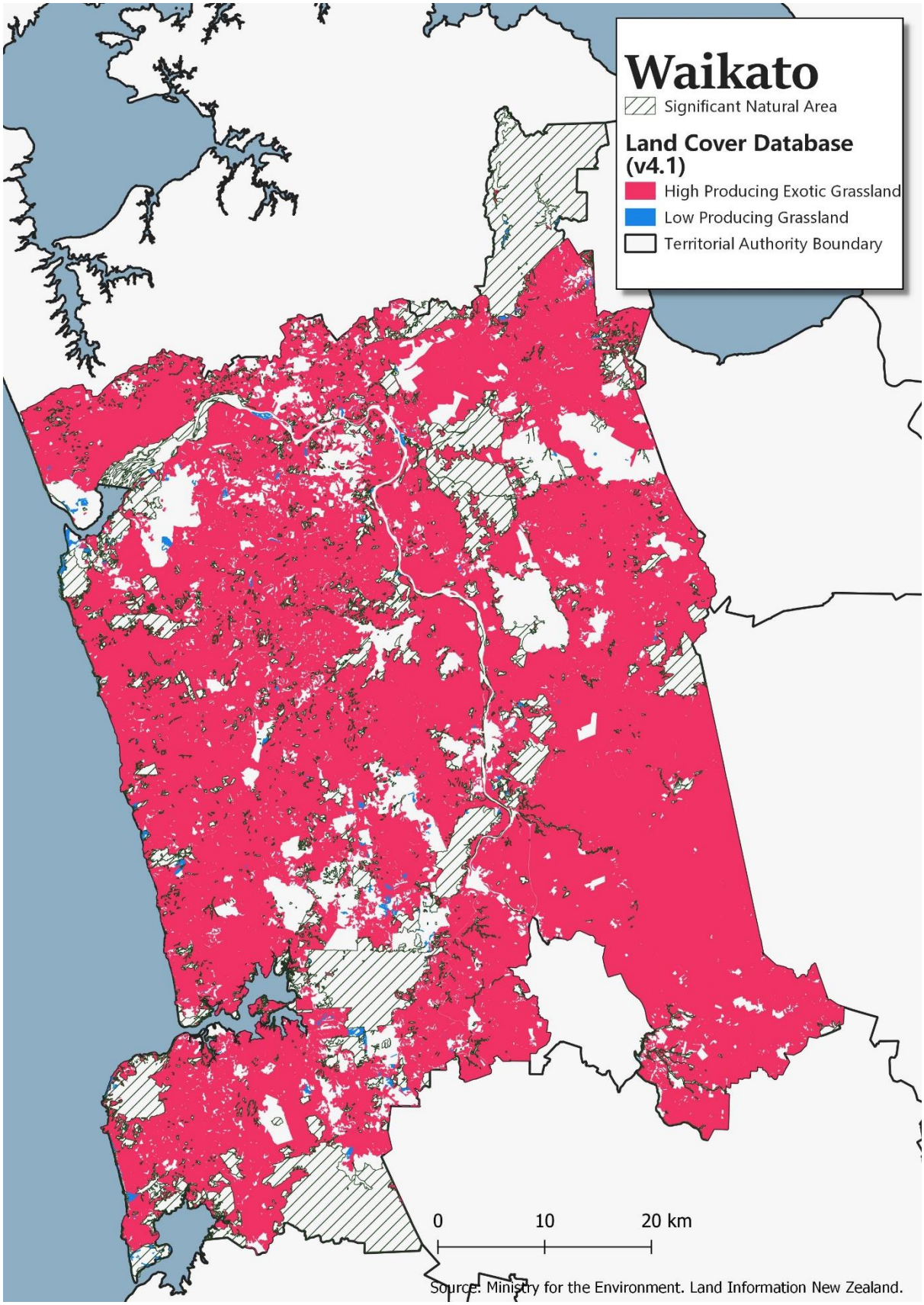


Table 13 – SNA Coverage of Improved Pasture Properties - Waikato

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Pasture Properties	Share of Properties (%)
<1ha	6,944	121	62	23	17	11	3	6	7,187	45%
1ha-2ha	2,146	105	51	29	16	8	1	1	2,357	15%
2ha-5ha	1,940	112	52	22	11	8	1	1	2,147	13%
5ha-10ha	806	127	30	17	7	1	-	1	989	6%
10ha-20ha	661	170	30	13	7	2	1	-	884	6%
20ha-50ha	668	189	24	8	4	4	1	-	898	6%
50ha-100ha	527	140	20	6	4	1	1	2	701	4%
100ha-150ha	195	94	12	-	-	-	-	-	301	2%
150ha-250ha	149	74	3	2	-	-	-	1	229	1%
250ha-500ha	72	72	5	4	-	-	1	-	154	1%
500ha-1,000ha	16	30	1	1	-	-	1	-	49	0%
>1,000ha	1	8	2	-	-	-	-	-	11	0%
Total Properties	14,125	1,242	292	125	66	35	10	12	15,907	100%
Share of Properties	*89%*	*8%*	*2%*	*1%*	*0%*	*0%*	*0%*	*0%*	*100%*	

Source: Waikato District Council, LCDB, M.E. Properties tagged as improved pasture based on centroid of property to LCDB High and Low Producing Grassland Cover.

Includes all properties tagged to general, Maori Land Court and Treatry Settlement Land Tenure (based on centroid).

3 AUCKLAND SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 11 and Table 14 compare the TEC with the latest data on indigenous land cover for Auckland. It shows that there is an estimated 126,028ha of indigenous cover remaining, of which indigenous forest makes up approximately 62% and indigenous scrub/shrubland makes up the remaining 37% (with flaxlands covering just 39ha or less than 1%). In total, indigenous cover makes up 26% of the district's land area. Excluding the Hauraki Gulf Islands, there is an estimated 88,826ha of indigenous land cover on the mainland of Auckland and including Tiritiri Matangi Island.

3.1

Table 14 – Threatened Environment Classification by Indigenous Land Cover - Auckland

	Flaxlands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Auckland District Land Cover
	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	14	1,770	1,193	2,978	*2%*	101,549	104,527
10-20% indigenous cover left	5	5,733	2,188	7,926	*6%*	51,903	59,829
20-30% indigenous cover left	12	23,749	13,009	36,770	*29%*	169,879	206,649
> 30 % left and < 10% protected	-	1,012	927	1,938	*2%*	3,920	5,858
> 30 % left and 10-20% protected	0	6,535	4,866	11,401	*9%*	14,121	25,521
> 30 % left and > 20% protected	5	39,597	21,883	61,484	*49%*	19,651	81,135
Rest of area/water	4	345	3,181	3,530	*3%*	2,178	5,708
Total Auckland District Land Environment	39	78,741	47,247	126,028	*100%*	363,201	489,228
Land Cover Share of Total District	0%	16%	10%	26%	0%	74%	100%
Land Cover Share of Indigenous Cover	0%	62%	37%	100%	na	na	na

Source: Ministry for the Environment, M.E.

Table 14 shows that 2% of total region indigenous cover falls into environments where there is less than 10% of estimated original over left. A further 6% falls into environments where there is between 10% and 20% of estimated original cover left and 29% falls into environments where there is between 20% and 30% of original cover remaining. Most of the indigenous cover (61,484ha, or 49%) falls into environments where there is more than 30% cover remaining and has a high degree of current protection. There are large areas of this cover on Great Barrier Island, Little Barrier Island and in the Waitakere Ranges.

Figure 12 and Table 15 summarise the location and mix of SNAs recently defined by Auckland Council. Auckland's SNA dataset contains 3 different types of SNA; terrestrial (n= 3,237), marine 1 (n= 249) and marine 2 (n= 151). While there are marine SNAs defined for the Gulf Islands, no terrestrial SNAs have been defined yet (as the Hauraki Gulf Islands currently sit outside the Auckland Unitary Plan, and in their own separate plan).

Only the terrestrial SNAs are relevant to the NPSIB. In total, there are 3,637 discrete SNAs that cover 179,812ha. The terrestrial SNAs cover 79,093ha and include wetlands, streams and lakes. The coastal boundary of the terrestrial SNAs does not match exactly with the region's statistical boundary. M.E estimates that the extent of terrestrial SNAs within the statistical land boundary is approximately 78,092ha. The area of terrestrial SNA that relates to landcover (excluding inland water) under the LCDB is estimated at 77,284ha – and is the figure reported in subsequent summary tables.

Figure 11 - Threatened Environments Classification by Indigenous Land Cover - Auckland

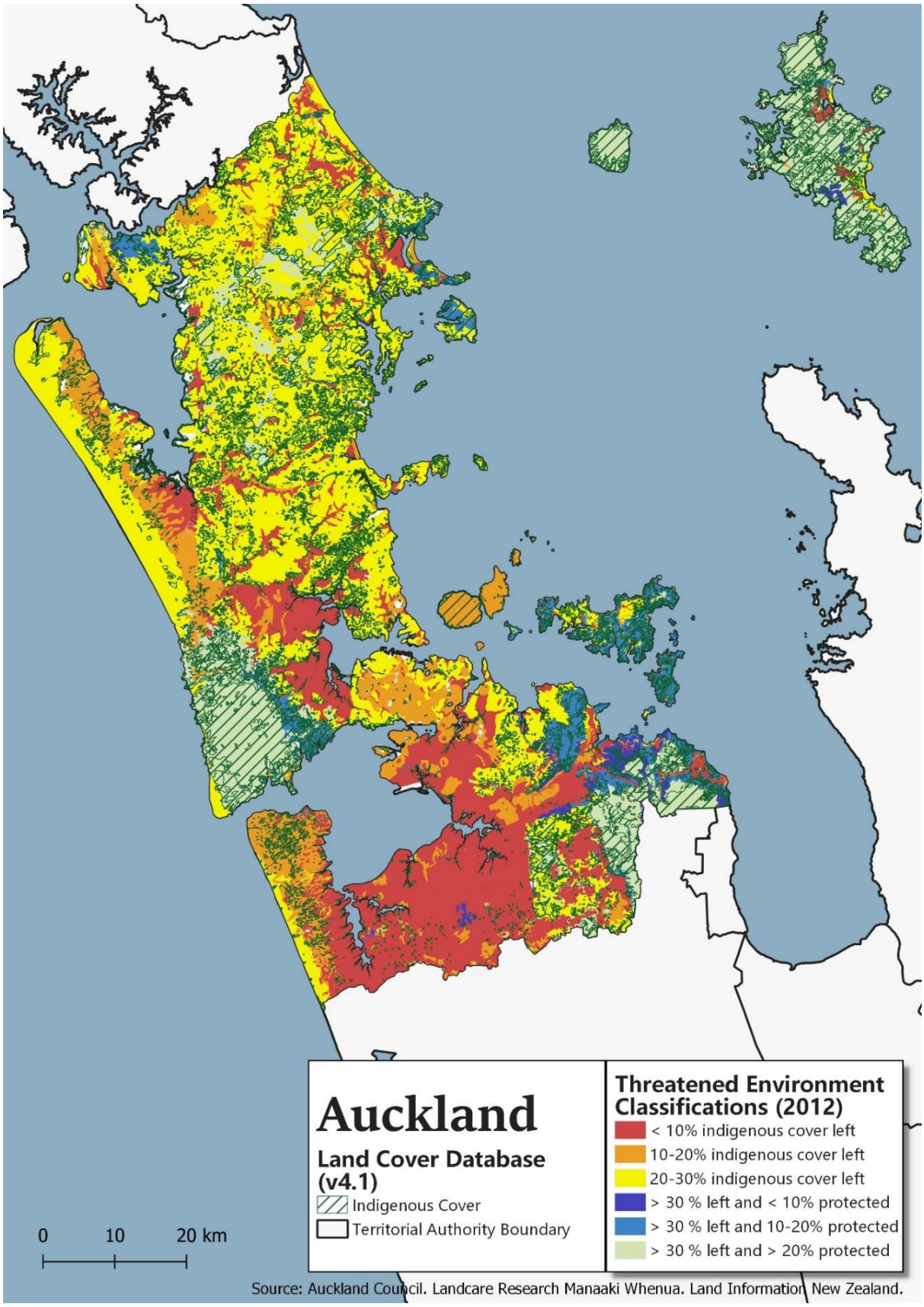


Figure 12 – Significant Natural Areas by Type - Auckland

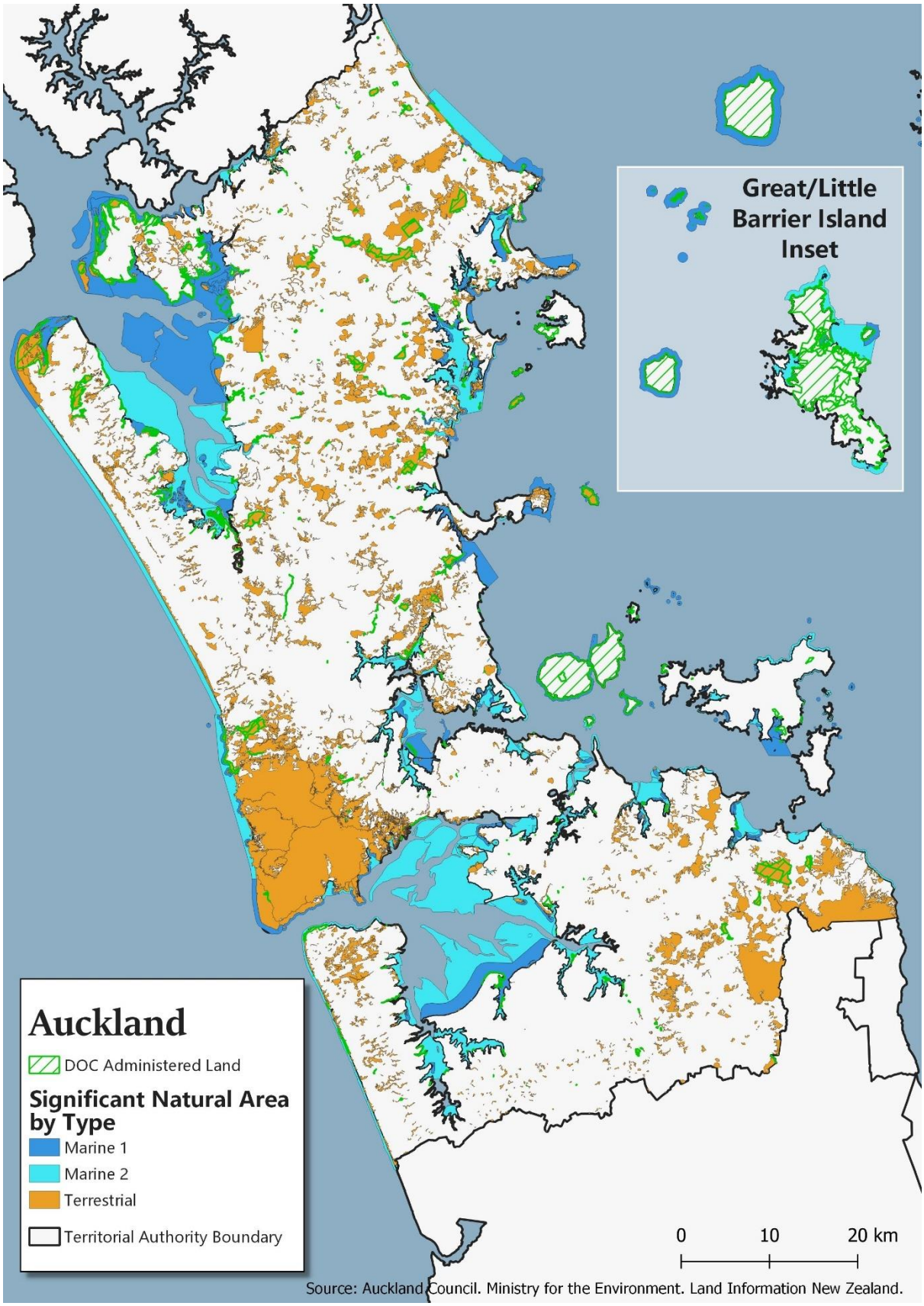


Table 15 – Significant Natural Areas by Type - Auckland

Type	Count	Count (%)	Area (ha)	Area (%)
Marine 1	249	7%	41,706	23%
Marine 2	151	4%	59,014	33%
Terrestrial *	3,237	89%	79,093	44%
Total SNAs	3,637	100%	179,812	100%

*Source: Auckland Council. * Terrestrial SNAs include some areas within the coastal area and freshwater lakes. Total Terrestrial SNA area with terrestrial land cover is estimated at 77,284ha.*

When comparing how the defined terrestrial SNAs relate to indigenous land cover in Auckland District, 51% of indigenous cover is captured by SNAs (64,638ha) and 49% is not. This is a low share compared to other case studies. However, when the Gulf Islands are excluded (with the exemption of Tiritiri Matangi Island), the terrestrial SNAs cover 73% of remaining indigenous land cover. This is relevant for the amount of indigenous cover that will be managed by provisions relating to areas outside of SNAs. An above average share of indigenous forest cover is captured by the SNAs (59%) and an even greater share of flaxlands cover is captured (80%) but just 39% of indigenous scrub/shrubland is captured in terrestrial SNAs (Table 16 and Figure 13).

Table 16 – Significant Natural Areas by Land Cover - Auckland

	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Area outside SNAs	Total Indigenous Land Cover
Area (ha)					
Flaxlands	8	24	31	8	39
Indigenous Forest	2,415	43,973	46,388	32,353	78,741
Indigenous Scrub/Shrubland	1,165	17,052	18,218	29,016	47,234
Total Indigenous Land Cover	**3,588**	**61,049**	**64,638**	**61,377**	**126,015**
Other Land Cover	2,496	10,150	12,646		
Total SNA Coverage	6,085	71,199	77,284		
SNA Share of Indigenous Land Cover (%)					
Flaxlands	19%	61%	80%	20%	100%
Indigenous Forest	3%	56%	59%	41%	100%
Indigenous Scrub/Shrubland	2%	36%	39%	61%	100%
Total Indigenous Land Cover	**3%**	**48%**	**51%**	**49%**	**100%**
Land Cover Share of SNA (%)					
Flaxlands	0%	0%	0%		
Indigenous Forest	40%	62%	60%		
Indigenous Scrub/Shrubland	19%	24%	24%		
Total Indigenous Land Cover	**59%**	**86%**	**84%**		
Other Land Cover	41%	14%	16%		
Total SNA Coverage	100%	100%	100%		

Source: Auckland Council, MfE, M.E. Adopted terrestrial SEA type only.

When looking at the land cover composition of the identified SNAs, indigenous cover makes up 84% of the area, with other land covers making up 16%. This highlights the limitations of the LDCB and the fact that the SNA criteria is broader than just indigenous cover. Hence the importance of a comprehensive approach that includes (but is not limited to) desktop analysis, aerial photographs and site visits to accurately identify SNA on the ground.

Figure 13 – Significant Natural Areas and Indigenous Land Cover - Auckland

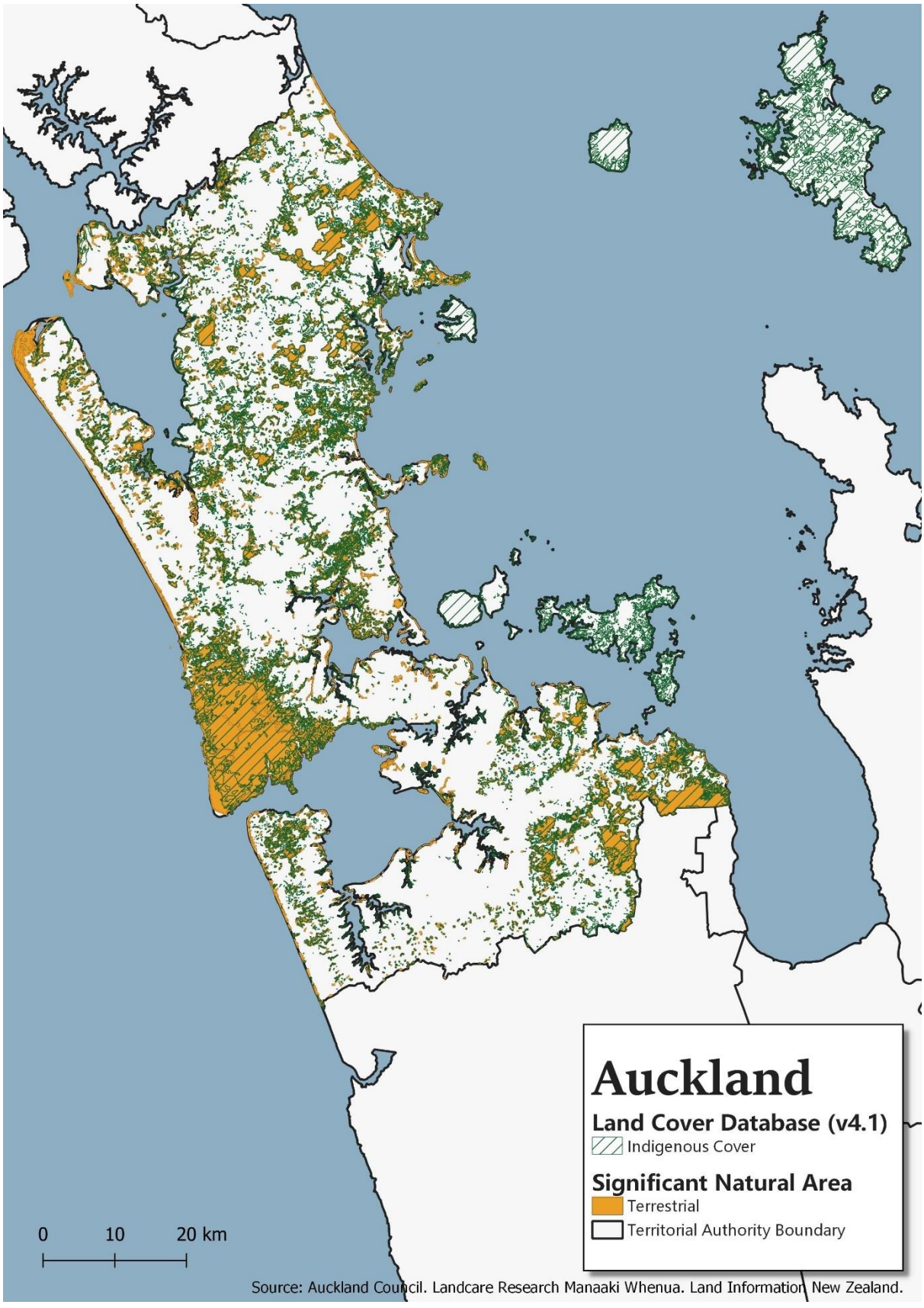


Table 16 also provides a breakdown of Auckland terrestrial SNAs into indicative High and Medium categories by area. Indicative High SNAs equate to 6,085ha and capture 3% of indigenous land cover at present. Indicative Medium SNAs equate to 71,199ha and capture 48% of indigenous land cover at present. These shares will rise when SNA identification is broadened to include the Gulf Islands. The Indicative Medium SNAs are much more dominated by indigenous land cover (86% of their area), while Indicative High SNAs pick up a much greater range of land covers, with indigenous cover only making up 59% of their total area.

Figure 14 – Significant Natural Areas and Land Tenure - Auckland

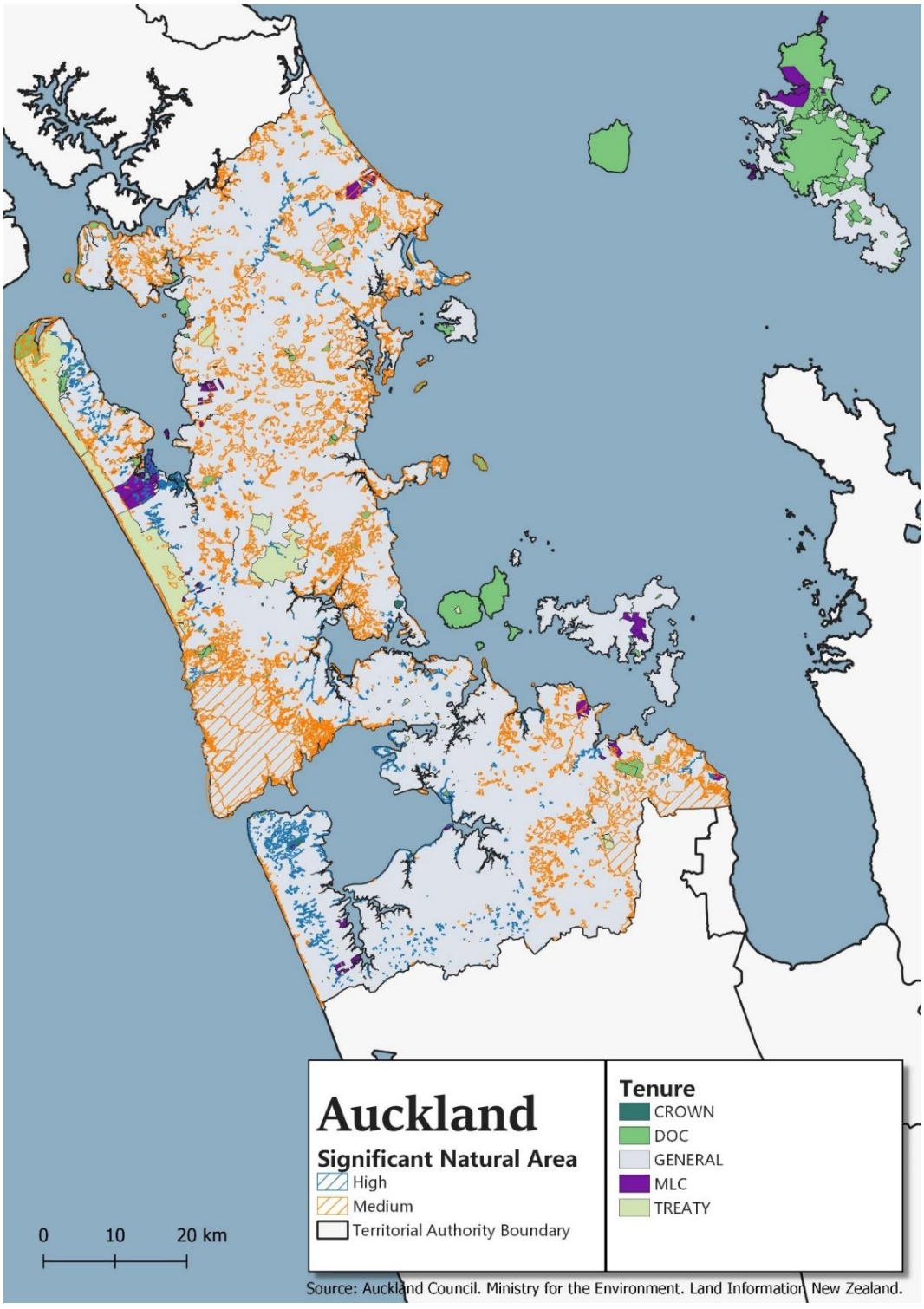


Figure 14 and Table 17 provide a summary of the tenure of Auckland terrestrial SNAs, including by indicative High and Medium status. Overall, there is very little (463ha) of Crown owned land in the region. A total of 15% of Crown land falls within terrestrial SNAs, but relative to other tenures, Crown land makes up less than 1% of SNAs.

There is a moderate amount of DOC land in Auckland (29,176ha). A very low share (19%) of this is currently captured by the terrestrial SNAs, but this would rise with inclusion of the Hauraki Gulf Islands which include large areas of DOC land. DOC land currently makes up 7% of total terrestrial SNA hectares (although a much smaller share of Indicative High SNAs – 2%). Compared to Waikato where nearly half of land administered under the Māori Land Court falls within identified SNAs, just 18% fall within Auckland's terrestrial SNAs (particularly Indicative Medium SNAs). This is discussed further below with respect to NPSIB provisions relating to managing adverse effects on SNAs. Māori land accounts for just 2% of the SNA coverage at present. Treaty Settlement Land accounts for 3% of terrestrial SNA area (with 14% of the total included in the SNAs and 86% sitting outside SNAs).

Table 17 – Significant Natural Areas and Land Tenure - Auckland

Tenure	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Area outside SNAs	Total Land Area
Area (ha)					
Crown	59	12	71	392	463
DOC	128	5,332	5,460	23,716	29,176
General	5,418	61,794	67,212	365,900	433,112
Maori Land Court	236	1,047	1,283	5,684	6,967
Treaty Settlement	151	2,495	2,646	15,772	18,418
Not Specified	*91*	*518*	*609*	*350*	*959*
Total Land Area	6,085	71,198	77,283	411,813	489,096
Share of Land by Tenure (%)					
Crown	1%	0%	0%	0%	0%
DOC	2%	7%	7%	6%	6%
General	89%	87%	87%	89%	89%
Maori Land Court	4%	1%	2%	1%	1%
Treaty Settlement	2%	4%	3%	4%	4%
Not Specified	*1%*	*1%*	*1%*	*0%*	*0%*
Total Land Area	100%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%)					
Crown	13%	3%	15%	85%	100%
DOC	0%	18%	19%	81%	100%
General	1%	14%	16%	84%	100%
Maori Land Court	3%	15%	18%	82%	100%
Treaty Settlement	1%	14%	14%	86%	100%
Not Specified	*9%*	*54%*	*64%*	*36%*	*100%*
Total Land Area	1%	15%	16%	84%	100%

Source: MfE, Auckland Council, M.E. Adopted terrestrial SEA type only.

3.2 The greatest share of SNA land is in general ownership. This makes up 87% of total terrestrial SNA area and a slightly higher share of Indicative High SNA area (89%). However, relative to all general tenure land, SNAs cover just 16%. This highlights that only a very small share of general landowners will be affected by SNA related provisions. This is examined further below.

SNAs & Provisions Managing Adverse Effects – Specific Activities

The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs, including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots

created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierarchy.

Figure 15 illustrates the incidence of Auckland's special purpose quarry zone relative to Indicative High and Medium SNAs. Table 18 shows an estimated 19% of the total quarry zone area is captured by SNAs - mainly Indicative Medium SNAs. On average less than 1% of the quarry zones (4ha out of 1,671ha in total) contain Indicative High SNAs. Council indicates that the quarry zone has been tightly defined to reflect the areas that are likely to be quarried in the future. As such, it is likely that future quarry activities within these zone areas would impact on the indicative Medium SNAs (under NPSIB provisions that apply to mineral and aggregate extraction in Medium SNAs) and be impacted by the indicative High SNAs (under provisions that require certain adverse effects to be avoided). Future operation and expansion of quarries within the zone is likely to be constrained (and increase the costs of aggregate extraction) where they coincide with SNAs but the significant impact of the strict 'avoid' provisions is potentially limited to a small geographic area within the zone.

Figure 15 – Current National Infrastructure and Mining/Extraction - Auckland

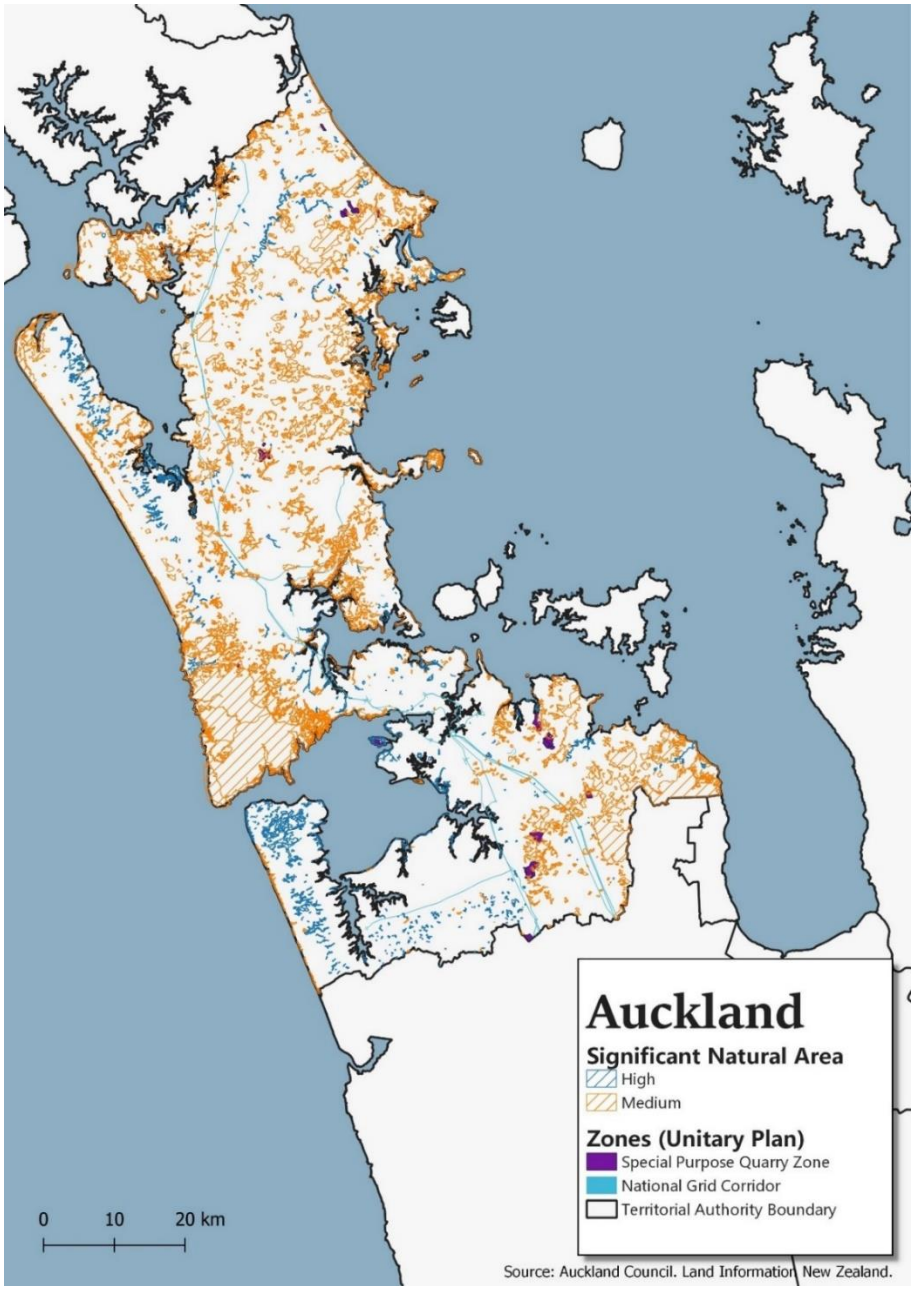


Table 18 –SNAs Within Mining Resource/Extraction Zone Area - Auckland

Selected Policy Area	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Area Outside SNAs	Total Policy Area
Area (ha)					
Special Purpose - Quarry Zone	4	311	315	1,356	1,671
Share of Policy Area (%)					
Aggregate Extraction Policy Area	0%	19%	19%	81%	100%
Share of SNA Area (%) *					
Aggregate Extraction Policy Area	0.1%	0.4%	0.4%		
Sub-Total Selected Policy Area	0.1%	0.4%	0.4%		

Source: Auckland Council, M.E.

Proposed nationally significant infrastructure has not been examined at this time for Auckland but is something that can be examined further in the update of the CBA and section 32 report. While the National Grid corridor is existing, this is shown as additional context in Figure 15 and Table 18 for the provisions specifically relating to nationally significant infrastructure. As an existing activity it will have ongoing maintenance and upgrade requirements and this activity may coincide with SNAs in parts of the corridor.

While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard). Figure 16 is included to provide some context on how active subdivision activity is in Auckland. It shows that a lot of subdivision has occurred recently and is widespread across the rural environment. This is not unexpected given that Auckland is a high growth council under the NPSUDC.

To the extent that subdivision is occurring on general land, Figure 16 shows some of the locales where subdivision activity is concentrated often includes both Indicative High and Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a more relevant issue under the NPSIB for Auckland (as it is for Waikato) compared to councils where growth is slow and there is not the same pressure for rural lifestyle living within proximity of large centres. However, the significance of opportunity costs for subdivision that can be attributed to the NPSIB require consideration of the status quo. Council's operative provisions already offer quite high levels of protection of SNAs upon subdivision. In the urban environment, subdivision needs to demonstrate that development can occur outside of the SNA and all the SNA must be covenanted. In the rural environment, most subdivision on sites with SNAs will also require covenanting as part of the bonus subdivision provisions. There is very limited scope for rural subdivision on sites with SNAs beyond these bonus provisions.

Table 19 considers the issue of potential opportunity costs for general landowners in Auckland in terms of use and development of land. The analysis combines terrestrial SNA coverage of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

The results show that 94% of general owned properties have no terrestrial SNA coverage[4]. This means that the clear majority of landowners will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs). Just 5% (21,209) of general owned properties include an area of Indicative Medium SNA and a smaller 1% of the total (3,069) have 80% or greater property coverage by indicative Medium SNAs. Many of these are large sized properties (greater than 10ha) or moderately large (2-10ha), so for the purpose of locating a dwelling for example, there would still be a potentially large area of land free of SNAs that may be suitable for development. An estimated 780 properties have 90% or greater Indicative Medium SNA

[4] This calculation varies from the 84% of general land area falling outside of terrestrial SNAs when calculated independently of property boundaries.

coverage and are less than 1ha in size. It is not known how many of them have yet to be developed to include a dwelling.

Figure 16 – Location and Temporal Trends for Land Subdivision - Auckland

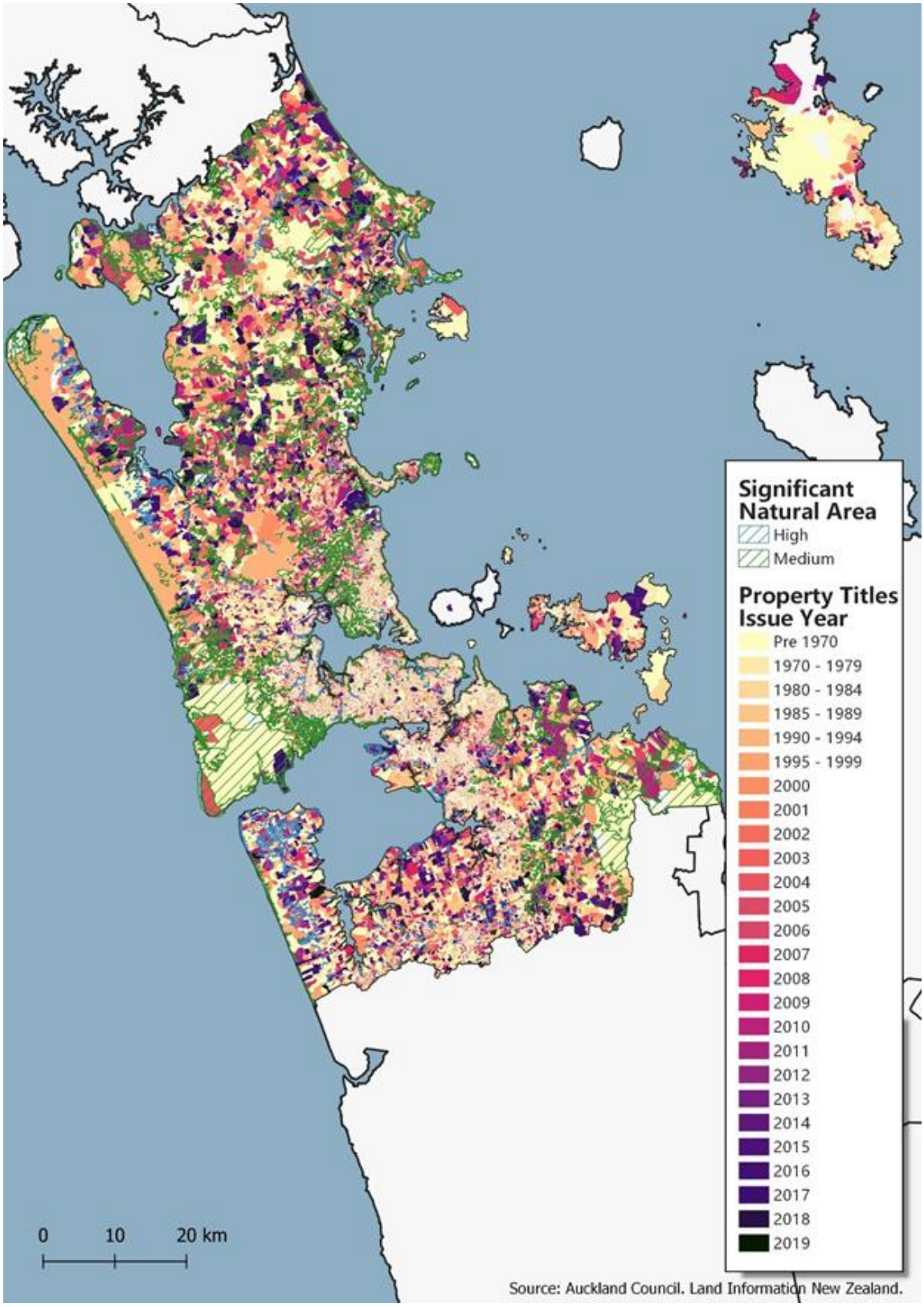


Table 19 – Count of General Land Parcels by Size and SNA Coverage - Auckland

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	374,348	-	-	-	-	-	-	-	374,348	95%
1ha-2ha	7,226	-	-	-	-	-	-	-	7,226	2%
2ha-5ha	7,850	-	-	-	-	-	-	-	7,850	2%
5ha-10ha	2,694	-	-	-	-	-	-	-	2,694	1%
10ha-20ha	1,232	-	-	-	-	-	-	-	1,232	0%
20ha-50ha	849	-	-	-	-	-	-	-	849	0%
50ha-100ha	306	-	-	-	-	-	-	-	306	0%
100ha-150ha	69	-	-	-	-	-	-	-	69	0%
150ha-250ha	26	-	-	-	-	-	-	-	26	0%
250ha-500ha	13	-	-	-	-	-	-	-	13	0%
500ha-1,000ha	6	-	-	-	-	-	-	-	6	0%
>1,000ha	1	-	-	-	-	-	-	-	1	0%
Total Properties	394,620	-	-	-	-	-	-	-	394,620	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	1,557	2,736	2,293	2,301	2,070	1,711	784	780	14,232	67%
1ha-2ha	145	398	208	203	202	222	171	173	1,722	8%
2ha-5ha	182	539	256	275	261	319	273	444	2,549	12%
5ha-10ha	72	225	108	77	97	97	86	135	897	4%
10ha-20ha	46	196	76	43	39	29	40	70	539	3%
20ha-50ha	91	277	77	55	28	28	16	48	620	3%
50ha-100ha	43	177	54	23	10	13	6	22	348	2%
100ha-150ha	21	90	15	6	5	2	5	5	149	1%
150ha-250ha	18	44	6	6	10	1	1	4	90	0%
250ha-500ha	4	32	4	3	-	2	-	1	46	0%
500ha-1,000ha	1	7	1	-	-	1	-	3	13	0%
>1,000ha	-	2	-	-	-	-	-	2	4	0%
Total Properties	2,180	4,723	3,098	2,992	2,722	2,425	1,382	1,687	21,209	100%
Share of Properties	*10%*	*22%*	*15%*	*14%*	*13%*	*11%*	*7%*	*8%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	406	535	275	187	95	54	23	59	1,634	51%
1ha-2ha	42	88	47	33	26	19	7	11	273	8%
2ha-5ha	65	130	59	44	24	29	25	8	384	12%
5ha-10ha	35	119	30	14	9	16	9	8	240	7%
10ha-20ha	45	80	15	9	6	6	3	4	168	5%
20ha-50ha	41	144	18	8	9	6	2	5	233	7%
50ha-100ha	29	76	15	4	3	2	2	1	132	4%
100ha-150ha	8	44	6	2	3	1	-	3	67	2%
150ha-250ha	4	30	13	1	1	2	-	-	51	2%
250ha-500ha	1	18	4	1	1	-	-	-	25	1%
500ha-1,000ha	-	7	-	1	-	-	-	-	8	0%
>1,000ha	-	3	1	-	1	-	-	-	5	0%
Total Properties	676	1,274	483	304	178	135	71	99	3,220	100%
Share of Properties	*21%*	*40%*	*15%*	*9%*	*6%*	*4%*	*2%*	*3%*	*100%*	

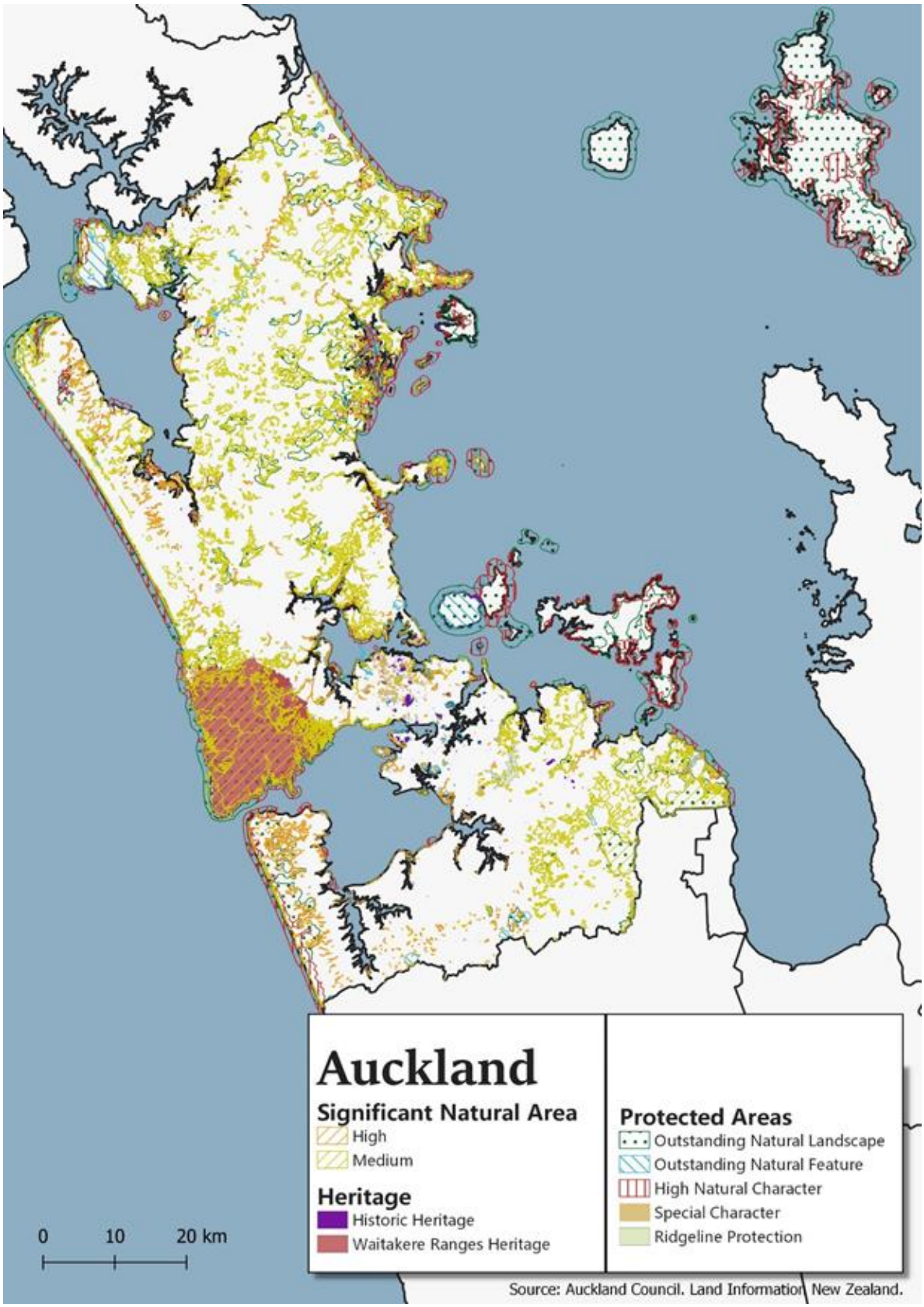
Source: Auckland Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

Table 19 also shows that just 1% (3,220) of general owned properties include an area of Indicative High SNA. Note, where those properties also included an area of Indicative Medium SNA, this assessment combines the coverage. An estimated 0.04% of all general properties (170) have 80% or greater Indicative High SNA property coverage. About 40% of these are moderately large to large sized properties (greater than 2ha), so for the purpose of locating a dwelling for example, there would still be a potentially large area of land free of SNAs that may be suitable for development.

Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the Unitary Plan) are important to recognise as the NPSIB may only have a marginal impact.

Figure 17 illustrates a selection (not all) of potentially relevant policy or overlay areas in the Auckland Unitary Plan that are expected to constrain (to some degree) what can and cannot be done on properties that fall within these areas as well as SNAs. The results are summarised in Table 20.

Figure 17 – SNAs & Selected Overlays that Constrain Development & Subdivision - Auckland



Of the layers selected, 16% of High Natural Character areas coincide with terrestrial SNAs, and these account for 2% of SNA area. Around a third each of Outstanding Natural Landscapes and Features coincide with SNAs. This share is low for Outstanding Natural Landscapes compared to other case studies that have identified these landscapes. However, a large share of Auckland's Outstanding Natural Landscapes is located on the Gulf Islands, so are presently excluded from the SNA maps. These landscape policy areas make up 53% of SNA hectares. A 10% share of the Ridgeline Protection overlay falls within SNAs, but this 123ha makes up less than 1% of terrestrial SNAs. A very minimal share of the Special Character overlay is within SNAs but 38% of the Waitakere Ranges Heritage overlay is included. A large share of this overlay is also an outstanding natural landscape.

Table 20 –SNAs & Selected Overlays that Constrain Development & Subdivision - Auckland

Selected Policy Area	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Area Outside SNAs	Total Policy Area
Area (ha)					
High Natural Character	124	1,195	1,319	6,852	8,171
Outstanding Natural Feature	716	5,317	6,033	12,177	18,211
Outstanding Natural Landscape	1,573	39,500	41,073	115,055	156,128
Ridgeline Protection	4	119	123	1,083	1,206
Special Character	1	18	20	1,450	1,470
Waitakere Ranges Heritage	9	2,261	2,269	3,708	5,977
Share of Policy Area (%)					
High Natural Character	2%	15%	16%	84%	100%
Outstanding Natural Feature	4%	29%	33%	67%	100%
Outstanding Natural Landscape	1%	25%	26%	74%	100%
Ridgeline Protection	0%	10%	10%	90%	100%
Special Character	0%	1%	1%	99%	100%
Waitakere Ranges Heritage	0%	38%	38%	62%	100%

*Source: Auckland Council, M.E. * Assumes selected policy layers are mutually exclusive.*

Table 21 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). Of the estimated 227 Māori land properties, 75% (170) have no SNA coverage. A further 14% (32) have some Indicative Medium SNA coverage and 4% of the total (9) have 80% or more Medium SNA coverage. These tend to be large size land parcels (greater than 10ha) but with many facing greater than 90% SNA coverage, this may mean some additional costs to develop a sufficient area (if not already) under NPSIB provisions relating to managing adverse effects on SNA.

The remaining 11% (25) of Māori land parcels contain an area of Indicative High (or High and Medium) SNA and just 1% of total Māori land properties (2) have 80% SNA coverage but are large properties greater than 10ha in size. No Māori land properties have greater than 90% of Indicative High SNA coverage.

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is somewhat less apparent in Auckland based on the numbers of unaffected and potentially affected properties but is still an important issue for those few landowners.

Table 21 – Count of Māori Land Parcels by Size and SNA Coverage - Auckland

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	100	-	-	-	-	-	-	-	100	59%
1ha-2ha	13	-	-	-	-	-	-	-	13	8%
2ha-5ha	13	-	-	-	-	-	-	-	13	8%
5ha-10ha	17	-	-	-	-	-	-	-	17	10%
10ha-20ha	9	-	-	-	-	-	-	-	9	5%
20ha-50ha	8	-	-	-	-	-	-	-	8	5%
50ha-100ha	5	-	-	-	-	-	-	-	5	3%
100ha-150ha	2	-	-	-	-	-	-	-	2	1%
150ha-250ha	2	-	-	-	-	-	-	-	2	1%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	1	-	-	-	-	-	-	-	1	1%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	170	-	-	-	-	-	-	-	170	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	-	2	-	-	1	-	-	-	3	9%
1ha-2ha	1	1	-	-	1	-	-	-	3	9%
2ha-5ha	-	1	-	-	-	-	-	1	2	6%
5ha-10ha	-	2	1	-	-	-	-	-	3	9%
10ha-20ha	-	-	2	-	2	2	1	-	7	22%
20ha-50ha	-	-	1	2	-	-	-	2	5	16%
50ha-100ha	-	-	1	-	-	-	1	2	4	13%
100ha-150ha	-	-	-	1	-	-	-	-	1	3%
150ha-250ha	-	1	1	-	-	-	-	2	4	13%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	1	7	6	3	4	2	2	7	32	100%
Share of Properties	*3%*	*22%*	*19%*	*9%*	*13%*	*6%*	*6%*	*22%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	1	-	-	-	-	-	-	-	1	4%
1ha-2ha	-	-	-	1	-	1	-	-	2	8%
2ha-5ha	-	2	-	-	-	-	-	-	2	8%
5ha-10ha	1	2	1	-	-	-	-	-	4	16%
10ha-20ha	-	1	2	1	-	-	1	-	5	20%
20ha-50ha	-	2	-	1	1	2	-	-	6	24%
50ha-100ha	1	-	-	-	1	-	1	-	3	12%
100ha-150ha	-	-	1	-	-	-	-	-	1	4%
150ha-250ha	-	-	-	-	-	-	-	-	-	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	1	-	-	-	-	-	-	1	4%
Total Properties	3	8	4	3	2	3	2	-	25	100%
Share of Properties	*12%*	*32%*	*16%*	*12%*	*8%*	*12%*	*8%*	*0%*	*100%*	

Source: Auckland Council, MfE, M.E. Properties tagged to Maori Land Court land based on the centroid of the property parcel relative to the tenure land areas.

Figure 18 provides some context on the exemption in the provisions specifically for plantation forestry. Using the two LCDB layers as a guide, Table 22 and 10 show that there are relatively few areas of exotic forestry in Auckland and they are generally dispersed – 79% of them are less than 5ha in area so are not the big 'commercial' forestry blocks found in some parts of New Zealand.

In total, just 3% of the combined exotic forest area contains SNAs (likely to be indigenous remnants surrounded by plantation forestry). By far the majority (97%) does not include any SNAs within the forestry extent. Overall, exotic forestry cover makes up just 2% of Auckland SNAs by area at present. Seven percent of all discrete forestry areas (polygons – not necessarily related to properties) have 50% or greater SNA coverage – these are all less than 20ha in size and most less than 5ha in size. Just 4% (179 discrete areas) have SNA coverage of 80% or greater. All the moderately large to large forestry areas (i.e. those over 100ha of cohesive land cover) have little or no more than 20% SNA coverage.

Figure 18 – Significant Natural Areas Relative to Exotic Forestry Land Cover - Auckland

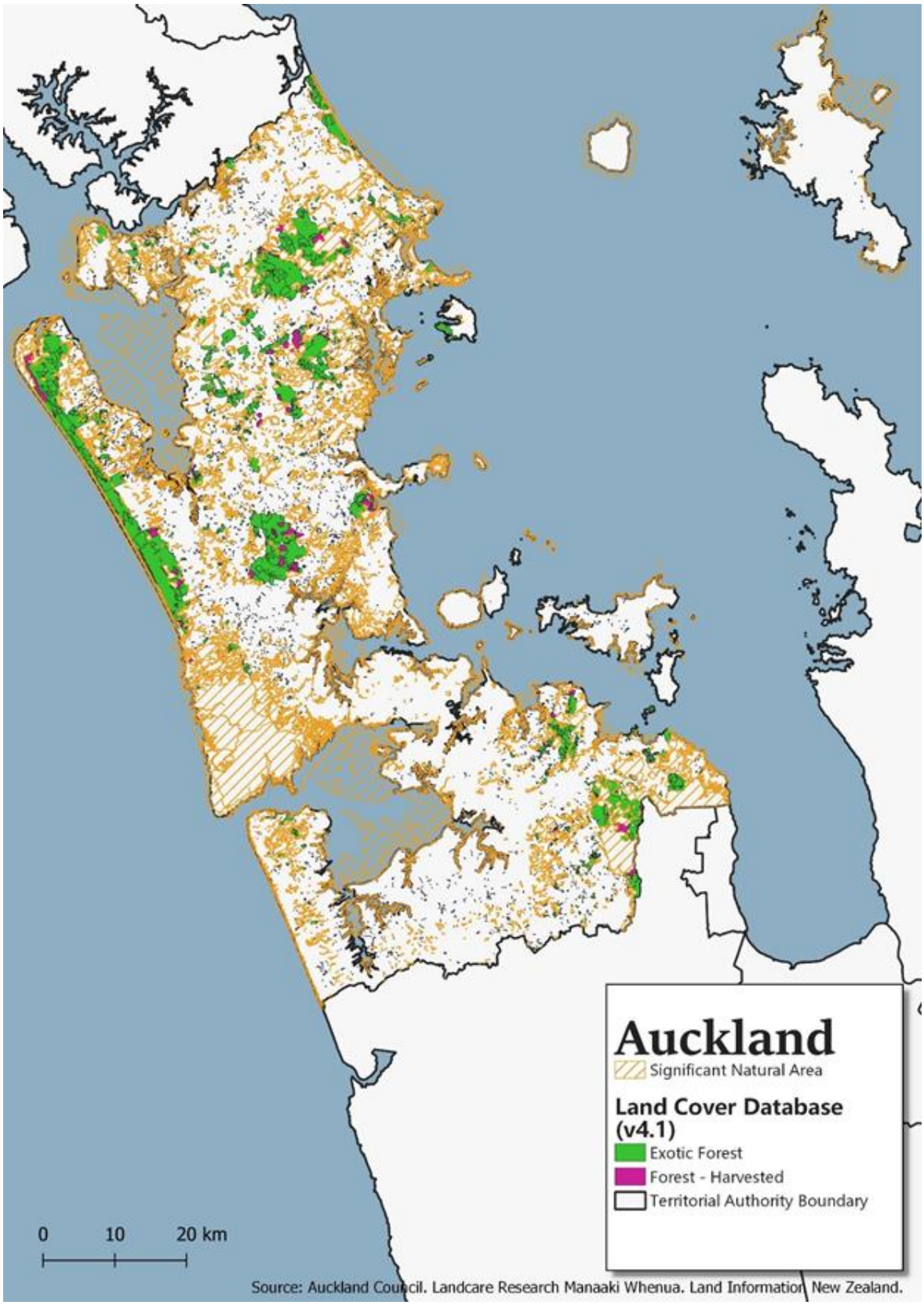


Table 22 – Significant Natural Areas Relative to Exotic Forestry Land Cover - Auckland

Land Cover	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Area Outside SNAs	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	250	1,500	1,750	46,896	48,646
Forest - Harvested	2	32	34	4,144	4,178
Sub-Total Plantation Forest	*252*	*1,532*	*1,784*	*51,040*	*52,824*
Other Land Cover	5,833	69,667	75,500		
Total SNA Area	6,085	71,199	77,284		
Share of Land Cover Area (%)					
Exotic Forest	1%	3%	4%	96%	100%
Forest - Harvested	0%	1%	1%	99%	100%
Sub-Total Plantation Forest	*0%*	*3%*	*3%*	*97%*	*100%*
Share of SNA Area (%)					
Exotic Forest	4%	2%	2%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*4%*	*2%*	*2%*		
Other Land Cover	96%	98%	98%		
Total SNA Area	100%	100%	100%		

Source: Auckland Council, LCDB, M.E.

Table 23 – Count of Discrete Exotic Forestry Land Areas by Size and SNA Coverage – Auckland

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Exotics Forestry Areas	Share of Forestry Areas (%)
SNA Coverage Distribution (Count of discrete exotic forestry land cover polygons)										
<1ha	942	52	14	16	13	12	6	37	1,092	25%
1ha-2ha	1,194	76	20	16	17	21	16	40	1,400	31%
2ha-5ha	754	118	35	20	26	14	17	34	1,018	23%
5ha-10ha	244	78	15	11	8	9	10	15	390	9%
10ha-20ha	113	67	7	3	2	1	1	3	197	4%
20ha-50ha	112	60	3	1	-	-	-	-	176	4%
50ha-100ha	63	24	1	1	-	-	-	-	89	2%
100ha-150ha	26	12	-	-	-	-	-	-	38	1%
150ha-250ha	15	5	-	-	-	-	-	-	20	0%
250ha-500ha	11	9	-	-	-	-	-	-	20	0%
500ha-1,000ha	5	4	-	-	-	-	-	-	9	0%
>1,000ha	2	1	-	-	-	-	-	-	3	0%
Total Polygons	3,481	506	95	68	66	57	50	129	4,452	100%
Share of Polygons	*78%*	*11%*	*2%*	*2%*	*1%*	*1%*	*1%*	*3%*	*100%*	

Source: Auckland Council, LCDB, M.E. Exotic Forestry land cover areas are discrete but do not relate to property boundaries.

3.3

SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities (as does Auckland Council in their SNA policy framework). While it is not possible to determine existing activities on each and every property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered two datasets that provide some context for this issue.

Figure 19 and Table 24 summarise the incidence of terrestrial SNAs with proposed Unitary Plan zones in Auckland. In total, 51.2% of terrestrial SNAs by area fall within the combined rural zones, with 27% falling within the Rural Production zone. A further 29.4% falls within the Open Space - Conservation Zone (and this is made up mostly of Indicative Medium SNAs). There is 128ha of SNA within combined Business Zones, although they make up just 0.2% of total SNA hectares. There is an estimated 221ha of SNA in the Future Urban Zone, including 28ha of Indicative High SNA. This will require careful monitoring when this zone is developed to accommodate future growth. There is 1,879 of estimated SNA within combined residential zones, including an estimated 125ha of Indicative High SNA. While this makes up just 2.4% of SNA hectares, it highlights that managing SNAs is not limited to rural environments.

Figure 19 – Significant Natural Areas by Operative Unitary Plan Zone Group - Auckland

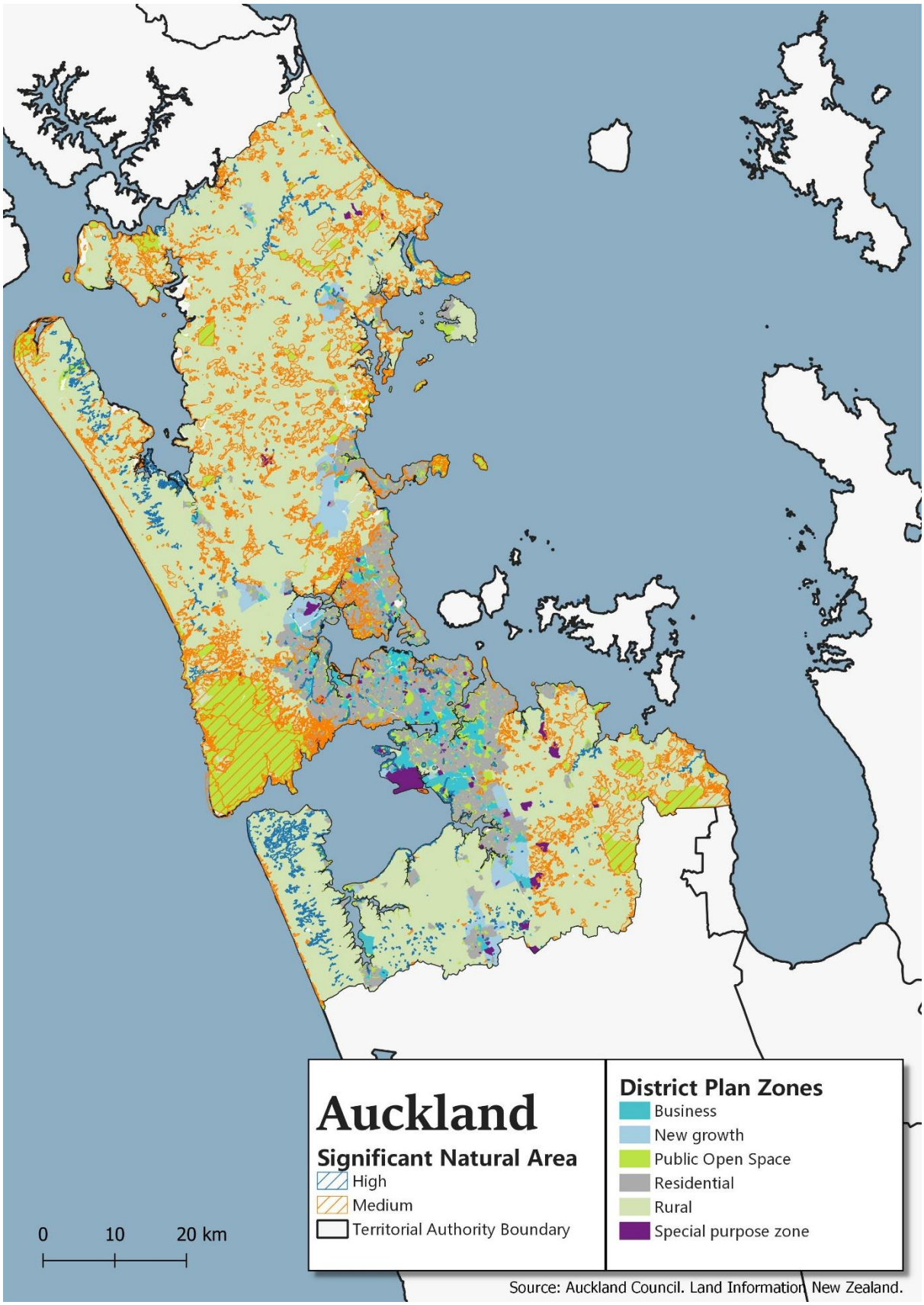


Table 24 – Significant Natural Areas by Operative Unitary Plan Zone - Auckland

Operative Unitary Plan Zone	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA	Indicative High SNA (based on TEC)	Indicative Medium SNA (based on TEC)	Total Auckland Council SNA
	(ha)			(% Share of Total)		
Business - General Business Zone	0	2	3	0.0%	0.0%	0.0%
Business - Heavy Industry Zone	16	-	16	0.0%	0.0%	0.0%
Business - Light Industry Zone	13	57	70	0.0%	0.1%	0.1%
Business - Local Centre Zone	0	3	3	0.0%	0.0%	0.0%
Business - Metropolitan Centre Zone	4	-	4	0.0%	0.0%	0.0%
Business - Mixed Use Zone	0	25	25	0.0%	0.0%	0.0%
Business - Neighbourhood Centre Zone	0	1	1	0.0%	0.0%	0.0%
Business - Town Centre Zone	0	7	8	0.0%	0.0%	0.0%
Coastal - Coastal Transition Zone	0	2	2	0.0%	0.0%	0.0%
Coastal - General Coastal Marine Zone	45	119	164	0.1%	0.2%	0.2%
Coastal - Marina Zone	0	-	0	0.0%	0.0%	0.0%
Future Urban Zone	28	193	221	0.0%	0.2%	0.3%
Open Space - Community Zone	0	1	1	0.0%	0.0%	0.0%
Open Space - Conservation Zone	412	22,337	22,748	0.5%	28.9%	29.4%
Open Space - Informal Recreation Zone	247	1,577	1,824	0.3%	2.0%	2.4%
Open Space - Sport and Active Recreation Zone	54	109	163	0.1%	0.1%	0.2%
Residential - Large Lot Zone	8	996	1,004	0.0%	1.3%	1.3%
Residential - Mixed Housing Suburban Zone	38	169	207	0.0%	0.2%	0.3%
Residential - Mixed Housing Urban Zone	11	23	35	0.0%	0.0%	0.0%
Residential - Rural and Coastal Settlement Zone	17	209	226	0.0%	0.3%	0.3%
Residential - Single House Zone	48	355	403	0.1%	0.5%	0.5%
Residential - Terrace Housing and Apartment Building Zone	3	1	5	0.0%	0.0%	0.0%
Road	128	255	383	0.2%	0.3%	0.5%
Rural - Countryside Living Zone	57	2,734	2,792	0.1%	3.5%	3.6%
Rural - Mixed Rural Zone	1,477	2,221	3,698	1.9%	2.9%	4.8%
Rural - Rural Coastal Zone	1,569	7,121	8,690	2.0%	9.2%	11.2%
Rural - Rural Conservation Zone	1	709	709	0.0%	0.9%	0.9%
Rural - Rural Production Zone	968	19,865	20,833	1.3%	25.7%	27.0%
Rural - Waitakere Foothills Zone	2	658	660	0.0%	0.9%	0.9%
Rural - Waitakere Ranges Zone	81	2,142	2,223	0.1%	2.8%	2.9%
Special Purpose - Airports and Airfields Zone	5	34	38	0.0%	0.0%	0.0%
Special Purpose - Cemetery Zone	0	45	45	0.0%	0.1%	0.1%
Special Purpose - Healthcare Facility and Hospital Zone	0	1	2	0.0%	0.0%	0.0%
Special Purpose - Maori Purpose Zone	1	0	2	0.0%	0.0%	0.0%
Special Purpose - Major Recreation Facility Zone	4	2	6	0.0%	0.0%	0.0%
Special Purpose - Quarry Zone	104	430	534	0.1%	0.6%	0.7%
Special Purpose - School Zone	10	31	41	0.0%	0.0%	0.1%
Strategic Transport Corridor Zone	6	30	36	0.0%	0.0%	0.0%
Water	30	110	140	0.0%	0.1%	0.2%
Not Specified	*697*	*8,623*	*9,320*	*0.9%*	*11.2%*	*12.1%*
Total SNA Area (2019)	6,085	71,199	77,284	7.9%	92.1%	100.0%

Source: Auckland Council, M.E. Adopted terrestrial SEA type only (does include some overlap with Coastal Zones and Water Zone).

It is possible to examine land use codes for properties in Auckland. Table 25 shows the count of properties in general land ownership by land use category. This gives a more detail indication of the sorts of activities that may be taking place on private land. As previously, 94% of general properties have no SNA coverage. A total of nearly 24,500 (6%) contain an area of SNA. Notable land uses with a relatively high share of SNA land cover include:

- Stock finishing and Store Livestock – 64-65% of properties
- Dairy – 38% of properties
- Water supply – 32% of properties
- Lifestyle - 26-28% of properties
- Recreational – vacant – 27 of properties
- Defence – 25% of properties
- Rural industry – vacant – 24% of properties
- Passive outdoor e.g. parks – 24% of properties
- Multi-use within recreational – 22% of properties

Table 25 – Significant Natural Areas by Property Land Use on General Owned Land - Auckland

Land Use Category	No SNA Coverage	Some SNA Coverage	Total Count of General Properties	Distribution of Properties with Some SNA Coverage	Properties Containing SNA as Share of Total
Single units, excluding bach	280,368	11,858	292,226	48.5%	4%
Lifestyle - single unit	12,868	4,690	17,558	19.2%	27%
Residential - vacant	12,129	1,124	13,253	4.6%	8%
Lifestyle - vacant	2,778	1,096	3,874	4.5%	28%
Multi-unit	26,980	865	27,845	3.5%	3%
Stock finishing	371	704	1,075	2.9%	65%
Passive outdoor eg parks	2,178	700	2,878	2.9%	24%
Bach	2,734	605	3,339	2.5%	18%
Lifestyle - multi-unit	1,640	570	2,210	2.3%	26%
Not Specified	26,656	512	27,168	2.1%	2%
Recreational - vacant	1,138	426	1,564	1.7%	27%
Dairy	378	227	605	0.9%	38%
Store livestock	62	108	170	0.4%	64%
Active outdoor eg sports grnds	336	73	409	0.3%	18%
Forestry	24	72	96	0.3%	75%
Market gardens and orchards	711	63	774	0.3%	8%
Rural industry - vacant	186	60	246	0.2%	24%
Educational	1,200	48	1,248	0.2%	4%
Multi-use within recreational	167	47	214	0.2%	22%
Specialist livestock	212	47	259	0.2%	18%
Multi-use within lifestyle	153	41	194	0.2%	21%
Water supply	75	35	110	0.1%	32%
Multi-use within residential	1,551	27	1,578	0.1%	2%
Halls	274	22	296	0.1%	7%
Multi-use within commercial	2,320	21	2,341	0.1%	1%
Other industries incl storage	1,701	21	1,722	0.1%	1%
Special accommodation	330	20	350	0.1%	6%
Industrial - vacant	733	19	752	0.1%	3%
Retail and taverns	3,011	19	3,030	0.1%	1%
Utility services - vacant	257	19	276	0.1%	7%
Sanitary	119	18	137	0.1%	13%
Transport - vacant	187	18	205	0.1%	9%
Cemeteries and crematoria	60	15	75	0.1%	20%
Multi-use in community service	492	15	507	0.1%	3%
Religious	465	15	480	0.1%	3%
Engineering, metalworking	1,994	14	2,008	0.1%	1%
Active indoor eg gym	54	11	65	0.0%	17%
Commercial - vacant	452	11	463	0.0%	2%
Depots and yards	320	10	330	0.0%	3%
Multi-use in rural industry	54	10	64	0.0%	16%
Multi-use within industrial	1,182	10	1,192	0.0%	1%
Personal & property protection	88	10	98	0.0%	10%
Communications	88	9	97	0.0%	9%
Mineral extraction	11	9	20	0.0%	45%
Passive indoor eg library	44	9	53	0.0%	17%
Timber products and furniture	399	9	408	0.0%	2%
Community services - vacant	78	8	86	0.0%	9%
Other utility service	84	8	92	0.0%	9%
Public communal unlicensed	94	8	102	0.0%	8%
Medical and allied eg clinic	316	7	323	0.0%	2%
Services	409	7	416	0.0%	2%
Electricity	184	6	190	0.0%	3%
Parking	121	6	127	0.0%	5%
Building materials (non timber	262	5	267	0.0%	2%
Defence	15	5	20	0.0%	25%
Textiles, leather and fur	276	5	281	0.0%	2%
Commercial car parking	218	4	222	0.0%	2%
Entertainment eg cinema	38	4	42	0.0%	10%
Food, drink and tobacco	406	4	410	0.0%	1%
Air transport	31	3	34	0.0%	9%
Multi-use in utility service	28	3	31	0.0%	10%
Offices	1,575	3	1,578	0.0%	0%
Road transport	137	3	140	0.0%	2%
Water transport	16	2	18	0.0%	11%
Wholesale	236	2	238	0.0%	1%
Communal residence	24	1	25	0.0%	4%
Gas	23	1	24	0.0%	4%
Multi-use within transport	12	1	13	0.0%	8%
Public communal licensed	126	1	127	0.0%	1%
Chemicals, plastics, rubber	363	-	363	0.0%	0%
Rail transport	5	-	5	0.0%	0%
Residential	1	-	1	0.0%	0%
Residential car parking	12	-	12	0.0%	0%
Total General Properties	394,620	24,429	419,049	100.0%	6%

Source: Auckland Council, M.E.

- Cemeteries and crematoria – 20% of properties
- Specialist livestock – 18% of properties
- Bach – 18% of properties

Figure 20 and Table 26 provide some contextual analysis on pastoral farming, given that this is specifically provided for in the NPSIB provisions in terms of land clearance activity. Pastoral landcover is a significant component of Auckland's land use (although represents a small component of the economy). The extent of high and low producing grassland land cover in the LCDB is extensive. As such, there is a high degree of overlap with the defined SNAs.

Table 26 considers general, Māori and Treaty Settlement properties that overlap (based on their centroid) the two 'producing' grassland land covers. This indicates a total of nearly 39,840 properties that potentially maintain improved pasture. Overall, 1% of all pastoral properties have 50% or greater SNA coverage. Most (90%) have no or less than 1% SNA coverage. This is to be expected given that indigenous land cover was predominantly cleared to enable pastoral farming in the past. Six percent of pastoral properties have between 1% and 20% SNA coverage.

This data is not able to inform the degree of regeneration of indigenous cover on these properties. Rather, it highlights that in Auckland, the exemption for continued land clearance to maintain pasture outside of SNAs is likely to be moderately relevant.

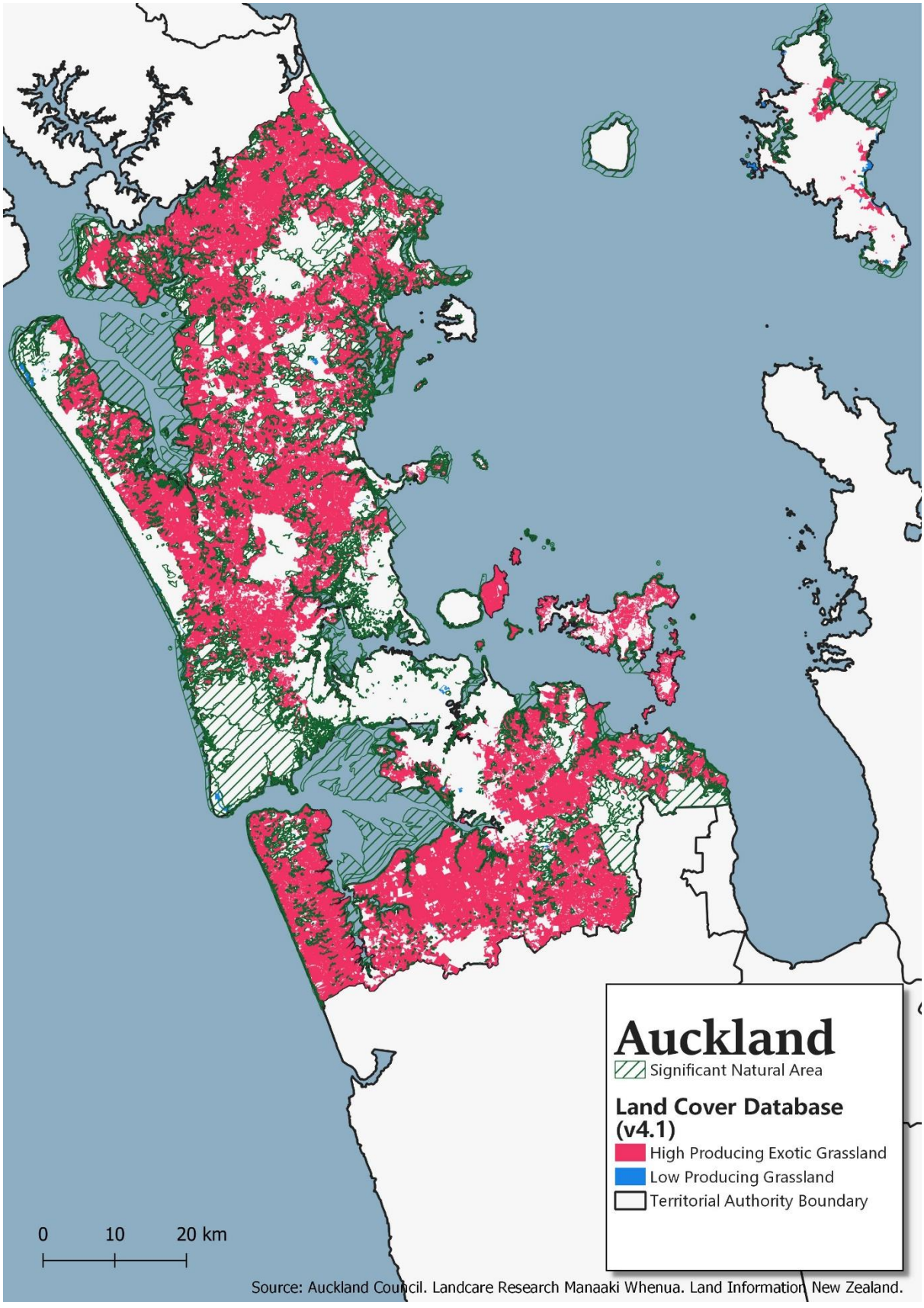
Table 26 – SNA Coverage of Improved Pasture Properties - Auckland

Property Size	<1% SNA Coverage	1%-20% SNA Coverage	20%-35% SNA Coverage	35%-50% SNA Coverage	50%-65% SNA Coverage	65%-80% SNA Coverage	80%-90% SNA Coverage	90%-100% SNA Coverage	Total Pasture Properties	Share of Properties (%)
<1ha	21,089	316	123	104	59	44	13	21	21,769	55%
1ha-2ha	4,954	367	151	104	59	37	6	7	5,685	14%
2ha-5ha	5,683	487	201	164	81	49	17	7	6,689	17%
5ha-10ha	1,912	236	82	43	48	24	9	8	2,362	6%
10ha-20ha	927	208	61	21	13	6	2	4	1,242	3%
20ha-50ha	715	338	51	36	8	5	1	1	1,155	3%
50ha-100ha	309	190	42	17	6	2	4	2	572	1%
100ha-150ha	75	101	9	3	2	-	1	-	191	0%
150ha-250ha	26	63	13	3	3	-	-	-	108	0%
250ha-500ha	11	37	6	-	1	-	-	-	55	0%
500ha-1,000ha	4	4	1	-	-	-	-	-	9	0%
>1,000ha	-	1	1	-	-	-	-	-	2	0%
Total Properties	35,705	2,348	741	495	280	167	53	50	39,839	100%
Share of Properties	*90%*	*6%*	*2%*	*1%*	*1%*	*0%*	*0%*	*0%*	*100%*	

Source: Auckland Council, LCDB, M.E. Properties tagged as improved pasture based on centroid of property to LCDB High and Low Producing Grassland Cover.

Includes all properties tagged to general, Maori Land Court and Treatry Settlement Land Tenure (based on centroid).

Figure 20 – Significant Natural Areas and Improved Pasture Land Cover - Auckland



4 FAR NORTH DISTRICT SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 21 and Table 27 compare the TEC with the latest data on indigenous land cover for Far North District. It shows that there is an estimated 263,620ha of indigenous cover remaining, of which indigenous forest makes up 62% and indigenous scrub/shrubland makes up the remaining 38% (with flaxlands covering just 48ha or less than 1%). In total, indigenous cover makes up 40% of the district's land area.

4.1 Table 27 – Threatened Environment Classification by Indigenous Land Cover – Far North

	Flaxlands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover *	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Far North District Land Cover
	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	-	784	1,321	2,105	*1%*	23,881	25,986
10-20% indigenous cover left	-	4,180	6,511	10,691	*4%*	67,768	78,459
20-30% indigenous cover left	17	11,990	23,425	35,433	*13%*	107,972	143,405
> 30 % left and < 10% protected	8	45,809	19,594	65,411	*25%*	99,237	164,647
> 30 % left and 10-20% protected	-	9,874	11,481	21,355	*8%*	35,515	56,870
> 30 % left and > 20% protected	23	91,815	36,787	128,625	*49%*	64,474	193,099
Total Far North District TEC Area	48	164,453	99,119	263,620	*100%*	398,846	662,466
Land Cover Share of Total District	0%	25%	15%	40%	na	60%	100%
Land Cover Share of Indigenous Cover	0%	62%	38%	100%	na	na	na

Source: Ministry for the Environment, M.E. Excludes small area of LCDB Indigenous cover outside TEC layer areas. Slight variations around this value may exist in subsequent tables depending on what layers are being combined.

Table 27 shows that 1% of indigenous cover falls into environments where there is less than 10% of estimated original over left. A further 4% falls into environments where there is between 10% and 20% of estimated original cover left and 13% falls into environments where there is between 20% and 30% of original cover remaining. The majority of indigenous cover (128,625ha, or 49%) falls into environments where there is more than 30% cover remaining and has a high degree of current protection. There are large areas of this cover to the near the coast of the district.

Figure 22 and Table 28 summarise the location and mix of the indicative terrestrial SNAs identified for the purpose of this analysis. As Far North District has yet to carry out/complete SNA mapping, current indigenous land cover (from the LCDB) has been adopted as a proxy for indicative SNA cover. This proxy should be interpreted as the indicative SNAs prior to ground truthing (and so over represents likely SNA coverage, but also excludes potential SNAs that are not located within the LCDB indigenous cover area).

Figure 22 highlights that indicative SNAs (pending ground-truthing) (i.e. total indigenous land) cover extensive areas of the district (40% as shown in Table 27). Because the indicative SNAs are one and the same as indigenous land cover in this analysis, Table 28 shows that they occupy 100% of indigenous land cover. In reality, this is unlikely to be the case if SNAs were comprehensively defined and ground-truthed in accordance with the NPSIB.

Figure 21 - Threatened Environment Classification by Indigenous Land Cover – Far North

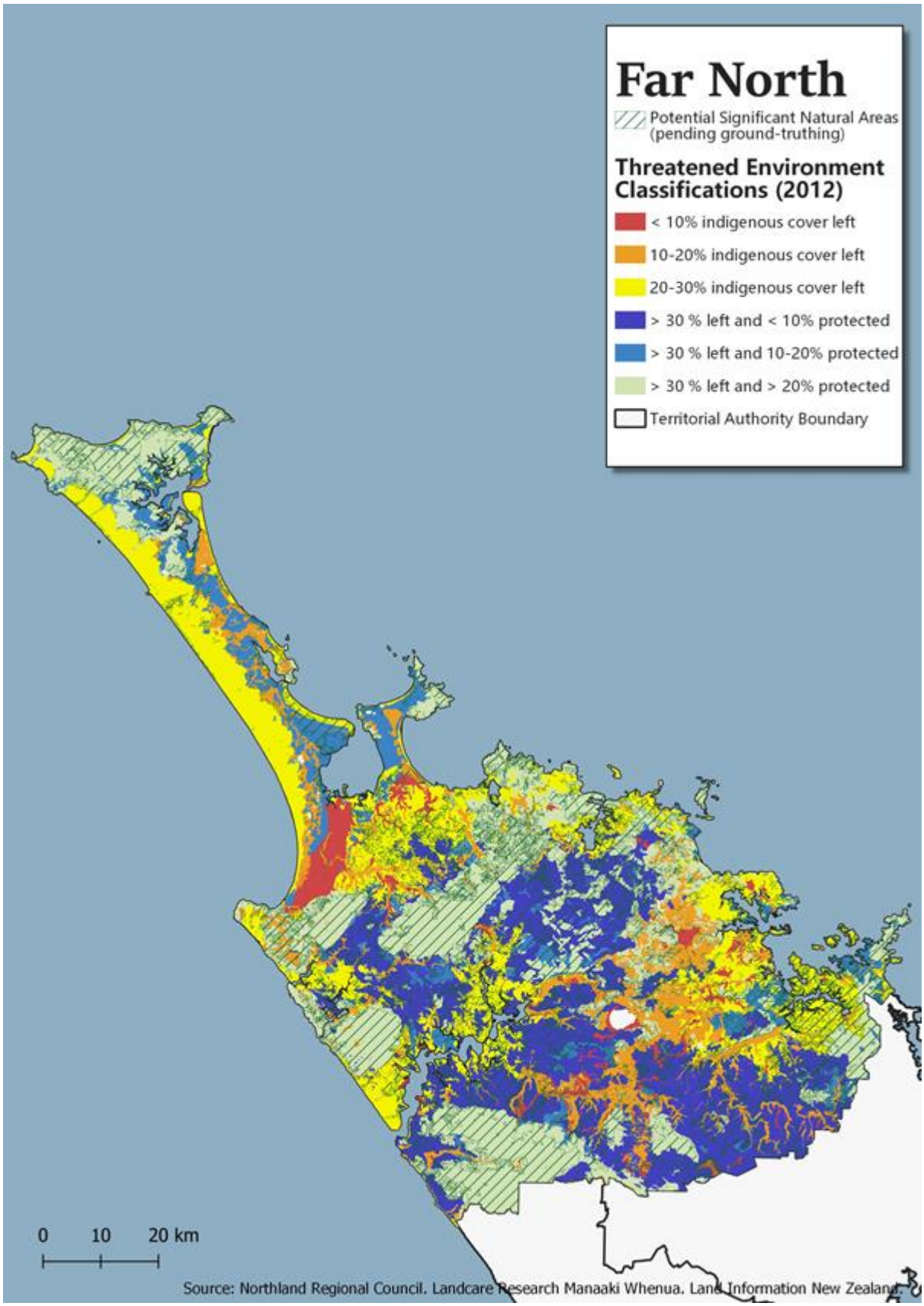


Figure 22 – Indicative Significant Natural Areas (Pending Ground-Truthing) – Far North

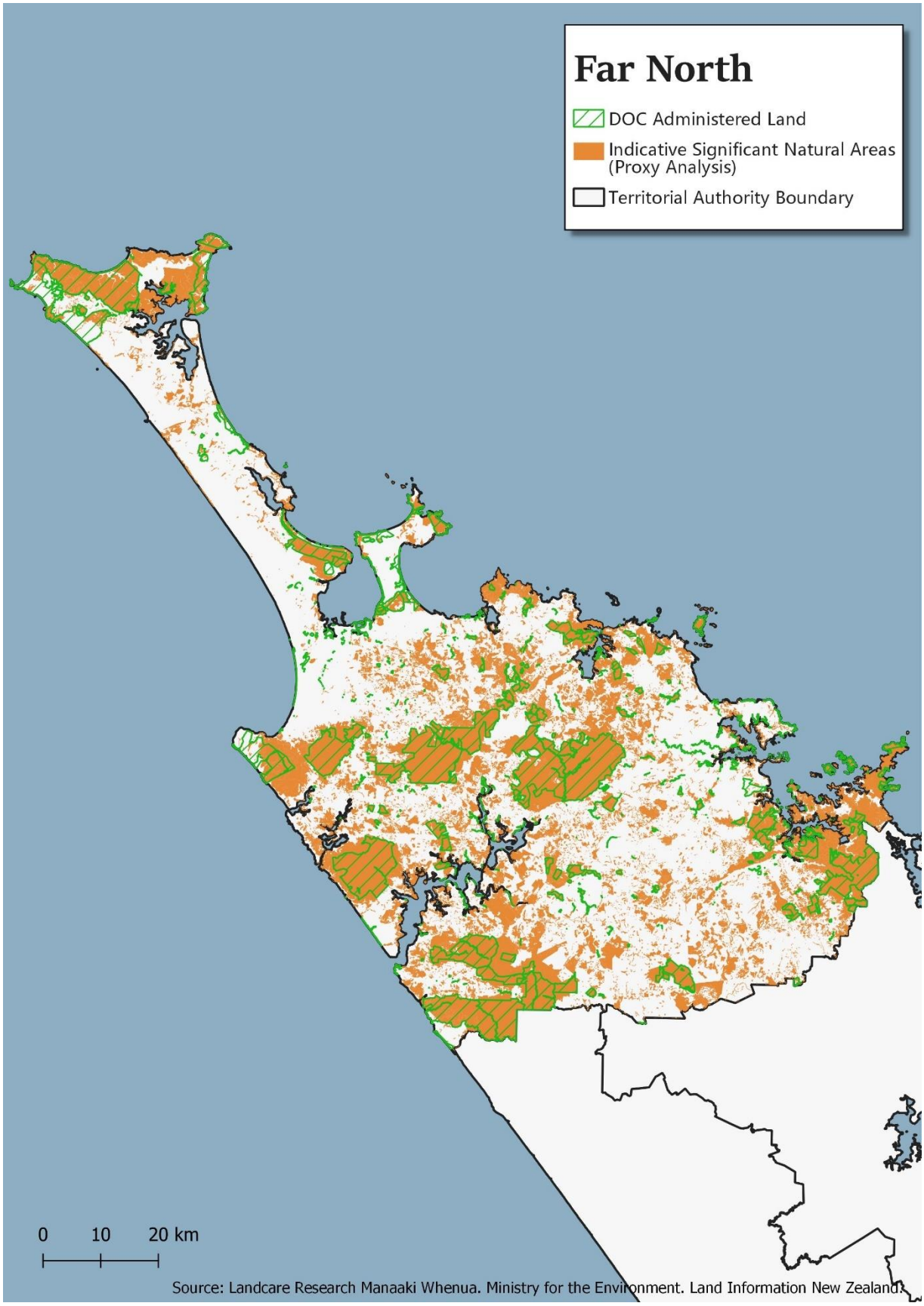


Table 28 – Indicative Significant Natural Areas by Land Cover – Far North

	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
Area (ha)			
Flaxlands	-	48	48
Indigenous Forest	3,823	160,745	164,567
Indigenous Scrub/Shrubland	8,063	91,206	99,269
Total Potential SNA Coverage *	11,886	251,999	263,885
Potential SNA Share of Indigenous Land Cover (%)			
Flaxlands	0%	100%	100%
Indigenous Forest	2%	98%	100%
Indigenous Scrub/Shrubland	8%	92%	100%
Total Potential SNA Coverage *	5%	95%	100%
Land Cover Share of SNA (%)			
Flaxlands	0%	0%	0%
Indigenous Forest	32%	64%	62%
Indigenous Scrub/Shrubland	68%	36%	38%
Total Potential SNA Coverage *	100%	100%	100%

*Source: MfE, M.E. *Pending ground-truthing*

Table 29 also provides a breakdown of Far North District indicative SNAs (pending ground-truthing) into indicative High and Medium categories by area. Indicative High SNAs equate to 11,886ha and capture 5% of indigenous land cover. Indicative Medium SNAs equate to 251,999ha and capture 95% of indigenous land cover. The Indicative Medium SNAs are much more dominated by indigenous forest cover (64% of their area), while Indicative High SNAs are dominated by indigenous scrub/shrubland (68%). The 48ha of flaxlands falls within the Indicative Medium SNAs.

Figure 23 and Table 29 provide a summary of the tenure of Far North District indicative SNAs (proxy analysis), including by indicative High and Medium status. Overall, there is 8,947ha of Crown owned land in the district. A total of 28% of Crown land falls within indicative SNAs, but relative to other tenures, Crown land makes up 1% of indicative SNAs.

There is a large amount of DOC land in Far North (109,341ha). A significant 89% of this is captured by the indicative SNAs, and 11% is not. DOC land makes up 37% of total indicative SNA hectares (with a greater share in Indicative Medium SNAs compared to High SNAs). Half (50%) of land administered under the Māori Land Court in the Far North falls within indicative SNAs (particularly Indicative Medium SNAs). This is discussed further below with respect to provisions in the NPSIB relating to managing adverse effects on SNAs. Māori land accounts for 20% of the indicative SNA coverage. In contrast, Treaty Settlement Land is largely excluded from SNAs (just 18% captured) and this accounts for 3% of indicative SNA area.

The greatest share of SNA land is in general ownership (although only marginally greater than DOC land). This makes up 39% of total indicative SNA area and a slightly higher share of Indicative High SNA area (47%). However, relative to all general tenure land, indicative SNAs cover 26%. This highlights that general land owners will be most impacted by the protection of SNAs (all else being equal), but that only a moderate share of general landowners will be affected. This is examined future below.

Figure 23 – Indicative Significant Natural Areas and Land Tenure – Far North

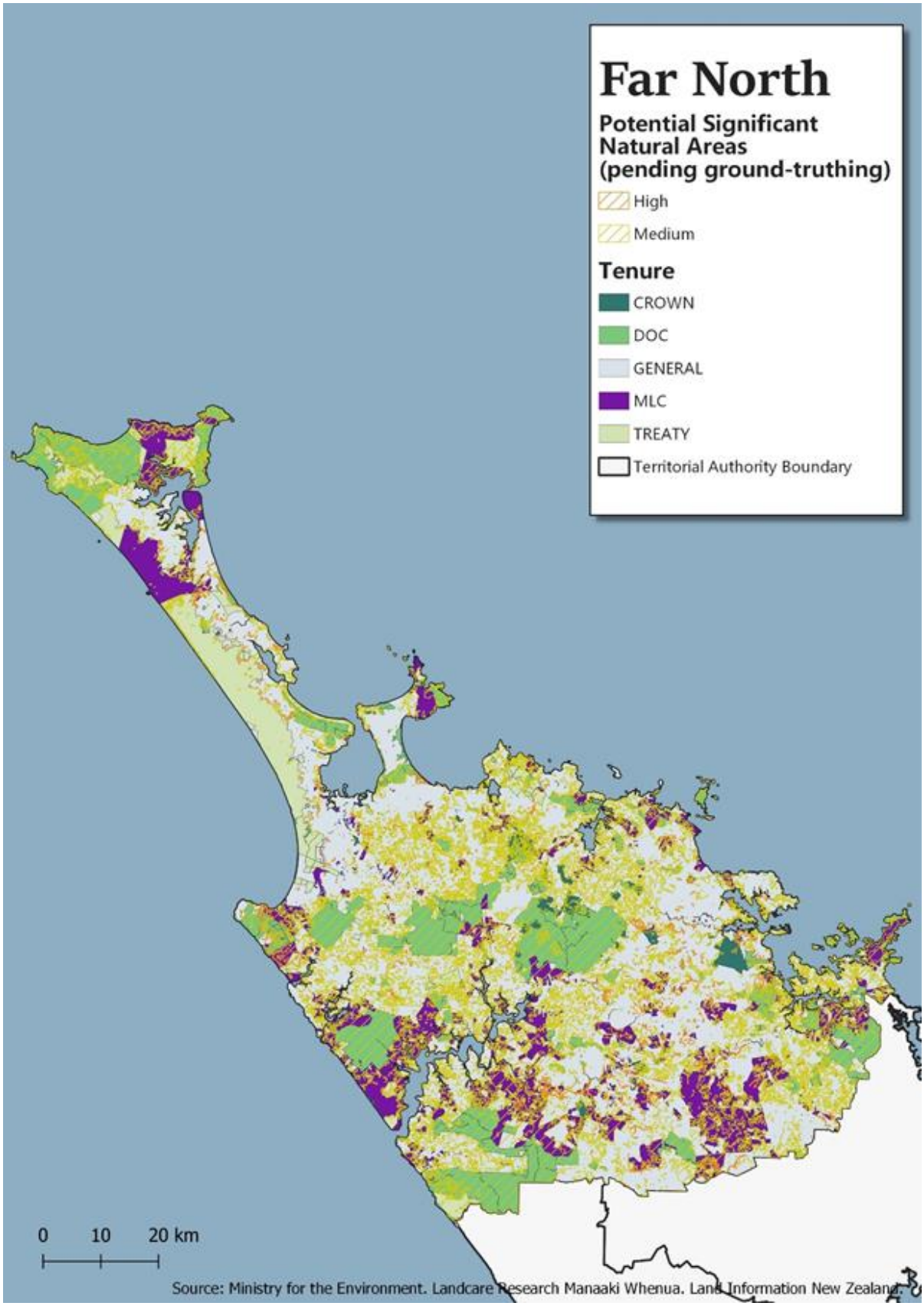


Table 29 – Indicative Significant Natural Areas and Land Tenure – Far North

	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area outside Potential SNAs *	Total Land Area
Area (ha)					
Crown	104	2,362	2,467	6,481	8,947
DOC	2,443	95,030	97,473	11,869	109,341
General	5,613	98,560	104,173	298,998	403,171
Maori Land Court	3,099	48,628	51,726	50,887	102,613
Treaty Settlement	627	7,417	8,044	37,075	45,119
Total Land Area	11,886	251,997	263,883	405,310	669,192
Share of Land by Tenure (%)					
Crown	1%	1%	1%	2%	1%
DOC	21%	38%	37%	3%	16%
General	47%	39%	39%	74%	60%
Maori Land Court	26%	19%	20%	13%	15%
Treaty Settlement	5%	3%	3%	9%	7%
Total Land Area	100%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%) *					
Crown	1%	26%	28%	72%	100%
DOC	2%	87%	89%	11%	100%
General	1%	24%	26%	74%	100%
Maori Land Court	3%	47%	50%	50%	100%
Treaty Settlement	1%	16%	18%	82%	100%
Total Land Area	2%	38%	39%	61%	100%

*Source: MfE, M.E. * Pending ground-truthing*

4.2

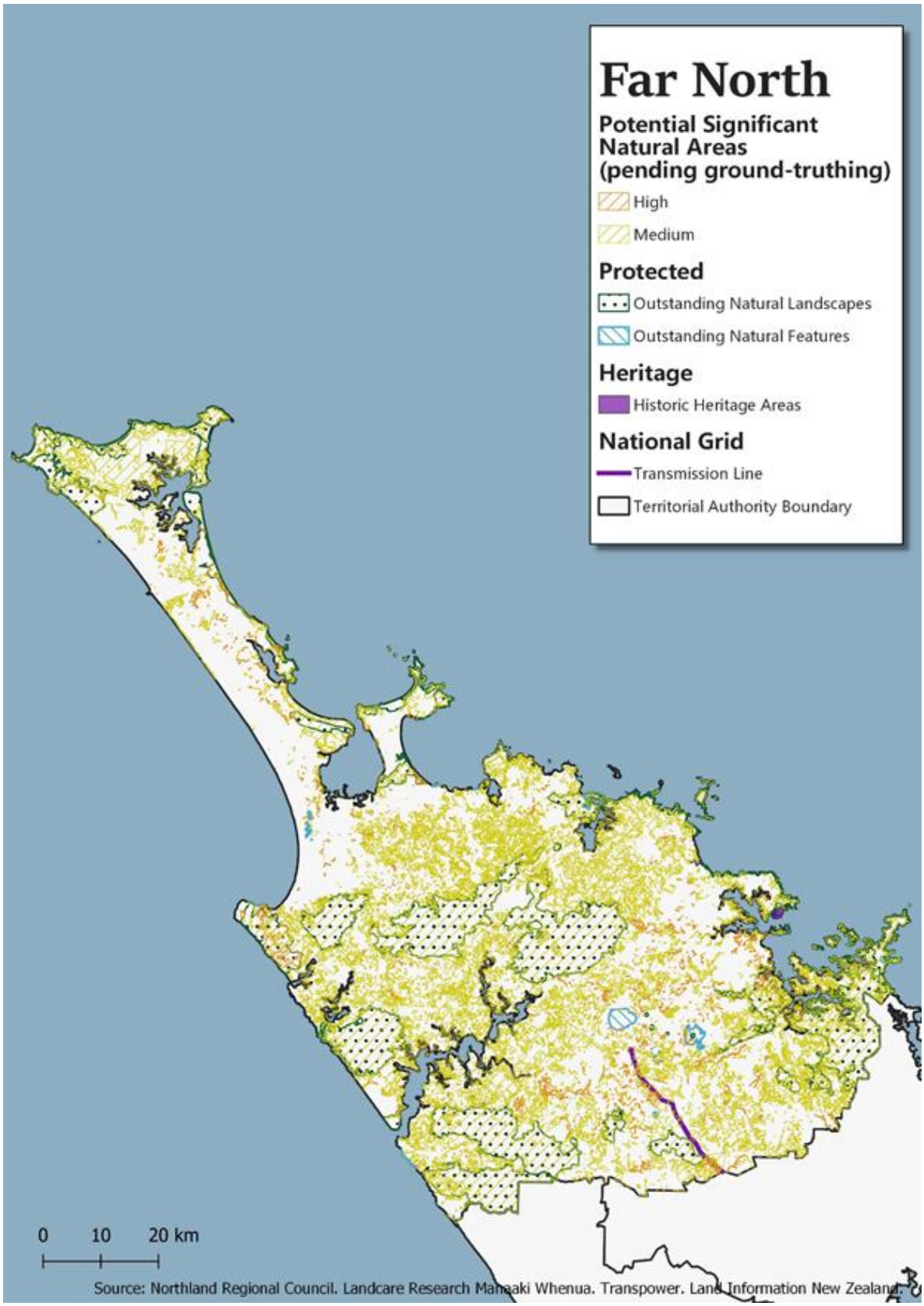
SNAs & Provisions Managing Adverse Effects – Specific Activities

The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs, including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierarchy.

For the Far North, we considered the LINZ national mining resources spatial data, as we are not aware of any specific mining or extraction policy areas in the Far North. They do have a Minerals Zone in the District Plan and this is included in analysis further below under provisions in the NPSIB relating to existing activities. The LINZ mining data does not show any mining areas in the Far North, so that aspect is excluded from this case study.

Similarly, we are not aware of any *proposed* nationally significant infrastructure. While the National Grid corridor is existing, this is shown in Figure 24 as additional context to the NPSIB provisions relating specifically to nationally significant infrastructure. As an existing activity it will have ongoing maintenance and upgrade requirements and this activity may coincide with SNAs in particular parts of the corridor.

Figure 24 – Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Far North



While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard).

Figure 25 is included to provide some context on how active subdivision activity is in Far North District. It shows that a moderate amount of subdivision has occurred recently and is particularly focussed around Kerikeri (and extending inland over a large area), and down the east coast at the popular coastal living areas, including around the Bay of Islands. There are other isolated areas of more recent subdivision activity.

To the extent that subdivision is occurring on general land, Figure 25 shows some of the locales where subdivision activity is concentrated could (once formally identified) coincide with both Indicative High and Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a more relevant (although not necessarily significant) issue under the NPSIB in some parts of the Far North than in others.

Table 30 considers the issue of potential opportunity costs for general landowners in Far North District. The analysis combines potential SNA coverage (proxy analysis) of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

The results show that 69% of general owned properties have no indicative SNA coverage. This means that the majority of landowners will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs once defined). A 25% share of general owned properties (8,013) include an area of Indicative Medium SNA. An estimated 7% (2,249) have 80% or greater property coverage by indicative Medium SNAs. Many of these are large sized properties (greater than 10ha) or moderately large (2-10ha), so for the purpose of locating a dwelling, for example, there would still be a potentially large area of land free of indicative SNAs that was suitable for development. However, an estimated 757 properties are less than 1ha in size and have 90% or greater indicative SNA coverage. If already containing a dwelling, these will generally appear as bush blocks with a house site and driveway added. If any of these existing lots do not already have dwellings, effects on indigenous biodiversity could be managed under provisions in the NPSIB relating to managing adverse effects on SNAs but at a cost to the landowner. Further creation of these lots might be deterred under the NPSIB.

Figure 25 – Location and Temporal Trends for Land Subdivision – Far North

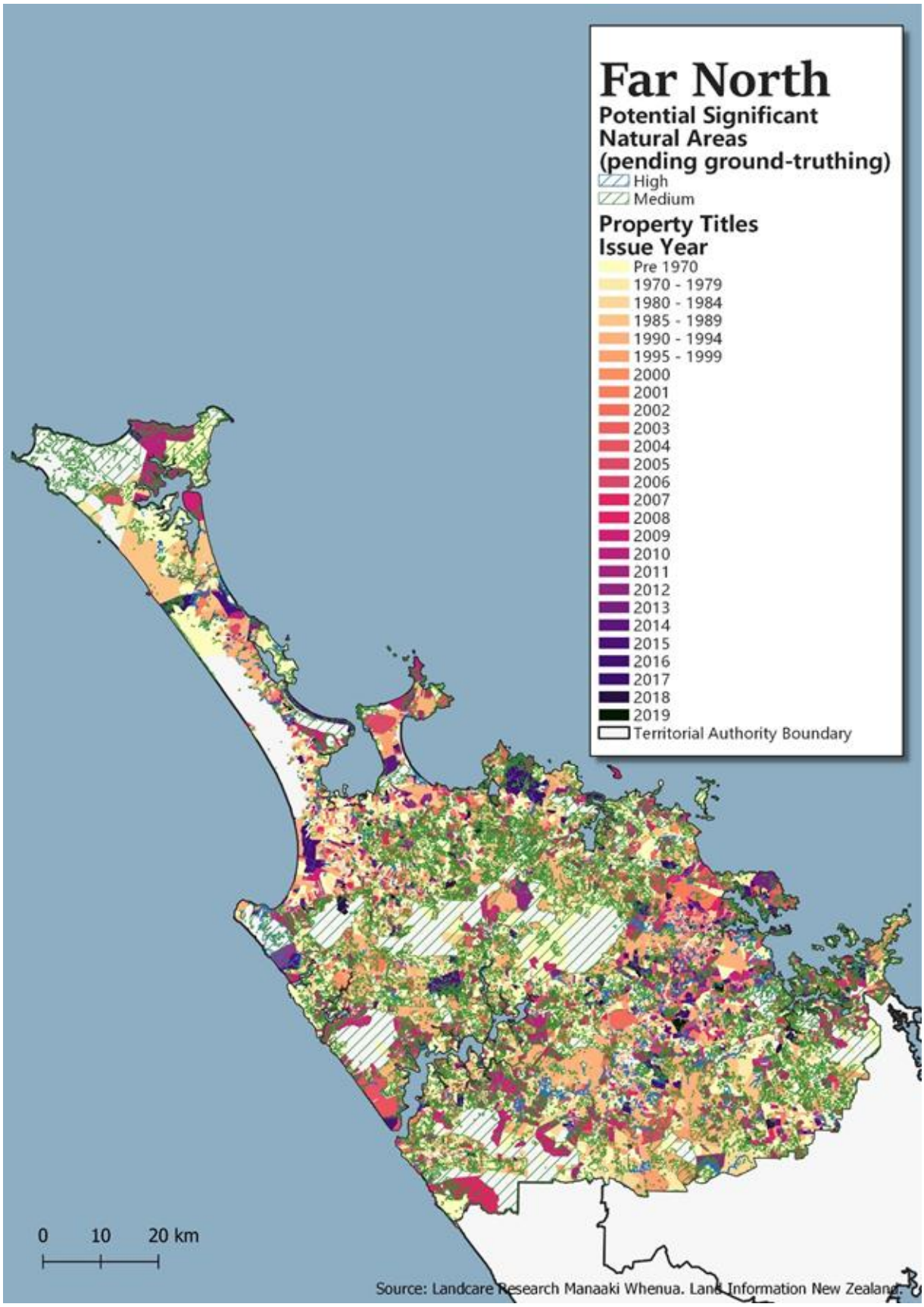


Table 30 – Count of General Land Parcels by Size and Indicative SNA Coverage – Far North

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	17,822	-	-	-	-	-	-	-	17,822	80%
1ha-2ha	1,435	-	-	-	-	-	-	-	1,435	6%
2ha-5ha	1,656	-	-	-	-	-	-	-	1,656	7%
5ha-10ha	584	-	-	-	-	-	-	-	584	3%
10ha-20ha	310	-	-	-	-	-	-	-	310	1%
20ha-50ha	235	-	-	-	-	-	-	-	235	1%
50ha-100ha	71	-	-	-	-	-	-	-	71	0%
100ha-150ha	22	-	-	-	-	-	-	-	22	0%
150ha-250ha	9	-	-	-	-	-	-	-	9	0%
250ha-500ha	3	-	-	-	-	-	-	-	3	0%
500ha-1,000ha	1	-	-	-	-	-	-	-	1	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	22,148	-	-	-	-	-	-	-	22,148	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	159	634	343	332	254	254	165	757	2,898	36%
1ha-2ha	36	174	69	53	47	53	43	188	663	8%
2ha-5ha	99	299	156	118	92	86	77	257	1,184	15%
5ha-10ha	39	189	92	58	54	60	45	146	683	9%
10ha-20ha	51	189	61	59	76	63	47	138	684	9%
20ha-50ha	61	263	92	75	83	91	71	167	903	11%
50ha-100ha	27	161	64	66	35	36	21	67	477	6%
100ha-150ha	18	83	29	21	12	16	11	17	207	3%
150ha-250ha	9	66	24	21	11	10	9	14	164	2%
250ha-500ha	6	47	19	11	14	7	3	3	110	1%
500ha-1,000ha	2	10	9	3	1	3	1	2	31	0%
>1,000ha	1	6	1	-	1	-	-	-	9	0%
Total Properties	508	2,121	959	817	680	679	493	1,756	8,013	100%
Share of Properties	*6%*	*26%*	*12%*	*10%*	*8%*	*8%*	*6%*	*22%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as Hig										
<1ha	29	142	64	60	53	48	15	94	505	25%
1ha-2ha	15	63	17	26	8	14	3	20	166	8%
2ha-5ha	24	118	49	33	19	19	11	21	294	14%
5ha-10ha	17	111	28	18	11	9	7	10	211	10%
10ha-20ha	21	67	20	18	15	4	1	13	159	8%
20ha-50ha	25	101	29	13	14	11	11	9	213	10%
50ha-100ha	17	83	21	14	8	10	1	6	160	8%
100ha-150ha	7	45	18	8	3	3	1	4	89	4%
150ha-250ha	7	69	14	5	3	2	-	4	104	5%
250ha-500ha	4	57	18	8	3	2	1	1	94	5%
500ha-1,000ha	1	15	3	2	1	1	-	2	25	1%
>1,000ha	1	14	2	-	-	-	-	-	17	1%
Total Properties	168	885	283	205	138	123	51	184	2,037	100%
Share of Properties	*8%*	*43%*	*14%*	*10%*	*7%*	*6%*	*3%*	*9%*	*100%*	

Source: Northland Regional Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

** Potential SNAs only, pending ground-truthing.*

Table 30 also shows that 6% (2,037) of general owned properties include an area of Indicative High SNA (this is slightly less than the 8% share in Waikato District). Note, where those properties also included an area of Indicative Medium SNA, this assessment combines the coverage. An estimated 1% of total general properties (235) have 80% or greater property coverage of indicative High SNAs. About half of the properties with 90% or greater indicative SNA coverage are less than 1ha in size. It is not known how many of these lots have yet to be developed but if there is no room for a house site without vegetation clearance, then development would be precluded under NPSIB provisions requiring certain adverse effects to be avoided. This would be a significant opportunity cost for those property owners, but again the exact number of landowners potentially affected is not known (and would require additional site-specific assessment).

Future creation of such lots in Indicative High SNAs would be highly unlikely under the NPSIB. This would be a positive outcome for protecting indigenous biodiversity and would redirect development of general land to other locations (but potentially still including Medium SNAs).

Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the District Plan) are important to recognise as the NPSIB may only have a marginal impact.

Figure 24 illustrates a limited selection (not all) of potentially relevant policy or overlay areas in the Far North District Plan that are expected to constrain (to some degree) what can and cannot be done on properties that fall within these areas as well as indicative SNAs. The results are summarised in Table 31.

Of the layers selected, 1ha (less than 1%) of indicative SNAs (Medium) falls within a Heritage Area. Of greater relevance, 22% of indicative SNA hectares fall within areas defined as Outstanding Natural Features (although these make up less than 1% of indicative SNA land area across the district). A significant 89% of Outstanding Natural Landscapes fall within SNAs. This is consistent with the findings in Waikato District. These policy areas also make up nearly half (46%) of indicative SNA land area across the district. These do however correlate strongly with DOC land, so will not be influencing general land to a significant degree.

Table 31 – Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Far North

Selected Policy Area	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Policy Area
Area (ha)					
Heritage Area	-	1	1	400	402
Outstanding Natural Features	101	663	764	2,685	3,450
Outstanding Natural Landscapes	3,871	117,666	121,536	14,522	136,058
Share of Policy Area (%)					
Heritage Area	0%	0%	0%	100%	100%
Outstanding Natural Features	3%	19%	22%	78%	100%
Outstanding Natural Landscapes	3%	86%	89%	11%	100%
Share of Potential SNA Area (%) **					
Heritage Area	0%	0%	0%		
Outstanding Natural Features	1%	0%	0%		
Outstanding Natural Landscapes	33%	47%	46%		

*Source: Northland Regional Council, LCDB, M.E. * Pending Ground-Truthing ** Assumes policy areas are mutually exclusive.*

Assuming these policy layers are mutually exclusive (do not overlap), 46% of indicative SNAs (proxy analysis) are also impacted by other provisions in the district plan that will place some constraints on new use, subdivision and development. This share may increase if further hazard or restrictive policy areas were included.

Table 32 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). There is a significant 3,688 (estimated) Māori land properties in Far North (a large number relative to Waikato District's 659 for example). Of those, just 37% (1,345) have no indicative SNA coverage. A further 48% (1,775) have some Indicative Medium SNA coverage. An estimated 17% of total Māori land properties (626) have 80% or more Indicative Medium SNA coverage. Most of these tend to be large size land parcels (greater than 10ha) with many moderately large (2-10ha), but with many facing greater than 90% indicative SNA coverage, this is likely to mean some additional costs to develop a sufficient area of Māori land (if not already) under the provisions that manage adverse effects on SNAs.

The remaining 15% (568) of Māori land parcels contain an area of Indicative High (or High and Medium) SNA. An estimated 3% of total Māori land properties (103) have 80% or greater indicative High SNA coverage. Most of these properties are large in size (greater than 10ha), with a few small properties (less than 1ha).

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is especially evident in Far North District. Providing for development of Māori land is a key issue for Far North District Council.

Table 32 – Count of Māori Land Parcels by Size and Indicative SNA Coverage – Far North

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	656	-	-	-	-	-	-	-	656	49%
1ha-2ha	130	-	-	-	-	-	-	-	130	10%
2ha-5ha	164	-	-	-	-	-	-	-	164	12%
5ha-10ha	91	-	-	-	-	-	-	-	91	7%
10ha-20ha	118	-	-	-	-	-	-	-	118	9%
20ha-50ha	133	-	-	-	-	-	-	-	133	10%
50ha-100ha	25	-	-	-	-	-	-	-	25	2%
100ha-150ha	11	-	-	-	-	-	-	-	11	1%
150ha-250ha	3	-	-	-	-	-	-	-	3	0%
250ha-500ha	5	-	-	-	-	-	-	-	5	0%
500ha-1,000ha	2	-	-	-	-	-	-	-	2	0%
>1,000ha	7	-	-	-	-	-	-	-	7	1%
Total Properties	1,345	-	-	-	-	-	-	-	1,345	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	237	36	24	20	13	9	11	56	406	23%
1ha-2ha	69	18	7	11	8	6	3	27	149	8%
2ha-5ha	77	19	14	17	17	15	10	46	215	12%
5ha-10ha	39	24	17	19	15	19	28	57	218	12%
10ha-20ha	23	23	16	27	23	28	24	78	242	14%
20ha-50ha	13	36	17	21	35	47	46	129	344	19%
50ha-100ha	1	8	7	11	10	15	20	56	128	7%
100ha-150ha	1	3	3	2	1	7	4	20	41	2%
150ha-250ha	-	3	1	2	1	3	1	6	17	1%
250ha-500ha	-	2	-	-	1	1	-	2	6	0%
500ha-1,000ha	-	2	-	-	-	-	-	2	4	0%
>1,000ha	-	4	1	-	-	-	-	-	5	0%
Total Properties	460	178	107	130	124	150	147	479	1,775	100%
Share of Properties	*26%*	*10%*	*6%*	*7%*	*7%*	*8%*	*8%*	*27%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	92	19	10	5	10	2	3	13	154	27%
1ha-2ha	-	1	-	-	-	-	-	-	1	0%
2ha-5ha	1	2	2	-	-	-	-	2	7	1%
5ha-10ha	23	12	2	3	8	6	7	9	70	12%
10ha-20ha	-	-	-	-	-	1	-	4	5	1%
20ha-50ha	35	9	1	3	2	4	-	6	60	11%
50ha-100ha	20	22	6	2	5	7	8	15	85	15%
100ha-150ha	1	3	-	1	-	-	-	-	5	1%
150ha-250ha	37	9	7	11	3	3	5	8	83	15%
250ha-500ha	2	1	-	-	-	-	-	-	3	1%
500ha-1,000ha	11	5	2	2	3	4	4	7	38	7%
>1,000ha	12	18	4	4	1	6	6	6	57	10%
Total Properties	234	101	34	31	32	33	33	70	568	100%
Share of Properties	*41%*	*18%*	*6%*	*5%*	*6%*	*6%*	*6%*	*12%*	*100%*	

Source: Northland Regional Council, MfE, M.E. Properties tagged to Maori Land based on the centroid of the property parcel relative to the tenure land areas.

** Potential SNAs only, pending ground-truthing.*

Figure 26 provides some context on the exemption in NPSIB provisions relating specifically to plantation forestry. Using the two LCDB layers as a guide, Figure 26 shows that there are several large areas of exotic forestry in the Far North and they are generally dispersed, although the largest areas are north of Awanui. In total there is about 105,000ha (estimated) of exotic forestry land cover in Far North District (Table 33). 69% of exotic forestry areas (cohesive polygons) are less than 5ha in size so are not the big 'commercial' forestry blocks, although 82 discrete areas are greater than 250ha and 14 areas are greater than 1,000ha. Some of these are on Treaty Settlement land. It is not possible to identify which forestry areas contain an overlap with indicative SNAs as both layers are sourced from the

LCDB and that dataset treats all layers as mutually exclusive (i.e. they don't overlap). This limitation is revealed in Table 33 which shows no overlap with indicative SNAs.

Figure 26 - Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Far North

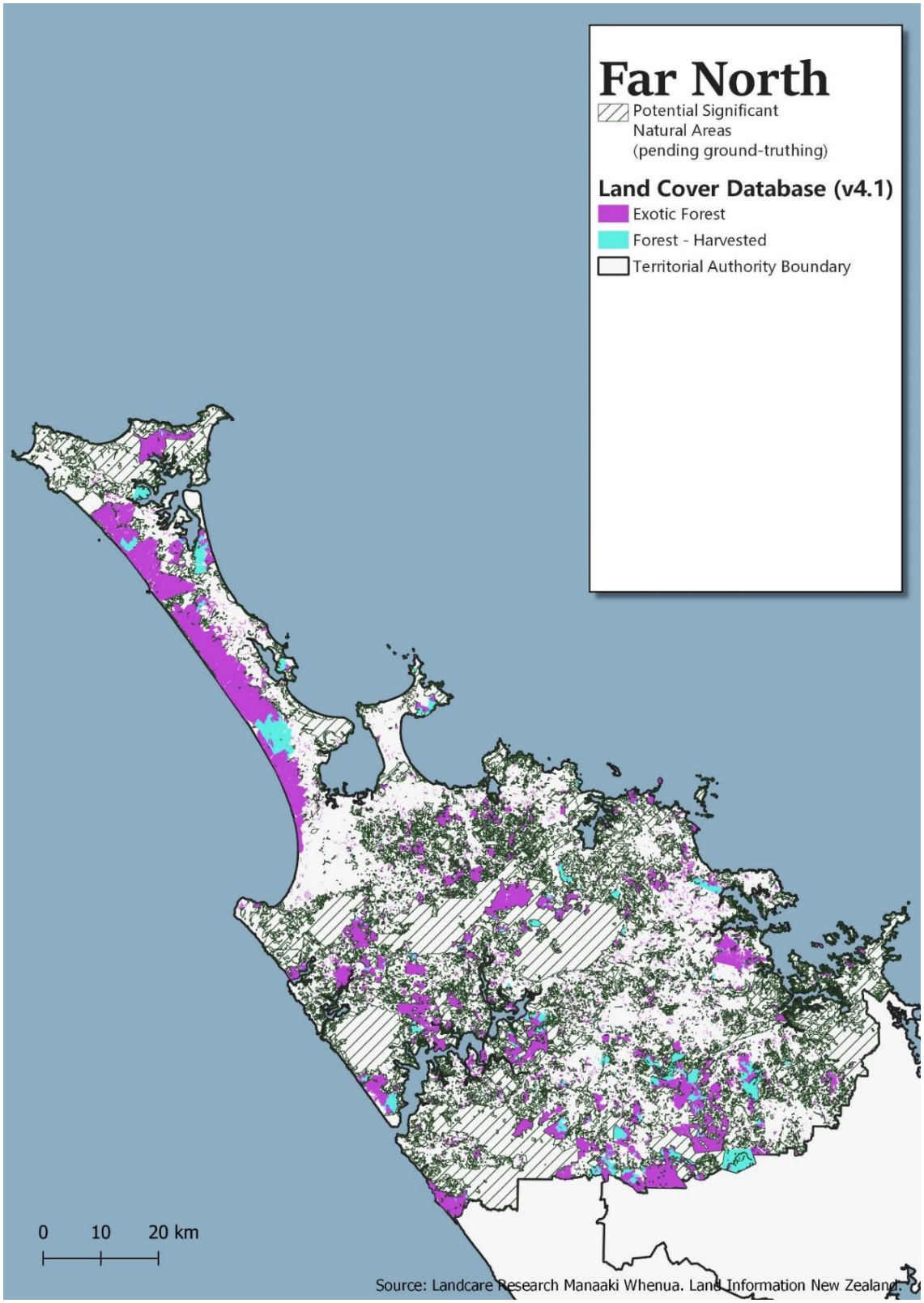


Table 33 – Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Far North

Land Cover	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	-	-	-	88,285	88,285
Forest - Harvested	-	-	-	16,795	16,795
Sub-Total Plantation Forest	-	-	-	*105,080*	*105,080*
Other Land Cover	11,886	251,997	263,883		
Total Potential SNA Area *	11,886	251,997	263,883		
Share of Land Cover Area (%)					
Exotic Forest	0%	0%	0%	100%	100%
Forest - Harvested	0%	0%	0%	100%	100%
Sub-Total Plantation Forest	*0%*	*0%*	*0%*	*100%*	*100%*
Share of Potential SNA Area (%)					
Exotic Forest	0%	0%	0%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*0%*	*0%*	*0%*		
Other Land Cover	100%	100%	100%		
Total Potential SNA Area *	100%	100%	100%		

*Source: LCDB, M.E. * Pending Ground-Truthing*

4.3 SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities. While it is not possible to determine existing activities on each and every property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered two datasets that provide some context for this issue.

Figure 27 and Table 34 summarise the incidence of indicative SNAs with operative district plan zones in Far North. In total, 54.3% of indicative SNAs by area fall within the Conservation Zone. A further 37.2% falls within the Rural Production Zone. For both of these zones, Indicative High SNAs make up only a very small share. The General Coastal Zone accounts for 7.1% of indicative SNA area and the Road Zone (i.e. road reserves), accounts for 0.5%.

Figure 27 – Indicative Significant Natural Areas by Operative District Plan Zone – Far North

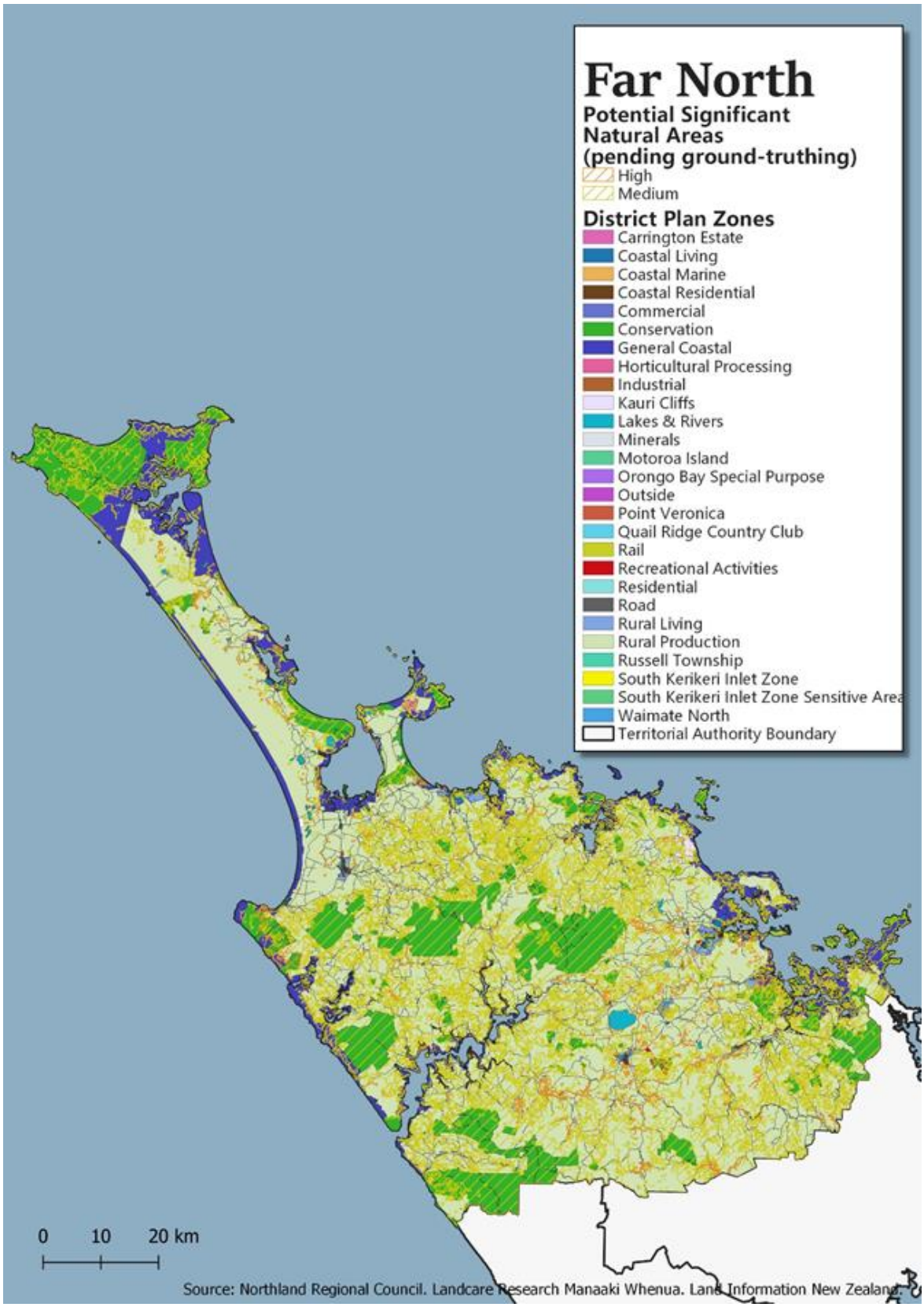


Table 34 – Indicative Significant Natural Areas by Operative District Plan Zone – Far North

Operative District Plan Zone	Indicative High SNA (based on TEC)*	Indicative Medium SNA (based on TEC)*	Total Potential SNA *	Indicative High SNA (based on TEC)*	Indicative Medium SNA (based on TEC)*	Total Potential SNA *
	(ha)			(% Share of Total)		
Carrington Estate	-	12	12	0.0%	0.0%	0.0%
Coastal Living	54	1,057	1,111	0.0%	0.4%	0.4%
Coastal Marine	20	46	66	0.0%	0.0%	0.0%
Coastal Residential	1	24	25	0.0%	0.0%	0.0%
Commercial	-	2	2	0.0%	0.0%	0.0%
Conservation	3,077	140,126	143,204	1.2%	53.1%	54.3%
General Coastal	1,379	17,306	18,685	0.5%	6.6%	7.1%
Industrial	15	163	178	0.0%	0.1%	0.1%
Kauri Cliffs	14	119	133	0.0%	0.0%	0.1%
Lakes & Rivers	321	212	533	0.1%	0.1%	0.2%
Minerals	107	68	176	0.0%	0.0%	0.1%
Motoroa Island	-	49	49	0.0%	0.0%	0.0%
Outside	1	1	2	0.0%	0.0%	0.0%
Rail	5	1	6	0.0%	0.0%	0.0%
Recreational Activities	1	2	3	0.0%	0.0%	0.0%
Residential	33	19	52	0.0%	0.0%	0.0%
Road	115	1,205	1,320	0.0%	0.5%	0.5%
Rural Living	10	171	181	0.0%	0.1%	0.1%
Rural Production	6,678	91,380	98,057	2.5%	34.6%	37.2%
Russell Township	-	3	3	0.0%	0.0%	0.0%
South Kerikeri Inlet Zone	-	3	3	0.0%	0.0%	0.0%
South Kerikeri Inlet Zone Sensitive Area	2	3	4	0.0%	0.0%	0.0%
Waimate North	51	27	78	0.0%	0.0%	0.0%
Other Areas n.e.c	3	-	3	0.0%	0.0%	0.0%
Total Potential SNA Area (2019) *	11,886	251,999	263,885	4.5%	95.5%	100.0%

*Source: Northland Regional Council, M.E. * Pending Ground Truthing.*

It is possible to examine land use codes for properties in Far North District. Table 35 shows the count of properties in general land ownership by land use category. This gives a more detailed indication of the sorts of activities that may be taking place on private land. As previously, 69% of general properties have no indicative SNA coverage. A total of 10,050 (31%) contain an area of indicative SNA (pending ground-truthing). Notable land uses with a relatively high share of indicative SNA land cover include:

- 52% of Community – Cemeteries & Crematorium properties
- 49-65% of Lifestyle properties
- 64-91% of Primary Industry properties excluding market gardens and orchards which is 30%.
- 48% of Recreational – Passive Outdoor properties.
- 39% of Recreational – Vacant properties
- 40% of Transport – Multi Use properties
- 45% of Utility Services – Sanitary properties
- 39% of Utility Services – Water Supply properties

Table 35 – Count of General Land Properties with Indicative SNAs by Land Use – Far North

Land Use Category	No Potential SNA Coverage *	Some Potential SNA Coverage *	Total Count of General Properties	Distribution of Properties with Some Potential SNA Coverage *	Properties Containing Potential SNA as Share of Total *
Not Specified	*67*	*36*	*103*	*0.4%*	*35%*
Commercial - Carpark Toilet	2	-	2	0.0%	0%
Commercial-Multi Use	170	9	179	0.1%	5%
Commercial-Offices	84	1	85	0.0%	1%
Commercial-Retail	265	9	274	0.1%	3%
Commercial-Services	57	1	58	0.0%	2%
Commercial-Vacant	60	18	78	0.2%	23%
Commercial-Wholesale	4	-	4	0.0%	0%
Community Services-Cemeteries & Crematorium	31	34	65	0.3%	52%
Community Services-Defence	1	-	1	0.0%	0%
Community Services-Educational	125	19	144	0.2%	13%
Community Services-Halls	66	8	74	0.1%	11%
Community Services-Medical & Allied	31	4	35	0.0%	11%
Community Services-Multi Use	-	1	1	0.0%	100%
Community Services-Personal & Property Protection	24	3	27	0.0%	11%
Community Services-Religious	97	9	106	0.1%	8%
Community Services-Vacant	28	5	33	0.0%	15%
Industrial-Building Materials other than Timber	16	1	17	0.0%	6%
Industrial-Chemicals,Plastics,Rubber & Paper	5	-	5	0.0%	0%
Industrial-Depots, Yards etc	35	4	39	0.0%	10%
Industrial-Engineering,Metalwrkng,Appliances,Mchny	96	2	98	0.0%	2%
Industrial-Food,Drink & Tobacco	21	3	24	0.0%	13%
Industrial-Multi Use	82	4	86	0.0%	5%
Industrial-Other Industries	19	3	22	0.0%	14%
Industrial-Textiles, Leather & Fur	2	-	2	0.0%	0%
Industrial-Timber Products & Furniture	23	3	26	0.0%	12%
Industrial-Vacant	80	2	82	0.0%	2%
Lifestyle-Multi Use	43	79	122	0.8%	65%
Lifestyle-Multi-unit	123	130	253	1.3%	51%
Lifestyle-Single Unit	2,215	2,110	4,325	21.0%	49%
Lifestyle-Vacant	1,246	1,740	2,986	17.3%	58%
Multi-Major Use Commercial	2	-	2	0.0%	0%
Multi-Major Use Community Services	26	5	31	0.0%	16%
Multi-Major Use Industrial	-	1	1	0.0%	100%
Multi-Major Use Recreational	2	2	4	0.0%	50%
Multi-Major Use Residential	8	3	11	0.0%	27%
Multi-Major Use Storage	2	-	2	0.0%	0%
Multi-Major Use Utility Services	-	1	1	0.0%	100%
Multi-Major Use Vacant/Indeterminate	6	-	6	0.0%	0%
Primary Industry-Dairying	82	259	341	2.6%	76%
Primary Industry-Forestry	136	351	487	3.5%	72%
Primary Industry-Market Gardens & Orchards	150	63	213	0.6%	30%
Primary Industry-Mineral Extraction	8	14	22	0.1%	64%
Primary Industry-Multi Use	7	40	47	0.4%	85%
Primary Industry-Specialist Livestock	1	10	11	0.1%	91%
Primary Industry-Stock Fattening	191	580	771	5.8%	75%
Primary Industry-Store Livestock	152	929	1,081	9.2%	86%
Primary Industry-Vacant or Idle	90	161	251	1.6%	64%
Recreational-Active Indoor	5	-	5	0.0%	0%
Recreational-Active Outdoor	45	12	57	0.1%	21%
Recreational-Entertainment	7	2	9	0.0%	22%
Recreational-Multi Use	9	1	10	0.0%	10%
Recreational-Passive Indoor	13	1	14	0.0%	7%
Recreational-Passive Outdoor	298	276	574	2.7%	48%
Recreational-Vacant	122	78	200	0.8%	39%
Residential-Bach	831	138	969	1.4%	14%
Residential-Communal Residence Dependant othr use	1	-	1	0.0%	0%
Residential-Multi Unit	448	91	539	0.9%	17%
Residential-Multi Use	164	70	234	0.7%	30%
Residential-Public Communal-Licensed	25	7	32	0.1%	22%
Residential-Public Communal-Unlicensed	90	31	121	0.3%	26%
Residential-Single Unit(Other than bach)	11,153	1,783	12,936	17.7%	14%
Residential-Special Accomodation	5	1	6	0.0%	17%
Residential-Vacant	2,777	829	3,606	8.2%	23%
Transport-Air Transport	-	1	1	0.0%	100%
Transport-Multi Use	3	2	5	0.0%	40%
Transport-Parking	11	1	12	0.0%	8%
Transport-Road	3	1	4	0.0%	25%
Transport-Vacant	3	3	6	0.0%	50%
Transport-Water Transport	11	5	16	0.0%	31%
Utility Services-Communications	20	6	26	0.1%	23%
Utility Services-Electricity	16	4	20	0.0%	20%
Utility Services-Gas	1	2	3	0.0%	67%
Utility Services-Multi Use	4	-	4	0.0%	0%
Utility Services-Other	18	3	21	0.0%	14%
Utility Services-Sanitary	17	14	31	0.1%	45%
Utility Services-Water Supply	23	15	38	0.1%	39%
Vacant	44	16	60	0.2%	27%
Total General Properties	22,148	10,050	32,198	100.0%	31%

*Source: Far North District Council, M.E. * Pending Ground-Truthing.*

Figure 28 and Table 36 provide some contextual analysis on pastoral farming, given that this is specifically provided for in the NPSIB provisions in terms of land clearance activity. Pastoral farming is a significant component of Far North's land use although contributes less to the economy than Horticulture. The extent of high producing grassland land cover in the LCDB is extensive across the district. However, because the LCDB shows all land covers (including indigenous land cover which is used in this case study as a proxy for indicative SNAs) as mutually exclusive (with no overlap), Figure 28 indicates that no indicative SNAs would be located on improved pasture land. This is not realistic as both Auckland and Waikato have shown that when ground-truthed, SNAs are found on improved pasture properties. The same can be expected in the Far North.

As an alternative approach, we have examined the general owned land properties that are categorised as having a primary industry, pasture-related land use (i.e. dairy farming, stock fattening etc), and overlapped this with indicative SNA coverage. This does show overlap as they are two separate datasets. Unlike for Waikato and Auckland, Table 36 considers general land only (and not Māori and Treaty Settlement properties with improved pasture).

Table 36 indicates a total of nearly 2,502 properties that potentially maintain improved pasture. Overall, an estimated 18% of all pastoral properties have 50% or greater indicative SNA coverage. A 27% share have no or less than 1% indicative SNA coverage and 61% have less than 20% indicative SNA coverage. This is to be expected given that indigenous land cover was predominantly cleared to enable pastoral farming in the past.

This data is not able to inform the degree of regeneration of indigenous cover on these properties outside of indicative SNAs. Rather, it highlights that in Far North District, the exemption for continued land clearance to maintain pasture outside of SNAs is likely to be highly relevant for farmers.

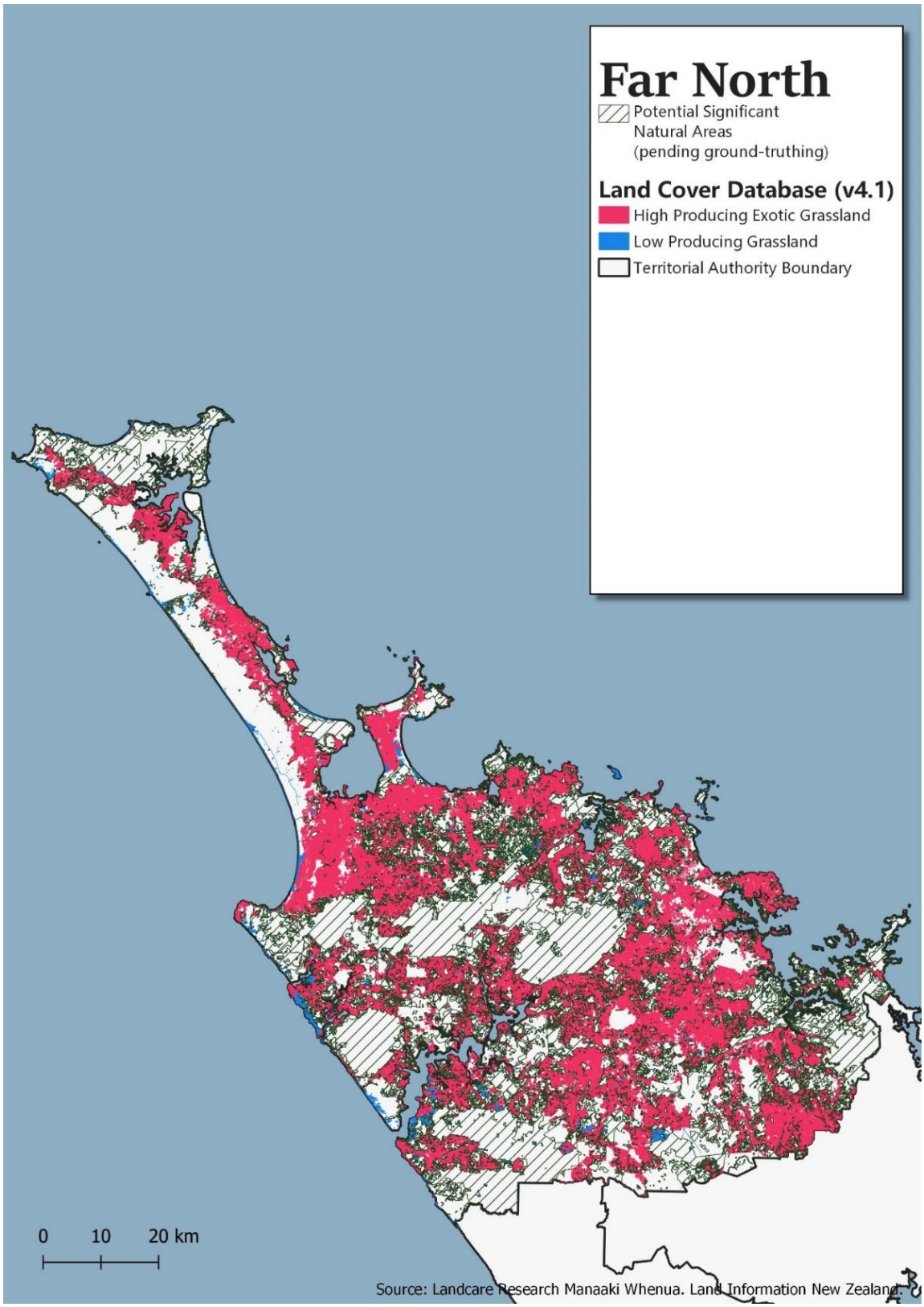
Table 36 – Count of Improved Pasture General Only Properties by Indicative SNA Coverage – Far North

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Pasture Land Properties	Share of Properties (%)
Potential SNA Coverage Distribution										
<1ha	198	12	7	7	6	8	6	24	268	11%
1ha-2ha	34	6	2	3	4	3	-	6	58	2%
2ha-5ha	44	16	4	6	2	4	-	6	82	3%
5ha-10ha	16	10	1	2	-	2	-	3	34	1%
10ha-20ha	15	22	1	6	-	-	1	6	51	2%
20ha-50ha	178	226	85	48	50	41	23	36	687	27%
50ha-100ha	101	222	75	72	34	37	9	22	572	23%
100ha-150ha	42	113	42	23	14	18	10	10	272	11%
150ha-250ha	22	120	35	24	14	9	9	9	242	10%
250ha-500ha	10	91	32	19	13	9	3	4	181	7%
500ha-1,000ha	2	19	8	4	2	4	-	-	39	2%
>1,000ha	2	12	2	-	-	-	-	-	16	1%
Total Properties	664	869	294	214	139	135	61	126	2,502	100%
Share of Properties	*27%*	*35%*	*12%*	*9%*	*6%*	*5%*	*2%*	*5%*	*100%*	

Source: Far North District Council, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

** Potential SNAs only, pending ground-truthing. Includes General owned properties categorised as Primary Industry - Dairy, Multi Use, Specialist Livestock, Stock Fattening, Store Lifestock, Vacant or Idle.*

Figure 28 – Indicative Significant Natural Areas and Improved Pasture Land Cover – Far North



5 TASMAN DISTRICT SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 29 and Table 37 compare the TEC with the latest data on indigenous land cover for Tasman District. It shows that there is an estimated 658,798ha of indigenous cover remaining, of which indigenous forest makes up 83% and indigenous scrub/shrubland makes up 9% and Grasslands make up the remaining 8% (with flaxlands covering 144ha or less than 1%). In total, indigenous cover makes up a significant 69% of the district's land area.

5.1

Table 37 – Threatened Environment Classification by Indigenous Land Cover – Tasman

	Flaxlands	Grasslands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Tasman District Land Cover
	(ha)	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	4	-	1,862	598	2,465	*0%*	69,658	72,123
10-20% indigenous cover left	66	9	4,310	2,159	6,544	*1%*	49,055	55,599
20-30% indigenous cover left	-	0	6,563	5,317	11,881	*2%*	38,465	50,346
> 30 % left and < 10% protected	-	-	-	-	-	*0%*	207	207
> 30 % left and 10-20% protected	1	-	34	97	132	*0%*	384	516
> 30 % left and > 20% protected	68	53,255	531,474	51,846	636,643	*97%*	137,622	774,265
Rest of area/water	4	72	827	230	1,134	*0%*	2,181	3,315
Total Tasman District Land Environment	144	53,336	545,071	60,248	658,798	*100%*	297,573	956,371
Land Cover Share of Total District	0%	6%	57%	6%	69%	na	31%	100%
Land Cover Share of Indigenous Cover	0%	8%	83%	9%	100%	na	na	na

Source: Ministry for the Environment, M.E.

Table 37 shows that less than 1% of indigenous cover falls into environments where there is less than 10% of estimated original over left. A further 1% falls into environments where there is between 10% and 20% of estimated original cover left and 2% falls into environments where there is between 20% and 30% of original cover remaining. The majority of indigenous cover (636,643ha, or 97%) falls into environments where there is more than 30% cover remaining and there is a high degree of protection. This is mostly in the Kahurangi National Park and to a lesser extent, the Nelson Lakes National Park.

Figure 30 and Table 38 summarise the location and mix of the indicative terrestrial SNAs identified for the purpose of this analysis. As Tasman District has yet to complete SNA mapping (although have made significant progress), current indigenous land cover (from the LCDB) has been adopted as a proxy for indicative SNA cover. This proxy should be interpreted as the indicative SNAs prior to ground truthing. This proxy over represents likely SNA coverage (particularly where the LCDB shows very small pockets of indigenous cover on general tenure land), but also excludes indicative SNAs that are not located within the LCDB indigenous cover area. This mix of over and under representation has been partly verified by a comparison of the proxy SNA layer with the SNAs currently confirmed and yet to be resolved by Council (excluding DOC land). When complete, the Tasman District SNA's are anticipated to impact on significantly fewer property owners and a smaller total area than indicated in the following spatial analysis. The results below therefore show a hypothetical maximum impact associated with the NPSIB.

Figure 30 highlights that indicative SNAs (pending ground-truthing) (i.e. total indigenous land) cover extensive areas of the district (69% as shown in Table 37). Because the indicative SNAs are one and the same as indigenous land cover in this analysis, Table 38 shows that they occupy 100% of indigenous land cover. In reality, this is unlikely to be the case if SNAs were comprehensively defined and ground-truthed in accordance with the NPSIB.

Figure 29 - Threatened Environment Classification by Indigenous Land Cover – Tasman

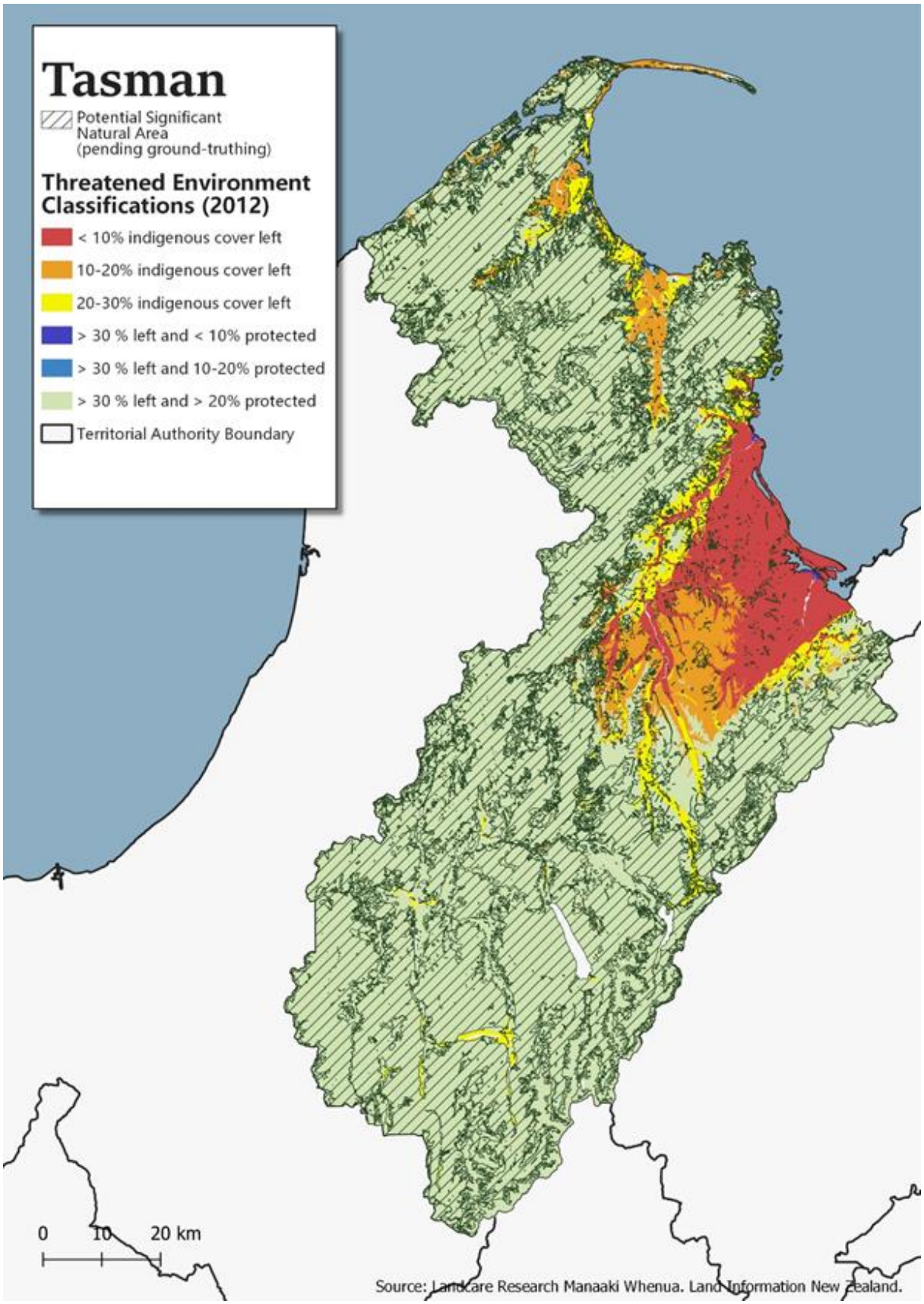


Figure 30 – Indicative Significant Natural Areas (Pending Ground-Truthing) – Tasman

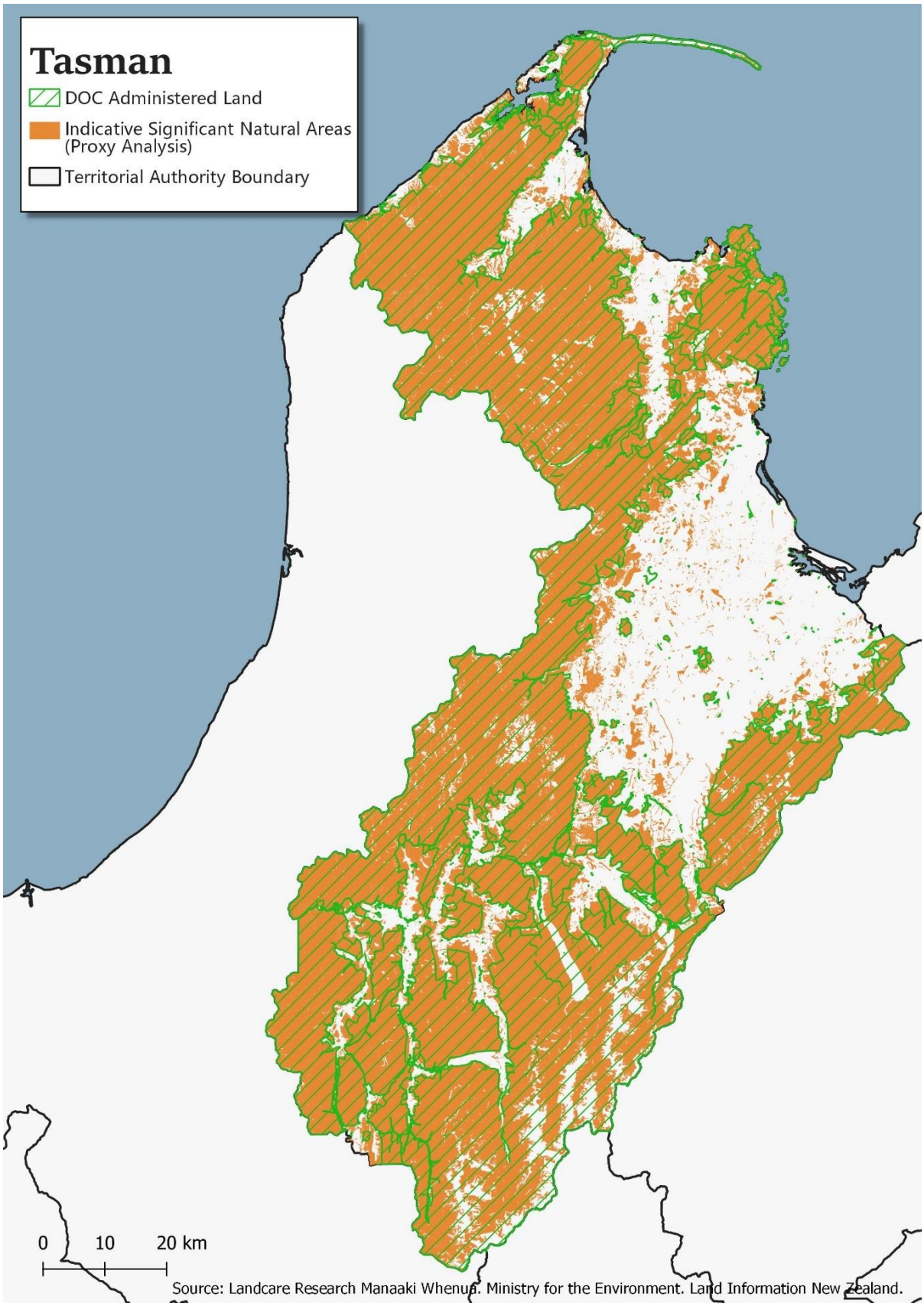


Table 38 – Indicative Significant Natural Areas by Land Cover – Tasman

	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
Area (ha)			
Flaxlands	72	72	144
Grasslands	-	53,336	53,336
Indigenous Forest	4,892	540,187	545,078
Indigenous Scrub/Shrubland	2,132	58,116	60,248
Total Potential SNA Coverage *	7,095	651,711	658,806
Potential SNA Share of Indigenous Land Cover (%)			
Flaxlands	50%	50%	100%
Grasslands	0%	100%	100%
Indigenous Forest	1%	99%	100%
Indigenous Scrub/Shrubland	4%	96%	100%
Total Potential SNA Coverage *	1%	99%	100%
Land Cover Share of SNA (%)			
Flaxlands	1%	0%	0%
Grasslands	0%	8%	8%
Indigenous Forest	69%	83%	83%
Indigenous Scrub/Shrubland	30%	9%	9%
Total Potential SNA Coverage *	100%	100%	100%

*Source: MfE, M.E, * Pending ground-truthing*

Table 38 also provides a breakdown of Tasman District indicative SNAs (pending ground-truthing) into indicative High and Medium categories by area. Indicative High SNAs equate to 7,095ha and capture 1% of indigenous land cover. Indicative Medium SNAs equate to 651,711ha and capture 99% of indigenous land cover. The Indicative Medium SNAs are much more dominated by indigenous forest cover (83% of their area), while Indicative High SNAs are made up of 69% indigenous forests and 30% indigenous scrub/shrubland. The 144ha of flaxlands falls evenly between Indicative Medium and High SNAs.

Figure 31 and Table 39 provide a summary of the tenure of Tasman District indicative SNAs (proxy analysis), including by indicative High and Medium status. Overall, there is just 1,553ha of Crown owned land in the district. A total of 20% of Crown land falls within indicative SNAs, but relative to other tenures, Crown land makes up less than 1% of indicative SNAs.

There is a significant amount of DOC land in Tasman (625,699ha). A significant 92% of this is captured by the indicative SNAs, and 8% is not. DOC land makes up 87% of total indicative SNA hectares (although only 16% of Indicative High SNAs as it does not meet the rarity criteria). Just 4% of land administered under the Māori Land Court in Tasman falls within indicative SNAs (more so in Indicative Medium SNAs). This is a very low share compared to other case study councils. Māori Land is discussed further below with respect to provisions in the NPSIB that relate to managing adverse effects on SNAs. Māori Land accounts for less than 1% of the indicative SNA coverage. In contrast, Treaty Settlement Land is slightly more prevalent in indicative SNAs (12% captured) but this accounts for just 1% of indicative SNA area.

Only 12% of indicative SNA land is in general ownership, but it makes up a much larger share of Indicative High SNA area (73%). Of the total area of general tenure land, indicative SNAs cover 26%. This highlights that general land owners will be more impacted by the protection of SNAs (all else being equal) compared to Crown, Māori Land or Treaty Settlement land owners, but that only a moderate share of total general landowners will be affected. This is examined future below.

Figure 31 – Indicative Significant Natural Areas and Land Tenure – Tasman

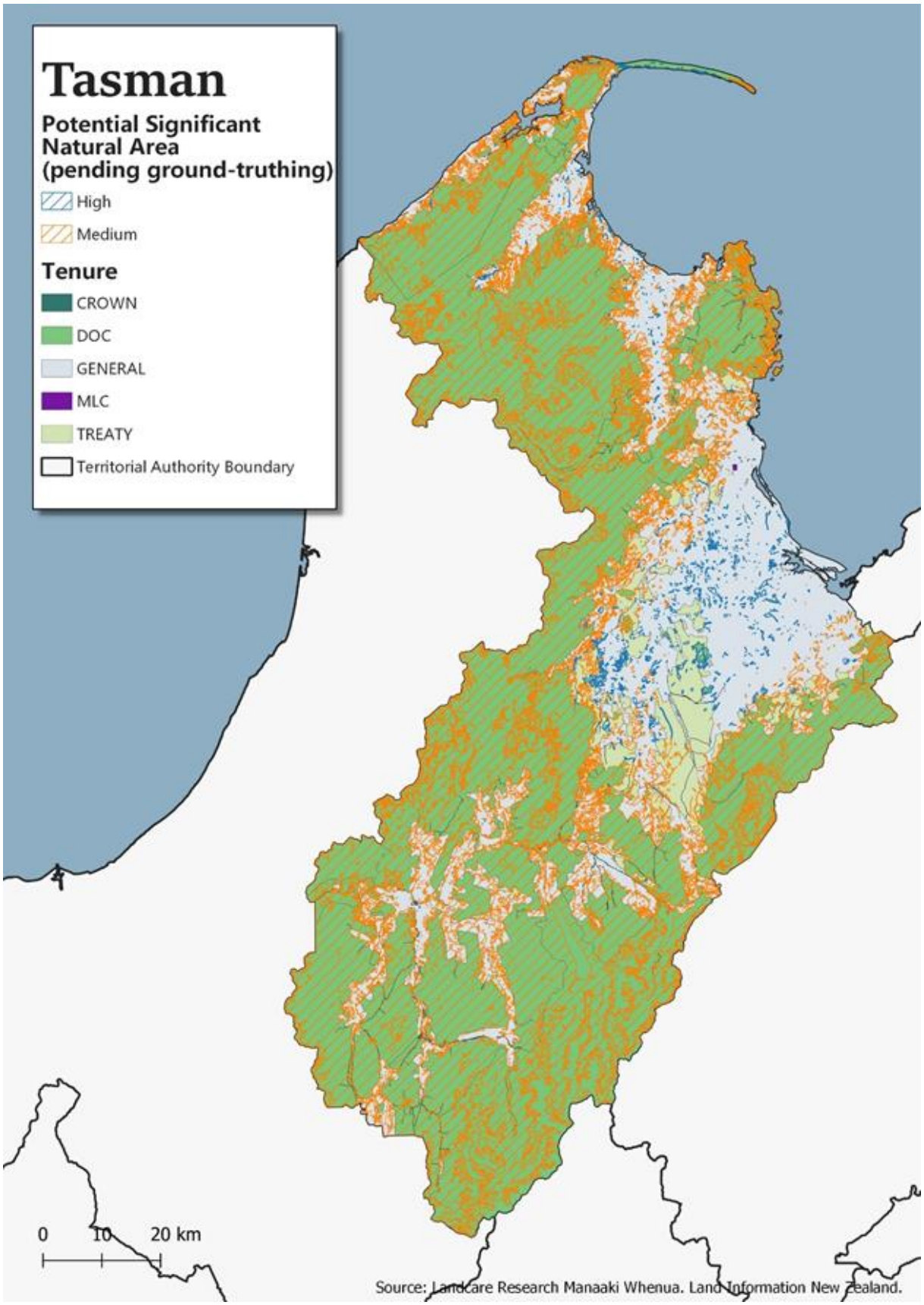


Table 39 – Indicative Significant Natural Areas and Land Tenure – Tasman

Tenure	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area outside Potential SNAs *	Total Land Area
Area (ha)					
Crown	21	287	308	1,245	1,553
DOC	1,107	571,461	572,568	53,100	625,669
General	5,208	74,351	79,559	205,148	284,707
Maori Land Court	1	3	4	103	107
Treaty Settlement	752	5,607	6,359	46,578	52,938
Not Specified	*0*	*0*	*0*	-	*0*
Total Land Area	7,088	651,710	658,798	306,174	964,973
Share of Land by Tenure (%)					
Crown	0%	0%	0%	0%	0%
DOC	16%	88%	87%	17%	65%
General	73%	11%	12%	67%	30%
Maori Land Court	0%	0%	0%	0%	0%
Treaty Settlement	11%	1%	1%	15%	5%
Not Specified	*0%*	*0%*	*0%*	*0%*	*0%*
Total Land Area	100%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%) *					
Crown	1%	18%	20%	80%	100%
DOC	0%	91%	92%	8%	100%
General	2%	26%	28%	72%	100%
Maori Land Court	1%	3%	4%	96%	100%
Treaty Settlement	1%	11%	12%	88%	100%
Not Specified	*1%*	*99%*	*100%*	*0%*	*100%*
Total Land Area	1%	68%	68%	32%	100%

*Source: MfE, LCDB, M.E. * Pending Ground-Truthing*

5.2

SNAs & Provisions Managing Adverse Effects – Specific Activities

The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs, including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierarchy.

Table 40 –Indicative SNAs Within Mining Resource/Extraction Areas – Tasman

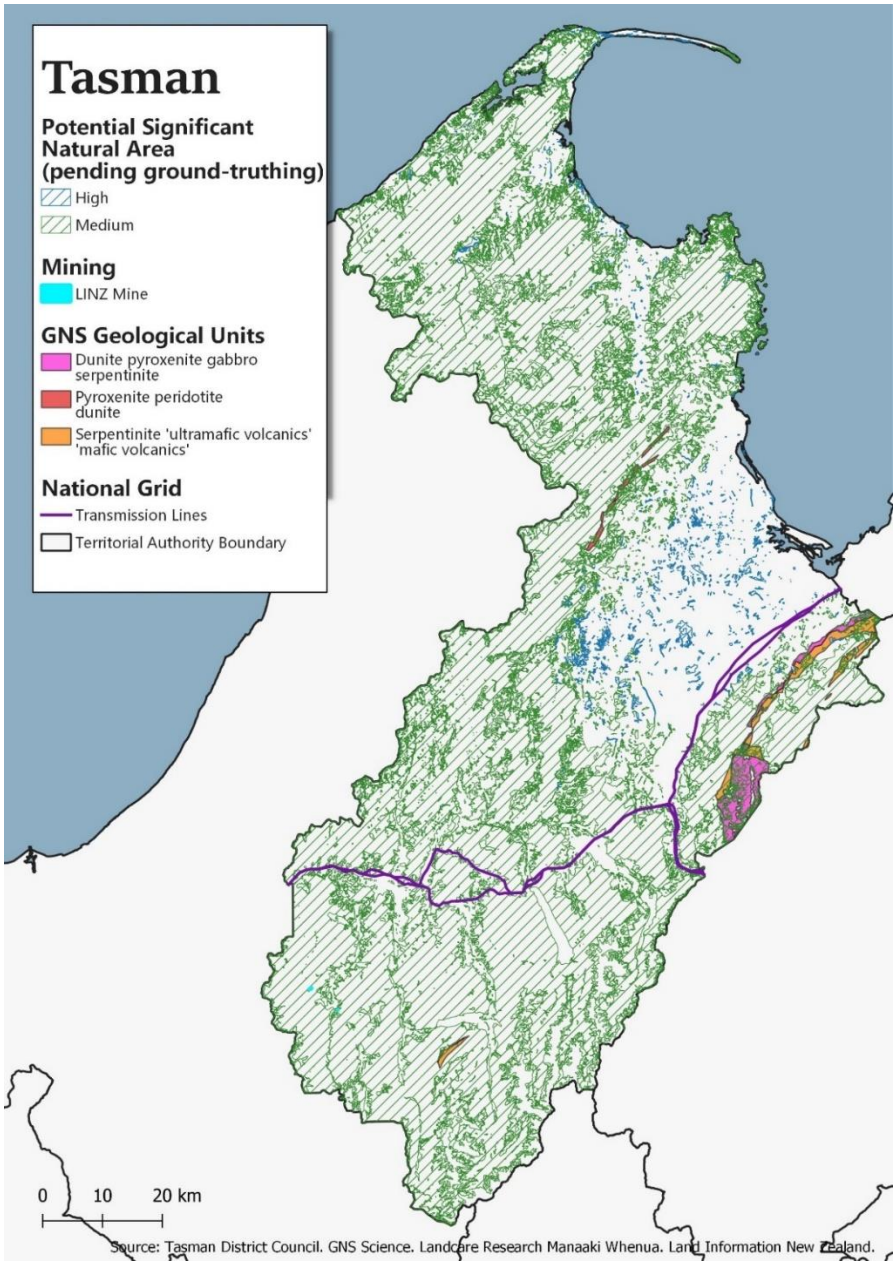
	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Mine Area
Area (ha)					
LINZ mines	-	1.5	1.5	5.0	6.5
Share of Policy Area (%)					
LINZ mines	0%	23%	23%	77%	100%
Share of Potential SNA Area (%)					
LINZ mines	0%	0.0002%	0.0002%		
Sub-Total LINZ mines	0%	0.0002%	0.0002%		

*Source: LINZ, LCDB, M.E. * Pending Ground-Truthing*

For Tasman district, we considered the LINZ national mining resources spatial data (open caste mines). We have not specifically examined the special Quarry Area in the Tasman Resource Management Plan at this time. The LINZ mining data shows very few and isolated mining areas in Tasman district (i.e. in the south of the district). Table 40 shows that these mining areas total just 6.5ha, of which 1.5ha fall within indicative SNA areas (23%). These very small mining locations account for an immaterial share of total indicative SNA land.

Tasman District has an extensive ultramafic mineral belt area mainly within the Red Hills and Mt Richmond Forest Park areas (DOC administered land) and some on general land. Early in settlement there were copper, chromite and serpentine mines in the area (e.g. the Dun Mountain mines and railway in neighbouring Nelson City). While these areas are not currently subject to active mining, a change in government policy along with demand for specific minerals (maybe lithium) could see that situation change. Whilst not quantified, Figure 32 shows that there is a significant overlap of the ultramafic mineral belt with indigenous land cover, and therefore indicative SNAs, but mainly within the conservation estate. An open pit gold mine has also been consented by Council on private farmland near Waikoropupu Springs. The relationship between this site and any SNAs on that property has not been examined.

Figure 32 – Indicative SNAs Within Mining Resource/Extraction Areas – Tasman



We are not aware of any *proposed* nationally significant infrastructure. While the National Grid corridor is existing, this is shown in Figure 32 as additional context to the provisions relating specifically to nationally significant infrastructure. As an existing activity it will have ongoing maintenance and upgrade requirements and this activity coincides extensively with SNAs in particular parts of the corridor.

While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard).

Figure 33 is included to provide some context on how active subdivision activity is in Tasman District. It shows that a low-moderate amount of subdivision has occurred recently including around Appleby and Tasman townships. There are other isolated areas of more recent subdivision activity such as west of Riwaka/Motueka and around Takaka.

To the extent that subdivision is occurring on general land, Figure 33 shows some of the locales where subdivision activity is concentrated could (once formally identified) coincide with both Indicative High and Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a more relevant (although not necessarily significant) issue under the NPSIB in some parts of Tasman than in others.

Table 41 considers the issue of potential opportunity costs for general landowners in Tasman District. The analysis combines indicative SNA coverage (proxy analysis) of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

The results show that 79% (32,103) of general owned properties have no indicative SNA coverage. This means that the vast majority of landowners will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs once defined). A 15% share of general owned properties (5.942) include an area of Indicative Medium SNA and 4% (1,791) have 80% or greater property coverage of indicative Medium SNAs. Many of these are large sized properties (greater than 10ha) or moderately large (2-10ha), so for the purpose of locating a dwelling, for example, there would still be a potentially large area of land free of indicative SNAs that may be appropriate for development. However, an estimated 767 properties are less than 1ha in size and have 90% or greater indicative SNA coverage. If already containing a dwelling, these will generally appear as bush blocks with a house site and driveway added. If any of these existing lots do not already have dwellings, effects on indigenous biodiversity could be managed under NPSIB provisions relating to managing adverse effects on SNAs but at a cost to the landowner. Further creation of these lots might be deterred under the NPSIB.

Table 41 also shows that 6% (2,622) of general owned properties include an area of Indicative High SNA (this is slightly less than the 8% share in Waikato District and the same share as in Far North District). Note, where those properties also included an area of Indicative Medium SNA, the assessment combines the coverage. An estimated 1% of total general properties (288) have 80% or greater indicative High SNA property coverage. The majority of properties with 90% or greater indicative SNA coverage are less than 1ha in size. It is not known how many of these lots have yet to be developed but if there is no room for a house site without vegetation clearance, then development would be precluded under NPSIB provisions that relate to avoiding certain effects on SNAs. This would be a significant opportunity cost for those property owners, but the exact number of landowners potentially affected in this way is not known.

Figure 33 – Location and Temporal Trends for Land Subdivision – Tasman

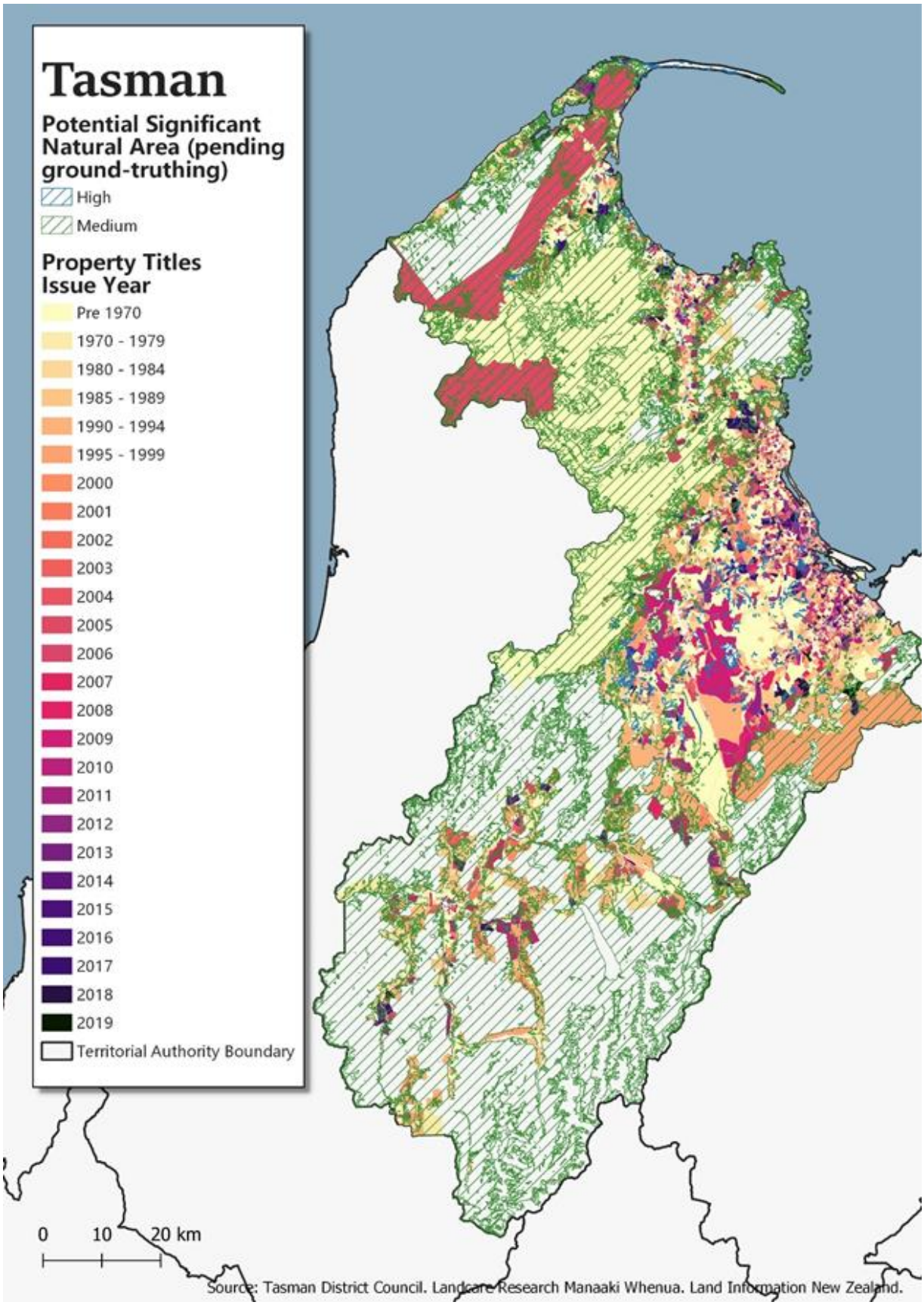


Table 41 – Count of General Land Parcels by Size and Indicative SNA Coverage – Tasman

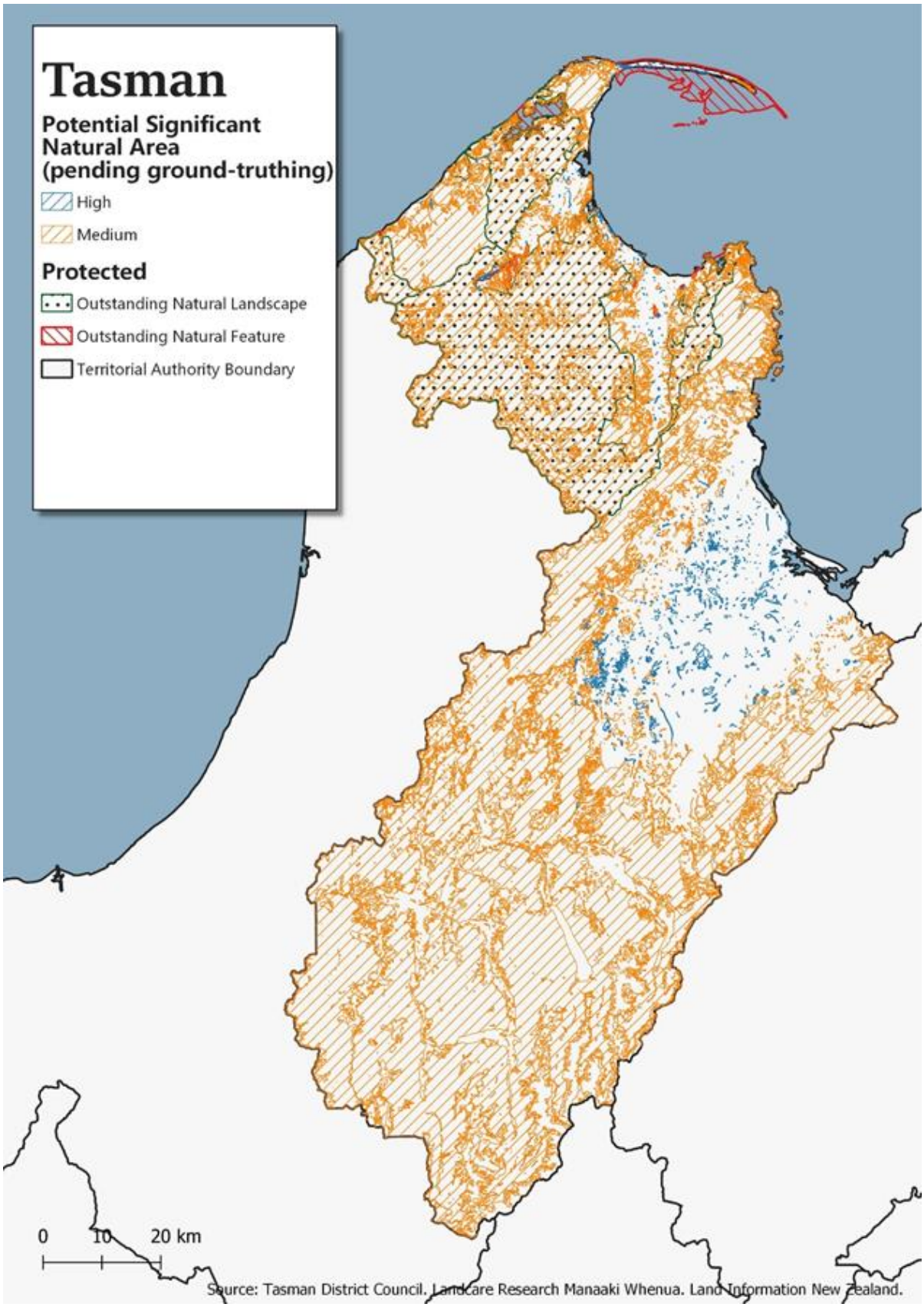
Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	24,342	-	-	-	-	-	-	-	24,342	76%
1ha-2ha	1,980	-	-	-	-	-	-	-	1,980	6%
2ha-5ha	2,409	-	-	-	-	-	-	-	2,409	8%
5ha-10ha	1,309	-	-	-	-	-	-	-	1,309	4%
10ha-20ha	1,125	-	-	-	-	-	-	-	1,125	4%
20ha-50ha	733	-	-	-	-	-	-	-	733	2%
50ha-100ha	167	-	-	-	-	-	-	-	167	1%
100ha-150ha	29	-	-	-	-	-	-	-	29	0%
150ha-250ha	6	-	-	-	-	-	-	-	6	0%
250ha-500ha	3	-	-	-	-	-	-	-	3	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	32,103	-	-	-	-	-	-	-	32,103	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	62	321	134	137	117	109	86	767	1,733	29%
1ha-2ha	29	126	53	34	43	29	28	146	488	8%
2ha-5ha	44	232	93	80	59	68	47	130	753	13%
5ha-10ha	45	198	83	58	57	47	35	79	602	10%
10ha-20ha	59	205	82	61	55	48	33	70	613	10%
20ha-50ha	75	309	134	90	80	61	37	147	933	16%
50ha-100ha	30	144	53	50	36	39	32	67	451	8%
100ha-150ha	9	38	24	19	18	21	17	15	161	3%
150ha-250ha	3	26	11	14	19	25	11	26	135	2%
250ha-500ha	1	8	7	10	11	14	9	6	66	1%
500ha-1,000ha	-	1	-	1	2	-	-	1	5	0%
>1,000ha	-	-	-	-	-	-	-	2	2	0%
Total Properties	357	1,608	674	554	497	461	335	1,456	5,942	100%
Share of Properties	*6%*	*27%*	*11%*	*9%*	*8%*	*8%*	*6%*	*25%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage groupe										
<1ha	32	174	68	43	57	41	21	155	591	23%
1ha-2ha	23	103	35	19	10	13	7	13	223	9%
2ha-5ha	56	169	57	28	23	22	12	27	394	15%
5ha-10ha	44	145	47	16	14	9	7	8	290	11%
10ha-20ha	76	182	29	14	9	5	2	8	325	12%
20ha-50ha	84	293	50	23	20	7	4	16	497	19%
50ha-100ha	36	124	16	12	7	5	-	4	204	8%
100ha-150ha	7	27	5	7	1	2	1	1	51	2%
150ha-250ha	1	14	4	4	3	2	1	1	30	1%
250ha-500ha	1	7	4	-	3	-	-	-	15	1%
500ha-1,000ha	-	-	-	-	-	1	-	-	1	0%
>1,000ha	-	1	-	-	-	-	-	-	1	0%
Total Properties	360	1,239	315	166	147	107	55	233	2,622	100%
Share of Properties	*14%*	*47%*	*12%*	*6%*	*6%*	*4%*	*2%*	*9%*	*100%*	

Source: Tasman District Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

Future creation of such lots in Indicative High SNAs would be highly unlikely under the NPSIB. This would be a positive outcome for protecting indigenous biodiversity and would redirect development of general land to other locations (but potentially still including Medium SNAs).

Figure 34 – Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Tasman



Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the District Plan) are important to recognise as the NPSIB may only have a marginal impact.

Figure 34 illustrates just two potentially relevant policy or overlay areas in Tasman District Plan that are expected to constrain (to some degree) what can and cannot be done on properties that fall within these areas as well as indicative SNAs. The results are summarised in Table 42.

Of the layers selected, 6% of indicative SNA hectares fall within areas defined as Outstanding Natural Features (although these make up less than 1% of indicative SNA land area across the district). A significant 94% of Outstanding Natural Landscapes fall within indicative SNAs. This is consistent with the findings in Waikato and Far North District. Combined, Outstanding Natural Landscapes areas make up nearly a quarter (23%) of indicative SNA land area across the district. These do however correlate strongly with DOC land, so will not be influencing general land to a significant degree[5].

Table 42 –Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Tasman

Selected Policy Area	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Policy Area
Area (ha)					
Outstanding Natural Features	224	655	879	14,468	15,347
Outstanding Natural Landscapes	24	148,544	148,568	10,308	158,876
Share of Policy Area (%)					
Outstanding Natural Features	1%	4%	6%	94%	100%
Outstanding Natural Landscapes	0%	93%	94%	6%	100%
Share of Potential SNA Area (%)					
Outstanding Natural Features	3%	0%	0%		
Outstanding Natural Landscapes	0%	23%	23%		
Total Potential SNA Area	3%	23%	23%		

*Source: Tasman District Council, LCDB, M.E. * Pending Ground-Truthing*

Assuming these policy layers are mutually exclusive (don't overlap), 23% of indicative SNAs (proxy analysis) are also impacted by other provisions in the district plan that will place some constraints on new use, subdivision and development. This share may increase if further hazard or restrictive policy areas were included (and these may have a larger impact on general land).

Table 43 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). There are just 24 (estimated) Māori land properties in Tasman District (a very small number relative to Far North's count). Of those, 63% (15) have no indicative SNA coverage. A further 29% (7) have some Indicative Medium SNA coverage and 4% (1) has 90% or more Indicative Medium SNA coverage. This is a small property of less than 1ha so is likely to mean some additional costs to develop this Māori land (if not already) under NPSIB provisions relating to managing adverse effects on SNAs (in terms of remediating or mitigating (etc) any damage to indigenous biodiversity).

The remaining 8% (2) of Māori land parcels contain an area of Indicative High (or High and Medium) SNA. Of those, one property has between 20% to 35% indicative High SNA coverage (and is between 1-2ha in size) and the other has 80% to 90% High SNA coverage (and is less than 1ha in size).

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is less evident in Tasman District compared to the North Island case studies analysed.

[5] Tasman District Council has not yet identified ONLs and ONFs for the purpose of section 6 of the RMA. When ONLs are defined for the district for the purpose of section 6 (which may differ from these existing defined areas), it is noted that some types of development are likely to be deemed appropriate. This may include new dwellings.

Table 43 – Count of Māori Land Parcels by Size and Indicative SNA Coverage – Tasman

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	9	-	-	-	-	-	-	-	9	60%
1ha-2ha	4	-	-	-	-	-	-	-	4	27%
2ha-5ha	1	-	-	-	-	-	-	-	1	7%
5ha-10ha	-	-	-	-	-	-	-	-	-	0%
10ha-20ha	-	-	-	-	-	-	-	-	-	0%
20ha-50ha	-	-	-	-	-	-	-	-	-	0%
50ha-100ha	1	-	-	-	-	-	-	-	1	7%
100ha-150ha	-	-	-	-	-	-	-	-	-	0%
150ha-250ha	-	-	-	-	-	-	-	-	-	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	15	-	-	-	-	-	-	-	15	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	-	-	-	-	1	1	-	1	3	43%
1ha-2ha	-	-	-	-	-	-	-	-	-	0%
2ha-5ha	-	3	-	-	-	-	-	-	3	43%
5ha-10ha	-	-	-	-	-	-	-	-	-	0%
10ha-20ha	-	1	-	-	-	-	-	-	1	14%
20ha-50ha	-	-	-	-	-	-	-	-	-	0%
50ha-100ha	-	-	-	-	-	-	-	-	-	0%
100ha-150ha	-	-	-	-	-	-	-	-	-	0%
150ha-250ha	-	-	-	-	-	-	-	-	-	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	-	4	-	-	1	1	-	1	7	100%
Share of Properties	*0%*	*57%*	*0%*	*0%*	*14%*	*14%*	*0%*	*14%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property)										
<1ha	-	-	-	-	-	-	1	-	1	50%
1ha-2ha	-	-	1	-	-	-	-	-	1	50%
2ha-5ha	-	-	-	-	-	-	-	-	-	0%
5ha-10ha	-	-	-	-	-	-	-	-	-	0%
10ha-20ha	-	-	-	-	-	-	-	-	-	0%
20ha-50ha	-	-	-	-	-	-	-	-	-	0%
50ha-100ha	-	-	-	-	-	-	-	-	-	0%
100ha-150ha	-	-	-	-	-	-	-	-	-	0%
150ha-250ha	-	-	-	-	-	-	-	-	-	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	-	-	1	-	-	-	1	-	2	100%
Share of Properties	*0%*	*0%*	*50%*	*0%*	*0%*	*0%*	*50%*	*0%*	*100%*	

Source: Tasman District Council, MfE, M.E. Properties tagged to Maori Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

Figure 35 provides some context on the exemption in the NPSIB provisions relating specifically to plantation forestry. Using the two LCDB layers as a guide, Figure 35 shows that there are several large areas of exotic forestry in Tasman District and they are generally centralised. In total there is about 103,900ha (estimated) of exotic forestry land cover in Tasman District (Table 43). 51% of exotic forestry areas (cohesive polygons) are less than 5ha in size so are not the big 'commercial' forestry blocks, although 92 discrete areas are greater than 250ha and 24 areas are greater than 1,000ha. Some of these are on Treaty Settlement land. It is not possible to identify which forestry areas contain an overlap with indicative SNAs as both layers are sourced from the LCDB and that dataset treats all layers as mutually exclusive (i.e. they don't overlap). This limitation is revealed in Table 44 which shows no overlap with indicative SNAs.

Figure 35 - Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Tasman

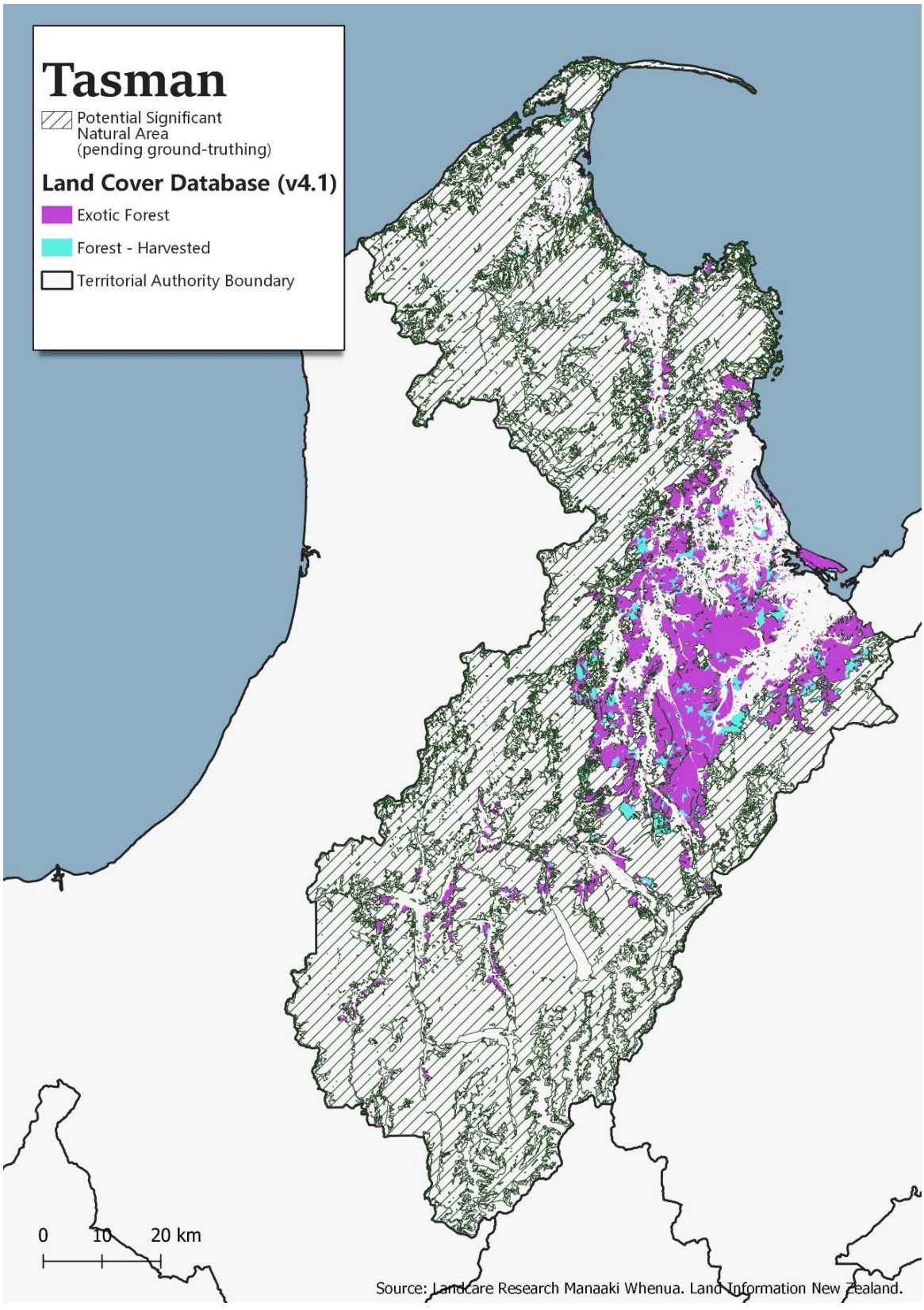


Table 44 – Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Tasman

Land Cover	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	0	0	-	90,722	90,722
Forest - Harvested	0	0	-	13,190	13,190
Sub-Total Plantation Forest	*0*	*0*	-	*103,912*	*103,912*
Other Land Cover	7,088	651,710	658,798		
Total Potential SNA Area *	7,088	651,710	658,798		
Share of Land Cover Area (%)					
Exotic Forest	0%	0%	0%	100%	100%
Forest - Harvested	0%	0%	0%	100%	100%
Sub-Total Plantation Forest	*0%*	*0%*	*0%*	*100%*	*100%*
Share of Potential SNA Area (%)					
Exotic Forest	0%	0%	0%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*0%*	*0%*	*0%*		
Other Land Cover	100%	100%	100%		
Total Potential SNA Area *	100%	100%	100%		

*Source: LCDB, M.E. * Pending Ground-Truthing*

5.3 SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities. While it is not possible to determine existing activities on each and every property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered district plan zoning to provide some context for this issue.

Figure 36 and Table 45 summarise the incidence of indicative SNAs with operative district plan zones in Tasman. In total, 92.3% of indicative SNAs by area fall within the Conservation Zone. A further 7.4% falls within the Rural 2 Zone, with only very minimal shares in other zones. For both of the Conservation and Rural 2 zones, Indicative High SNAs make up only a very small share.

Figure 36 – Indicative Significant Natural Areas by Operative District Plan Zone – Tasman

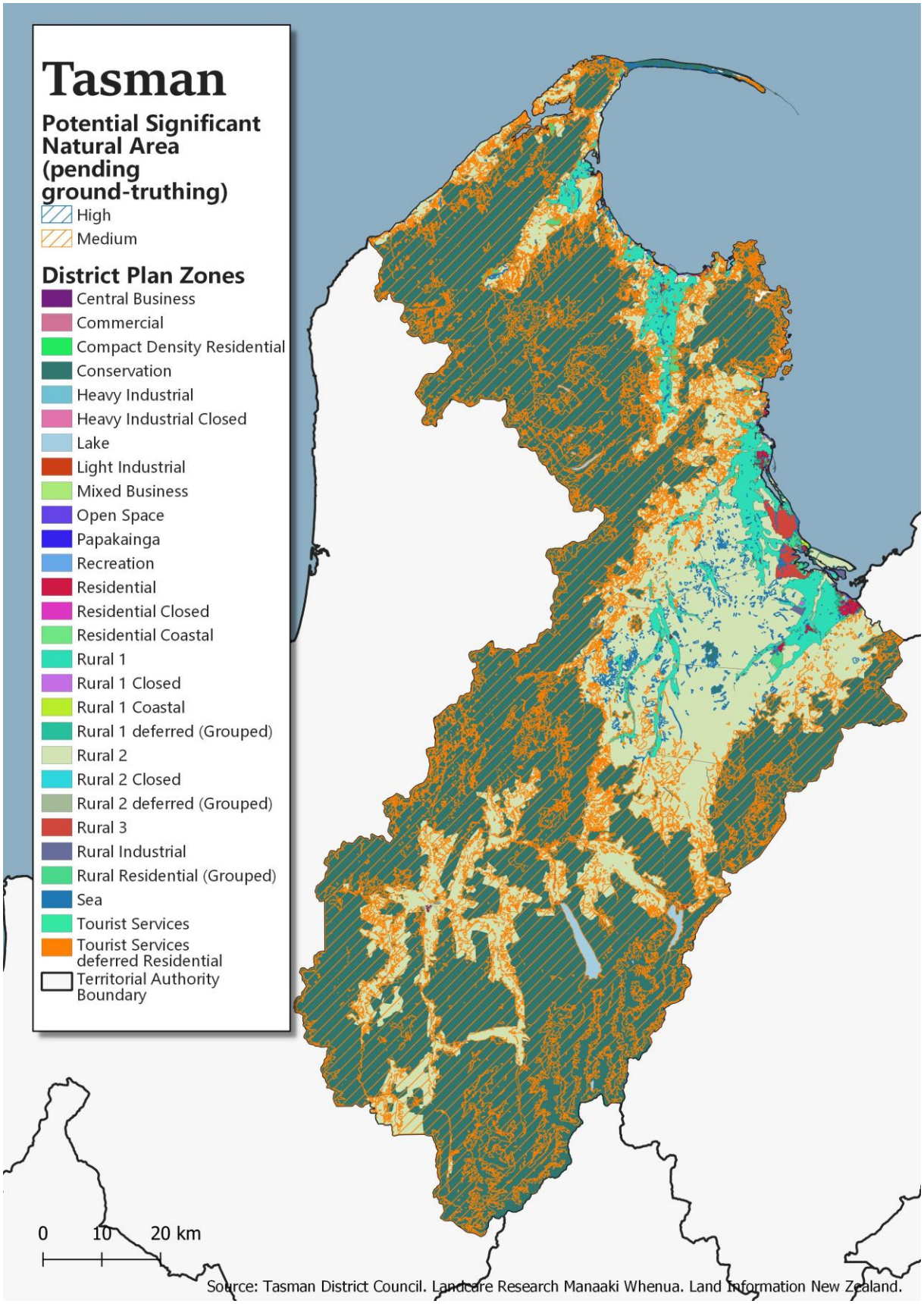


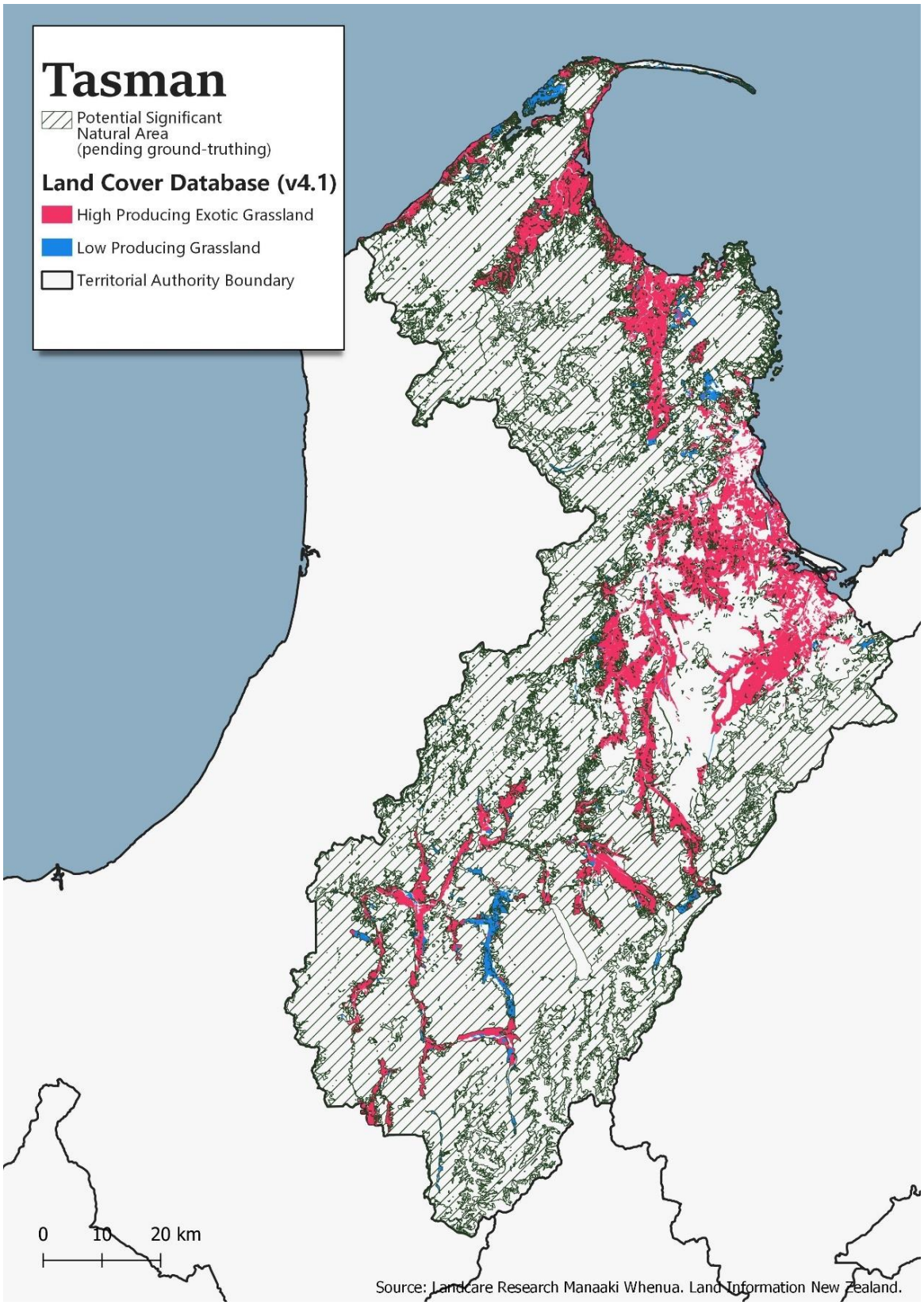
Table 45 – Indicative Significant Natural Areas by Operative District Plan Zone – Tasman

Operative District Plan Zone	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA *	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA *
	(ha)			(% Share of Total)		
Conservation	1,244	606,857	608,101	0.2%	92.1%	92.3%
Lake	-	1	1	0.0%	0.0%	0.0%
Open Space	7	35	42	0.0%	0.0%	0.0%
Recreation	20	47	67	0.0%	0.0%	0.0%
Residential	6	10	16	0.0%	0.0%	0.0%
Rural 1	499	306	805	0.1%	0.0%	0.1%
Rural 1 Coastal	1	-	1	0.0%	0.0%	0.0%
Rural 1 deferred Light Industrial	0	-	0	0.0%	0.0%	0.0%
Rural 1 deferred Rural Residential Serviced	1	-	1	0.0%	0.0%	0.0%
Rural 2	4,988	43,483	48,471	0.8%	6.6%	7.4%
Rural 2 Closed	-	2	2	0.0%	0.0%	0.0%
Rural 2 deferred Residential	1	-	1	0.0%	0.0%	0.0%
Rural 2 deferred Rural Residential	18	12	30	0.0%	0.0%	0.0%
Rural 3	146	-	146	0.0%	0.0%	0.0%
Rural Industrial	1	-	1	0.0%	0.0%	0.0%
Rural Residential	105	514	619	0.0%	0.1%	0.1%
Rural Residential Closed	24	384	408	0.0%	0.1%	0.1%
Rural Residential Serviced	4	52	56	0.0%	0.0%	0.0%
Other Areas n.e.c	31	9	40	0.0%	0.0%	0.0%
Total Potential SNA Area (2019) *	7,095	651,711	658,806	1.1%	98.9%	100.0%

*Source: Tasman District Council, M.E. * Pending Ground-Truthing*

Figure 37 provide some contextual analysis on pastoral farming, given that this is specifically provided for in the NPSIB provisions in terms of land clearance activity. Pastoral farming is a minor component of Tasman's land use and contributes less to the economy than Horticulture. The extent of high producing grassland land cover in the LCDB is not extensive and limited to the valley floors. However, because the LCDB shows all land covers (including indigenous land cover which is used in this case study as a proxy for indicative SNAs) as mutually exclusive (with no overlap), Figure 37 indicates that no indicative SNAs would be located on improved pasture land. This is not considered to be realistic as both Auckland and Waikato have shown that when ground-truthed, SNAs are found on some improved pasture properties. The same can be expected in Tasman District.

Figure 37 – Indicative Significant Natural Areas and Improved Pasture Land Cover – Tasman



6 WESTLAND DISTRICT SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 38 and Table 46 compare the TEC with the latest data on indigenous land cover for Westland District. It shows that there is an estimated 762,868ha of indigenous cover remaining, of which indigenous forest makes up 79% and indigenous scrub/shrubland makes up 2% and Grasslands make up the remaining 18% (with flaxlands covering 1,684ha or less than 1%). In total, indigenous cover makes up a significant 66% of the district's land area (only slightly less than Tasman's 69%).

6.1

Table 46 – Threatened Environment Classification by Indigenous Land Cover – Westland

	Flaxlands	Grasslands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Westland District Land Cover
	(ha)	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	-	-	-	-	-	*0%*	-	-
10-20% indigenous cover left	-	-	-	-	-	*0%*	-	-
20-30% indigenous cover left	15	56	3,261	189	3,520	*0%*	18,048	21,568
> 30 % left and < 10% protected	-	-	-	-	-	*0%*	-	-
> 30 % left and 10-20% protected	-	-	-	-	-	*0%*	-	-
> 30 % left and > 20% protected	1,626	136,795	598,917	17,693	755,030	*99%*	366,954	1,121,985
Rest of area/water	44	172	3,733	369	4,318	*1%*	16,595	20,912
Total Westland District Land Environment	1,684	137,023	605,911	18,250	762,868	*100%*	401,598	1,164,466
Land Cover Share of Total District	0%	12%	52%	2%	66%	na	34%	100%
Land Cover Share of Indigenous Cover	0%	18%	79%	2%	100%	na	na	na

Source: Ministry for the Environment, M.E.

Table 46 shows that there is no indigenous land cover that has less than 20% of cover left. Less than 1% of indigenous cover falls into environments where there is between 20% and 30% of original cover remaining. The majority of indigenous cover (755,030ha, or 99%) falls into environments where there is more than 30% cover remaining and there is a high degree of protection. This includes large areas within the Aoraki / Mount Cook National Park.

Figure 39 and Table 47 summarise the location and mix of the indicative terrestrial SNAs identified for the purpose of this analysis. As Westland District has yet to carry out SNA mapping, current indigenous land cover (from the LCDB) has been adopted as a proxy for indicative SNA cover. This proxy should be interpreted as the indicative SNAs prior to ground truthing (and so over represents likely SNA coverage, but also excludes potential SNAs that are not located within the LCDB indigenous cover area).

Figure 39 highlights that indicative SNAs (pending ground-truthing) (i.e. total indigenous land) cover extensive areas of the district (66% as shown in Table 46). Because the indicative SNAs are one and the same as indigenous land cover in this analysis, Table 47 shows that they occupy 100% of indigenous land cover. In reality, this is unlikely to be the case if SNAs were comprehensively defined and ground-truthed in accordance with the NPSIB.

Figure 38 - Threatened Environment Classification by Indigenous Land Cover – Westland

Figure 39 – Indicative Significant Natural Areas (Pending Ground-Truthing) – Westland

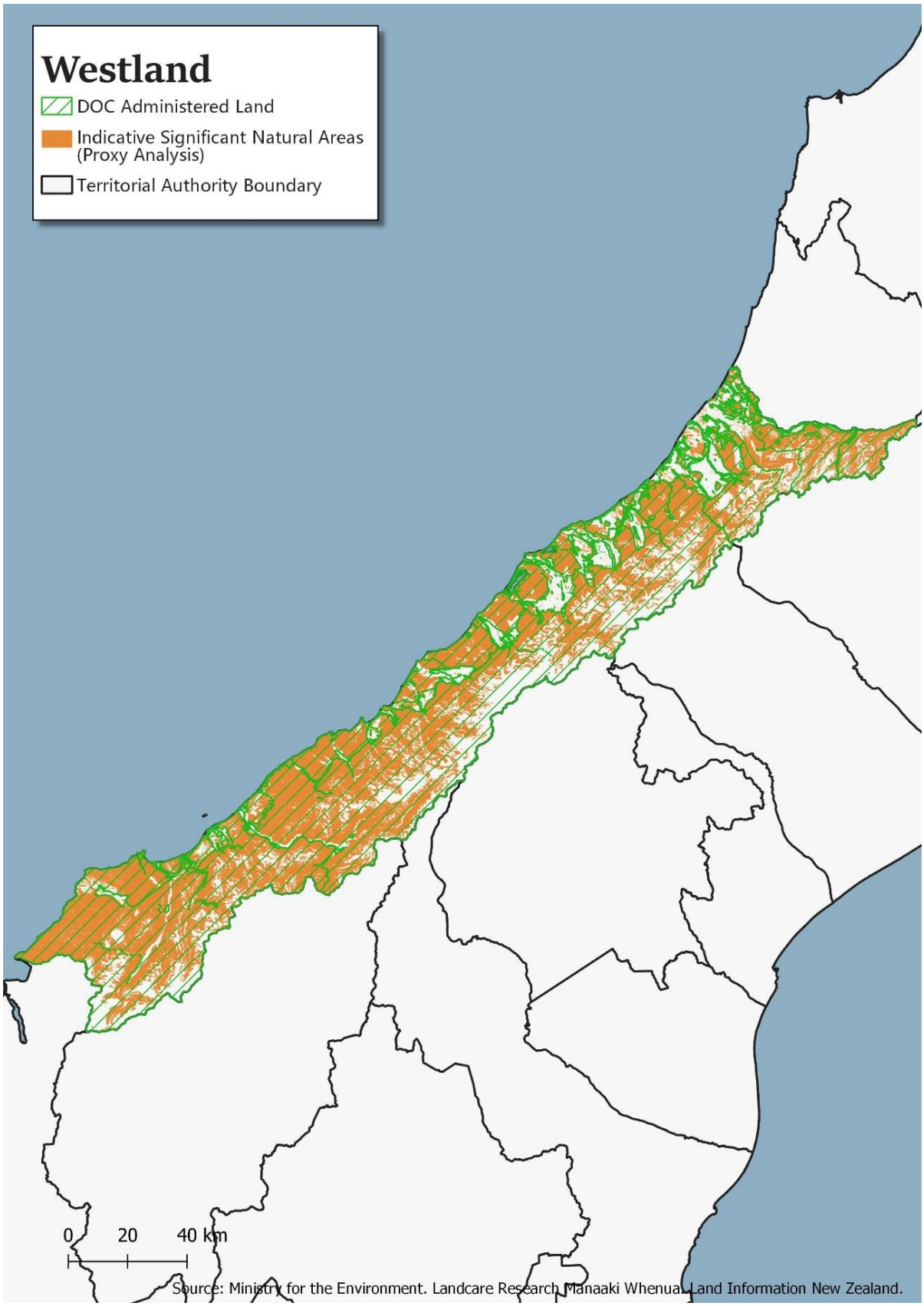


Table 47 also provides a breakdown of Westland District indicative SNAs (pending ground-truthing) into indicative High and Medium categories by area. Based on the simple approach applied for this analysis, there are no Indicative High SNAs (this may not be the case if assessed in accordance with the NPSIB). Indicative Medium SNAs equate to the total 762,868ha (100%) of indigenous land cover. The Indicative Medium SNAs are dominated by indigenous forest cover (79% of their area).

Table 47 – Indicative Significant Natural Areas by Land Cover – Westland

	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
Area (ha)			
Flaxlands	-	1,684	1,684
Grasslands	-	137,023	137,023
Indigenous Forest	-	605,911	605,911
Indigenous Scrub/Shrubland	-	18,250	18,250
Total Potential SNA Coverage *	-	762,868	762,868
Potential SNA Share of Indigenous Land Cover (%)			
Flaxlands	0%	100%	100%
Grasslands	0%	100%	100%
Indigenous Forest	0%	100%	100%
Indigenous Scrub/Shrubland	0%	100%	100%
Total Potential SNA Coverage *			
Land Cover Share of SNA (%)			
Flaxlands	-	0%	0%
Grasslands	-	18%	18%
Indigenous Forest	-	79%	79%
Indigenous Scrub/Shrubland	-	2%	2%
Total Potential SNA Coverage *	-	100%	100%

*Source: MfE, LCDB, M.E. * Pending ground-truthing*

Figure 40 and Table 48 provide a summary of the tenure of Westland District indicative SNAs (proxy analysis). Overall, there is 4,452ha of Crown owned land in the district. A total of 26% of Crown land falls within indicative SNAs, but relative to other tenures, Crown land makes up less than 1% of indicative SNAs.

There is a very significant amount of DOC land in Westland (1,036,484ha). A moderately significant 69% of this is captured by the indicative SNAs, and 31% is not. DOC land makes up 94% of total indicative SNA hectares (all Indicative Medium SNAs). A 47% share of land administered under the Māori Land Court in Westland falls within indicative SNAs. Māori Land is discussed further below with respect to NPSIB provisions relating to managing adverse effects on SNAs. Māori Land accounts for less than 1% of the indicative SNA coverage. Treaty Settlement Land is slightly less prevalent in indicative SNAs (43% captured) but this accounts for 1% of indicative SNA area.

Only 5% of indicative SNA land is in general ownership (a very small share relative to DOC ownership). Of the total area of general tenure land, indicative SNAs cover 30%. This highlights that general land owners will be less impacted as a group by the protection of SNAs (all else being equal) compared to Māori Land or Treaty Settlement land owners, although they are significant in quantum (36,255 general properties contain indicative SNAs while 82,885 do not). This is examined future below.

Figure 40 – Indicative Significant Natural Areas and Land Tenure – Westland

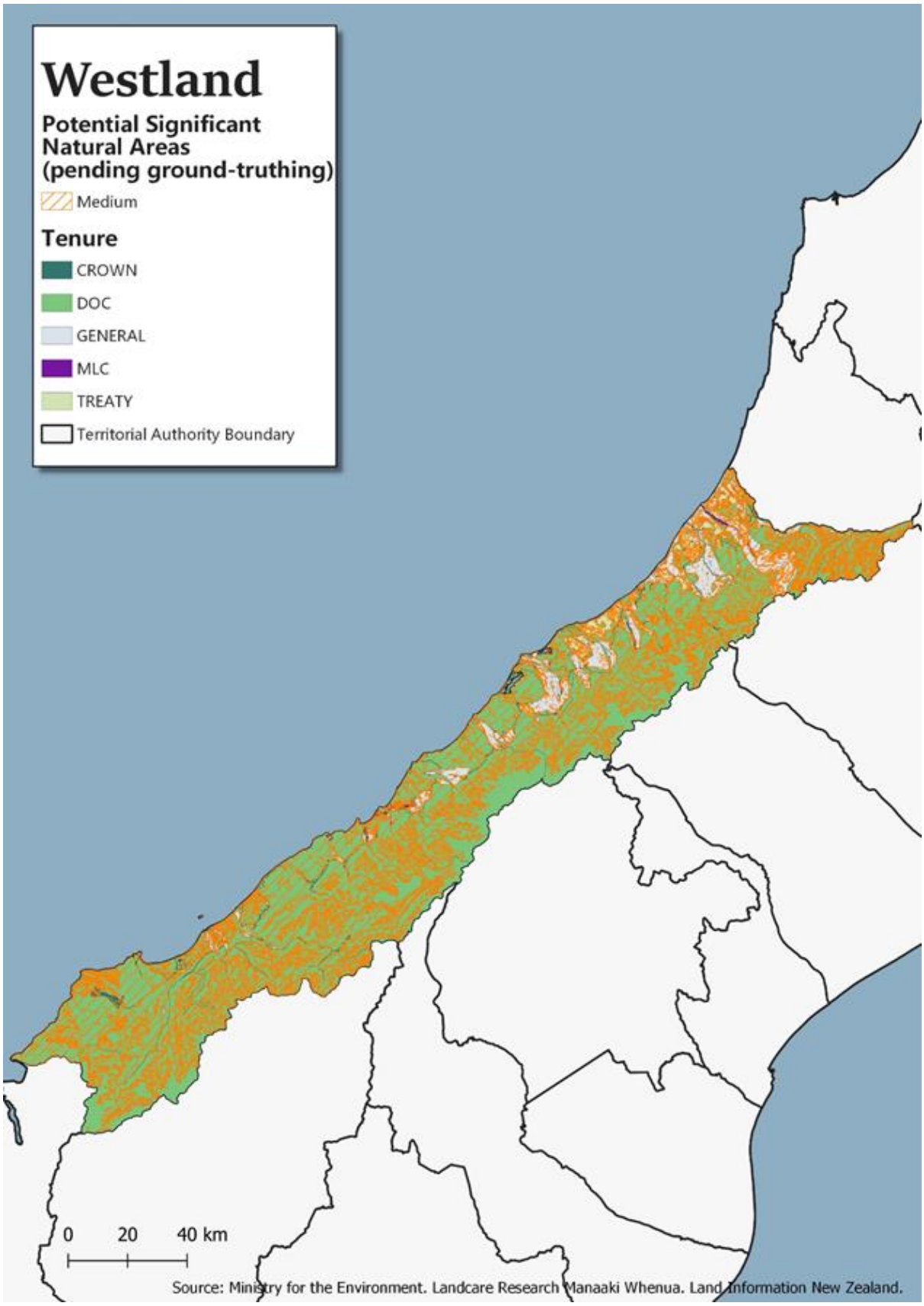


Table 48 – Indicative Significant Natural Areas and Land Tenure – Westland

Tenure	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area outside Potential SNAs *	Total Land Area
Area (ha)					
Crown	-	1,159	1,159	3,293	4,452
DOC	-	714,103	714,103	322,382	1,036,484
General	-	36,255	36,255	82,885	119,140
Maori Land Court	-	1,811	1,811	2,030	3,841
Treaty Settlement	-	9,540	9,540	12,814	22,355
Not Specified	-	*0*	*0*	-	*0*
Total Land Area	-	762,868	762,868	423,404	1,186,272
Share of Land by Tenure (%)					
Crown	0%	0%	0%	1%	0%
DOC	0%	94%	94%	76%	87%
General	0%	5%	5%	20%	10%
Maori Land Court	0%	0%	0%	0%	0%
Treaty Settlement	0%	1%	1%	3%	2%
Not Specified	*0%*	*0%*	*0%*	*0%*	*0%*
Total Land Area	0%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%) *					
Crown	0%	26%	26%	74%	100%
DOC	0%	69%	69%	31%	100%
General	0%	30%	30%	70%	100%
Maori Land Court	0%	47%	47%	53%	100%
Treaty Settlement	0%	43%	43%	57%	100%
Not Specified	*0%*	*100%*	*100%*	*0%*	*100%*
Total Land Area	0%	64%	64%	36%	100%

*Source: MfE, LCDB, M.E. * Pending Ground-Truthing*

6.2

SNAs & Provisions Managing Adverse Effects – Specific Activities

The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs, including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierarchy.

Table 49 – Indicative SNAs Within Mining Resource/Extraction Areas – Westland

Selected Policy Area	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA *	Area Outside Potential SNAs *	Total Mining Area
Area (ha)					
LINZ mines	-	68	68	93	161
Share of Policy Area (%)					
LINZ mines	0%	42%	42%	58%	100%
Share of SNA Area (%) *					
LINZ mines	0.00%	0.01%	0.01%		
Sub-Total Selected Policy Areas *	0.00%	0.01%	0.01%		

*Source: LINZ, M.E. * Pending Ground-Truthing.*

For Westland district, we considered the LINZ national mining resources spatial data (open cast), as we are not aware of any specific mining or extraction policy areas in Westland. The LINZ mining data shows several mining areas in the north of Westland District. Table 49 shows that these mining areas total 161ha, of which 68ha fall within indicative SNA areas (42%). These very small mining locations account for an immaterial share of total indicative SNA land (0.01%).

We are not aware of any *proposed* nationally significant infrastructure. While the National Grid corridor is existing, this is shown in Figure 41 as additional context to the NPSIB provision relating specifically to nationally significant infrastructure. As an existing activity it will have ongoing maintenance and upgrade requirements and this activity coincides extensively with indicative SNAs in most parts of the corridor.

While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard).

Figure 42 is included to provide some context on how active subdivision activity is in Westland District. It shows that a low amount of subdivision has occurred recently – this is not unexpected given that Westland has very limited population growth (projected to increase from 8,810 in 2017 to 10,100 by 2043 under a high growth outlook or declining to 8,500 by 2043 under a medium growth outlook[6]).

To the extent that subdivision occurs on general land, Figure 42 shows some of the locales where subdivision activity is evident in the past could (once formally identified) coincide with Indicative Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a potentially relevant (although not necessarily significant) issue under the NPSIB in very few areas within Westland.

Table 50 considers the issue of potential opportunity costs for general landowners in Westland District. The analysis combines indicative SNA coverage (proxy analysis) of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

[6] https://www.westlanddc.govt.nz/sites/default/files/Westland%20District%20Fact%20Book%20July%202018.pdf

Figure 41 – Indicative SNAs Within Mining Resource/Extraction Areas – Westland

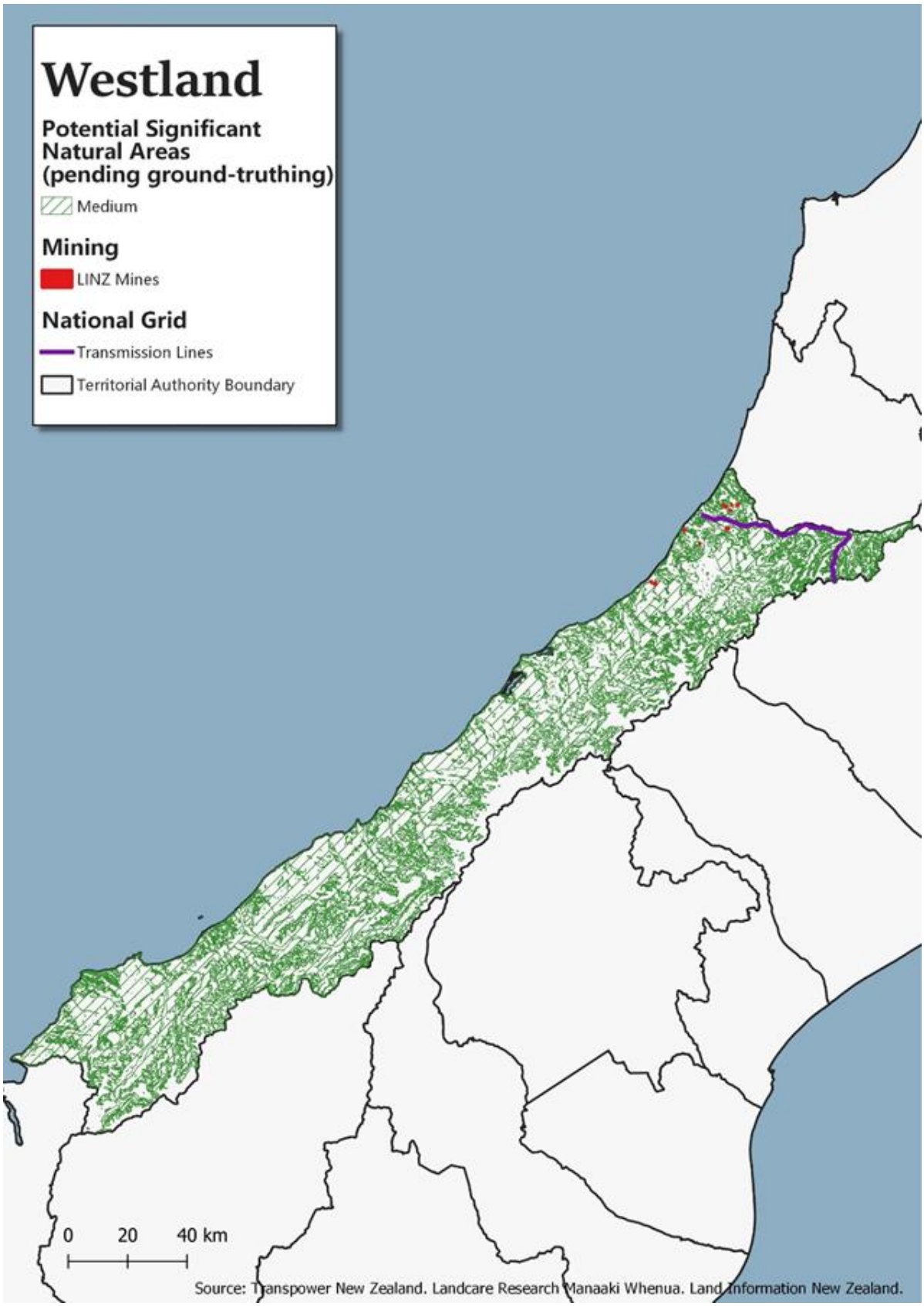
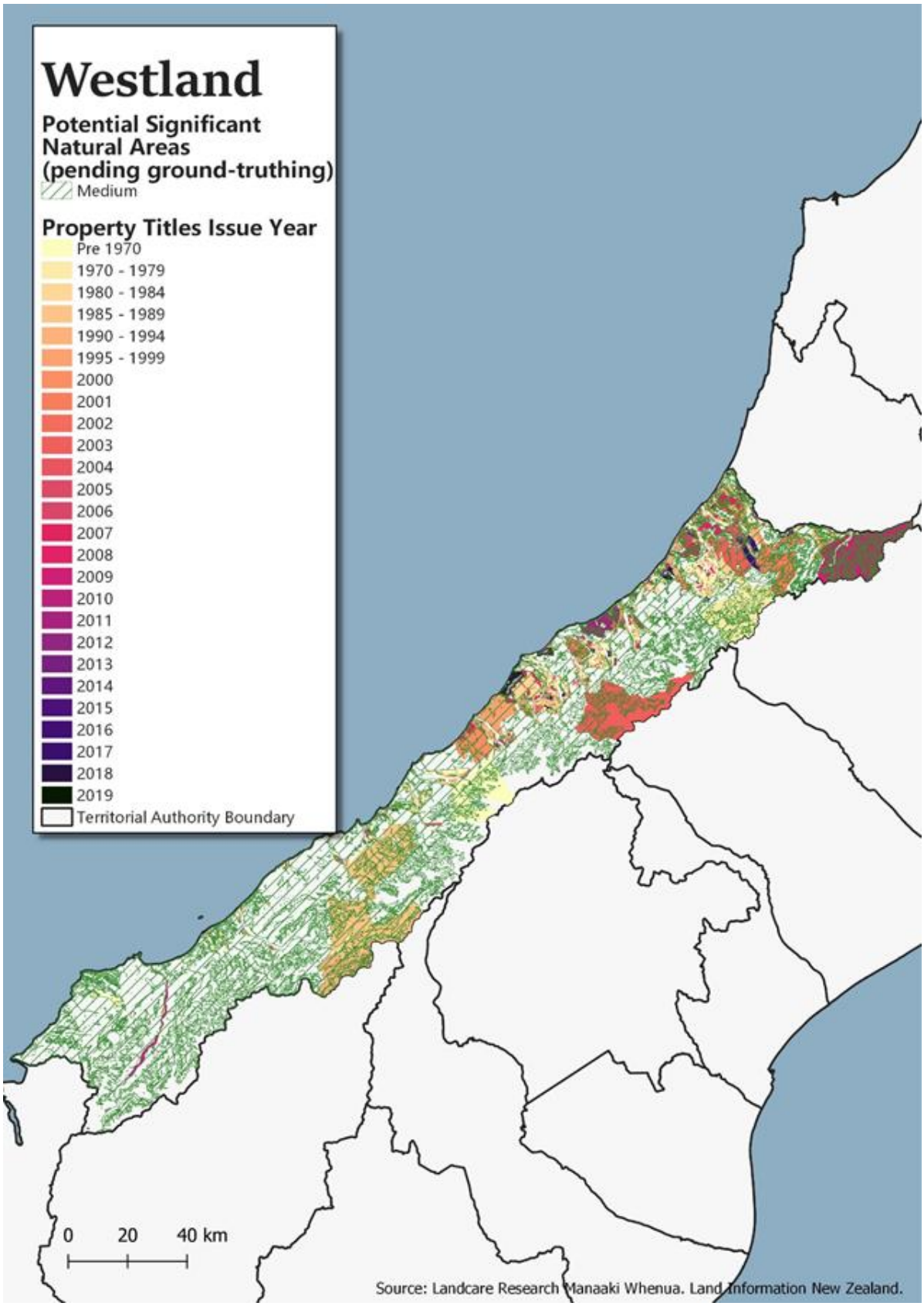


Figure 42 – Location and Temporal Trends for Land Subdivision – Westland



The results show that 63% (4,858) of general owned properties have no indicative SNA coverage. This means that the vast majority of landowners will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs once defined). A 37% share of general owned properties (2,869) include an area of Indicative Medium SNA and an estimated 10% (783) have 80% or greater property coverage. Many of these are large sized properties (greater than 10ha) or moderately large (2-10ha), so for the purpose of locating a dwelling, for example, there would still be a potentially large area of land free of indicative SNAs that may be appropriate for development. However, an estimated 423 properties are less than 1ha in size and have 90% or greater indicative SNA coverage. If already containing a dwelling, these will generally appear as bush blocks with a house site and driveway added. If any of these existing lots do not already have dwellings, effects on indigenous biodiversity could be managed under the NPSIB provisions relating to managing adverse effects on SNAs but at a cost to the landowner. Further creation of these lots might be deterred under the NPSIB.

Table 50 – Count of General Land Parcels by Size and Indicative SNA Coverage – Westland

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	3,986	-	-	-	-	-	-	-	3,986	82%
1ha-2ha	193	-	-	-	-	-	-	-	193	4%
2ha-5ha	228	-	-	-	-	-	-	-	228	5%
5ha-10ha	115	-	-	-	-	-	-	-	115	2%
10ha-20ha	130	-	-	-	-	-	-	-	130	3%
20ha-50ha	141	-	-	-	-	-	-	-	141	3%
50ha-100ha	59	-	-	-	-	-	-	-	59	1%
100ha-150ha	4	-	-	-	-	-	-	-	4	0%
150ha-250ha	1	-	-	-	-	-	-	-	1	0%
250ha-500ha	1	-	-	-	-	-	-	-	1	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	4,858	-	-	-	-	-	-	-	4,858	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	44	205	93	104	94	80	61	423	1,104	38%
1ha-2ha	14	60	24	24	14	12	9	51	208	7%
2ha-5ha	14	84	41	37	33	26	17	62	314	11%
5ha-10ha	15	73	26	29	12	16	3	39	213	7%
10ha-20ha	22	84	29	24	9	10	12	29	219	8%
20ha-50ha	32	180	48	29	22	13	12	18	354	12%
50ha-100ha	31	121	30	26	16	16	8	18	266	9%
100ha-150ha	7	47	11	3	7	6	2	11	94	3%
150ha-250ha	5	26	7	9	9	6	2	2	66	2%
250ha-500ha	1	9	5	1	1	1	1	2	21	1%
500ha-1,000ha	-	3	1	-	2	-	-	-	6	0%
>1,000ha	-	2	-	-	1	-	-	1	4	0%
Total Properties	185	894	315	286	220	186	127	656	2,869	100%
Share of Properties	*6%*	*31%*	*11%*	*10%*	*8%*	*6%*	*4%*	*23%*	*100%*	

Source: Westland District Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

As there are no Indicative High SNAs identified through *this analysis*, there are no general land owners that would face opportunity costs as a result of NPSIB provisions relating to avoiding certain effects on SNAs.

Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the District Plan) are important to recognise as the NPSIB may only have a marginal impact. We have not identified any specific policy layers for Westland District that have this effect. For example, Westland does not have any Outstanding Natural Landscapes or Features defined. There are however some hazard areas, but these are captured in District Plan zoning (discussed further below).

Table 51 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). There are just 105 (estimated) Māori land properties in Westland District (more than Tasman but

still a small number relative to Far North's count). Of those, 38% (40) have no indicative SNA coverage. The remaining 62% have some Indicative Medium SNA coverage. A significant 25% of Māori land properties (26) have 80% or more Indicative Medium SNA coverage. These are a mix of mostly moderately large (2-10ha) and large (greater than 10ha) properties. The few smaller Māori land properties with very high coverage of SNA are most likely to face some additional costs to develop (if not already) under NPSIB provisions that manage adverse effects on SNAs (in terms of remediating or mitigating (etc) any damage to indigenous biodiversity).

Based on our approach, there are no Māori land parcels containing an area of Indicative High SNA, so none would have development precluded as a result of NPSIB provisions that relate to avoiding certain effects on SNAs.

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is evident in Westland District given the high incidence of indicative SNA coverage.

Table 51 – Count of Māori Land Parcels by Size and Indicative SNA Coverage – Westland

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	16	-	-	-	-	-	-	-	16	40%
1ha-2ha	1	-	-	-	-	-	-	-	1	3%
2ha-5ha	6	-	-	-	-	-	-	-	6	15%
5ha-10ha	7	-	-	-	-	-	-	-	7	18%
10ha-20ha	6	-	-	-	-	-	-	-	6	15%
20ha-50ha	4	-	-	-	-	-	-	-	4	10%
50ha-100ha	-	-	-	-	-	-	-	-	-	0%
100ha-150ha	-	-	-	-	-	-	-	-	-	0%
150ha-250ha	-	-	-	-	-	-	-	-	-	0%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	40	-	-	-	-	-	-	-	40	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	1	1	2	1	-	-	2	2	9	14%
1ha-2ha	-	1	-	-	-	-	-	2	3	5%
2ha-5ha	1	2	-	-	-	-	1	2	6	9%
5ha-10ha	-	4	-	1	1	-	2	2	10	15%
10ha-20ha	-	3	-	1	3	-	1	2	10	15%
20ha-50ha	1	1	1	-	1	1	-	5	10	15%
50ha-100ha	-	-	1	-	1	1	1	-	4	6%
100ha-150ha	-	-	-	-	1	2	2	-	5	8%
150ha-250ha	-	1	-	-	2	-	2	-	5	8%
250ha-500ha	-	1	-	1	-	-	-	-	2	3%
500ha-1,000ha	-	1	-	-	-	-	-	-	1	2%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	3	15	4	4	9	4	11	15	65	100%
Share of Properties	*5%*	*23%*	*6%*	*6%*	*14%*	*6%*	*17%*	*23%*	*100%*	

Source: Westland District Council, MfE, M.E. Properties tagged to Maori Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

Figure 43 provides some context on the exemption in the provisions relating to plantation forestry. Using the two LCDB layers as a guide, Figure 43 shows that there are very few and small areas of exotic forestry in Westland District and they are concentrated near the coast in the north of the district. In total there is just over 17,000ha (estimated) of exotic forestry land cover in Westland District (Table 52). 44% of exotic forestry areas (cohesive polygons) are less than 5ha in size so are not the big 'commercial' forestry blocks, although 15 discrete areas are greater than 250ha and 1 area is greater than 1,000ha. It is not possible to identify which forestry areas contain an overlap with indicative SNAs as both layers are sourced from the LCDB and that dataset treats all layers as mutually exclusive (i.e. they don't overlap). This limitation is revealed in Table 52 which shows no overlap with indicative SNAs.

Figure 43 - Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Westland

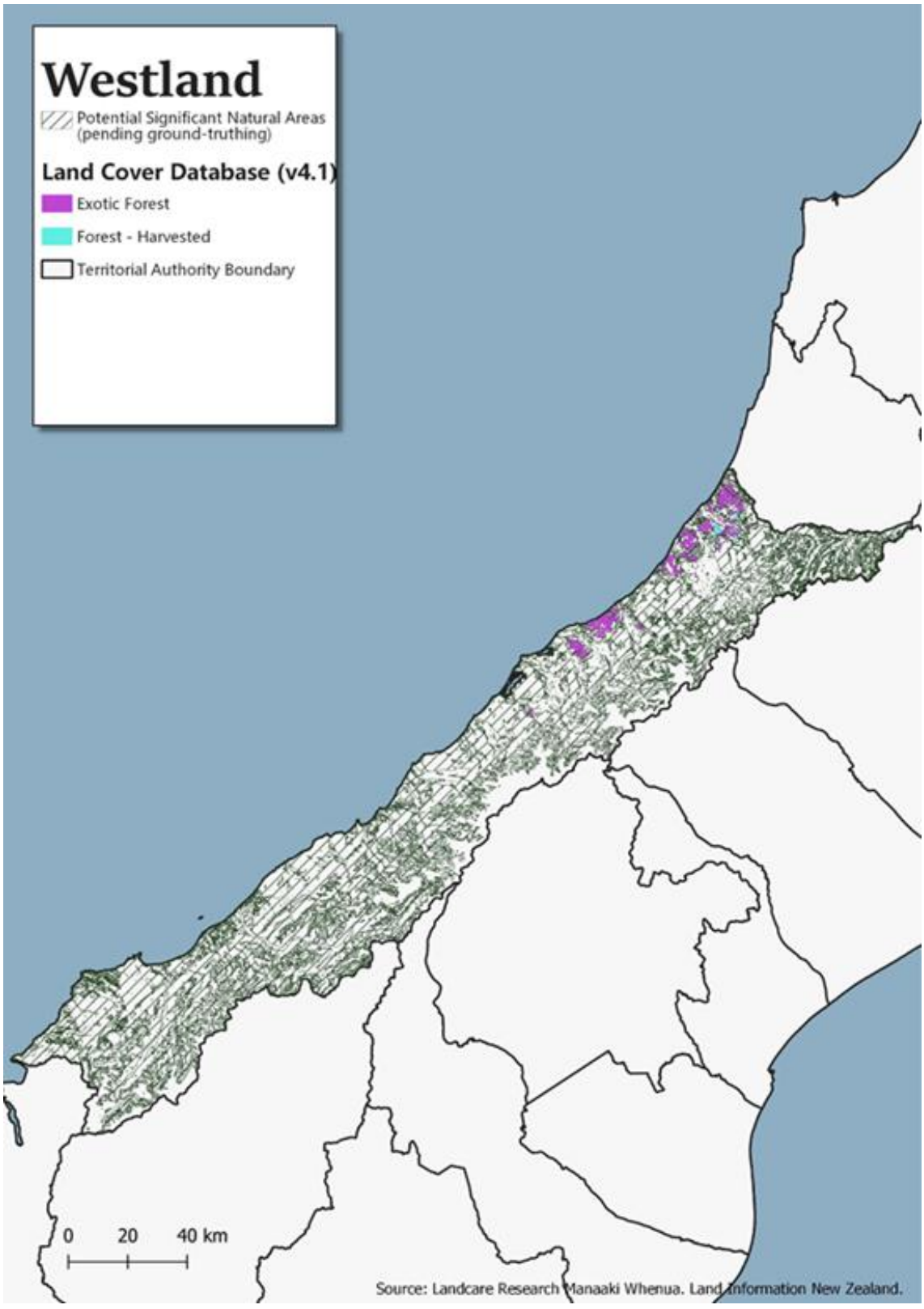


Table 52 – Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Westland

Land Cover	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	-	-	-	15,838	15,838
Forest - Harvested	-	-	-	1,273	1,273
Sub-Total Plantation Forest	-	-	-	*17,111*	*17,111*
Other Land Cover	-	762,868	762,868		
Total Potential SNA Area *	-	762,868	762,868		
Share of Land Cover Area (%)					
Exotic Forest	0%	0%	0%	100%	100%
Forest - Harvested	0%	0%	0%	100%	100%
Sub-Total Plantation Forest	*0%*	*0%*	*0%*	*100%*	*100%*
Share of Potential SNA Area (%)					
Exotic Forest	0%	0%	0%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*0%*	*0%*	*0%*		
Other Land Cover	0%	100%	100%		
Total Potential SNA Area *	0%	100%	100%		

*Source: LCDB, M.E. * Pending Ground-Truthing*

6.3 SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities. While it is not possible to determine existing activities on each and every property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered district plan zoning to provide some context for this issue.

Figure 44 and Table 53 summarise the incidence of indicative SNAs with operative district plan zones in Westland. In total, 99.95% of indicative SNAs by area fall within the Rural Zone, with only very minimal shares in other zones.

Table 53 – Indicative Significant Natural Areas by Operative District Plan Zone – Westland

Operative District Plan Zone	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
	(ha)			(% Share of Total)		
Coastal Settlement Zone	-	10	10	-	0.00%	0.00%
Residential Mixed Zone	-	12	12	-	0.00%	0.00%
Rural Zone	-	762,480	762,480	-	99.95%	99.95%
Small Settlement Zone	-	42	42	-	0.01%	0.01%
zGeneral Flood Hazard Area	-	281	281	-	0.04%	0.04%
Other areas n.e.c	-	43	43	-	0.01%	0.01%
Total Potential SNA Area (2019) *	-	762,868	762,868	-	100.00%	100.00%

*Source: Westland District Council, M.E. * Pending Ground-Truthing.*

Figure 44 – Indicative Significant Natural Areas by Operative District Plan Zone – Westland

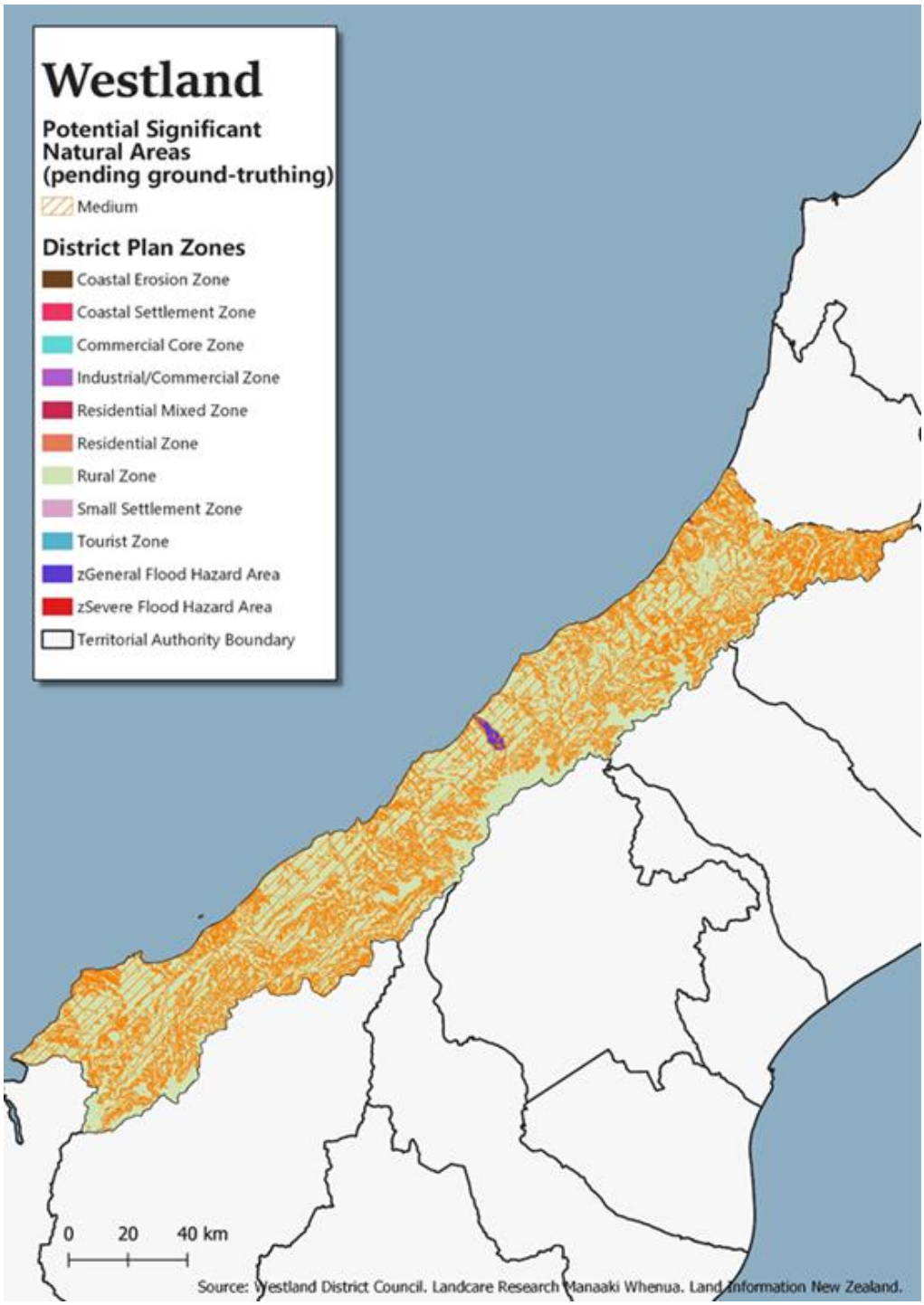
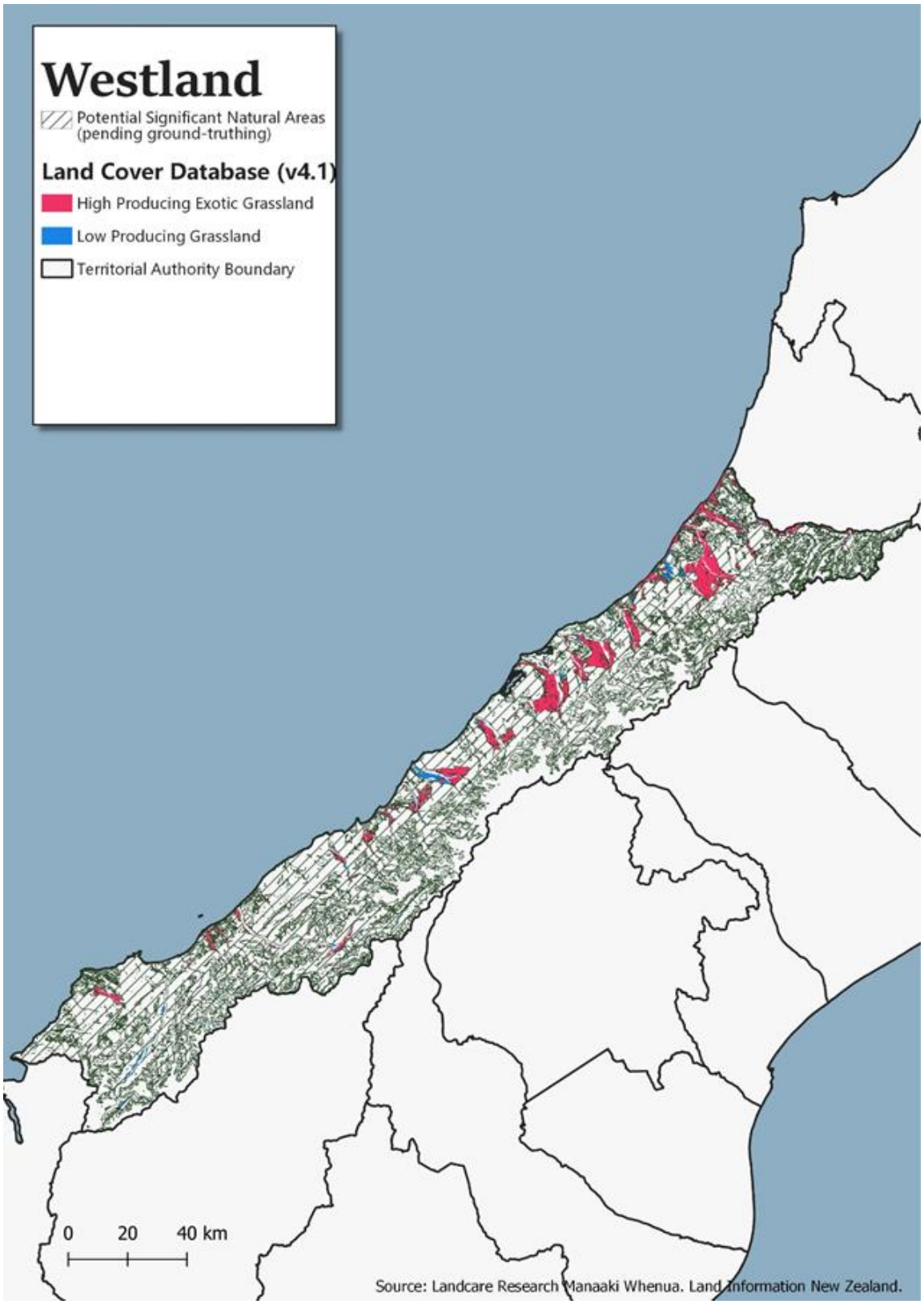


Figure 45 provide some contextual analysis on pastoral farming, given that this is specifically provided for in the NPSIB provisions in terms of land clearance activity. Pastoral farming is a minor component of Westland's land use. The extent of high producing grassland land cover in the LCDB is not extensive is dispersed. However, because the LCDB shows all land covers (including indigenous land cover which is used in this case study as a proxy for indicative SNAs) as mutually exclusive (with no overlap), Figure 45 indicates that no indicative SNAs would be located on improved pasture land. This is not considered to be realistic as both Auckland and Waikato have shown that when ground-truthed, SNAs are found on some improved pasture properties. The same can be expected in Westland District.

Figure 45 – Indicative Significant Natural Areas and Improved Pasture Land Cover – Westland



7 SOUTHLAND DISTRICT SPATIAL ANALYSIS

SNAs, Threatened Environments Classification & Tenure

Figure 46 and Table 54 compare the TEC with the latest data on indigenous land cover for Southland District. It shows that there is an estimated 1,708,330ha of indigenous cover remaining (the largest of all the case study councils), of which indigenous forest makes up 71% and indigenous scrub/shrubland makes up 4% and Grasslands make up the remaining 26% (with flaxlands covering 981ha or less than 1%). In total, indigenous cover makes up a significant 58% of the district's land area.

7.1

Table 54 – Threatened Environment Classification by Indigenous Land Cover – Southland

	Flaxlands	Grasslands	Indigenous Forest	Indigenous Scrub/ Shrubland	Total Indigenous Land Cover	*TEC Share of Indigenous Land Cover*	Other Land Cover	Total Southland District Land Cover
	(ha)	(ha)	(ha)	(ha)	(ha)	(%)	(ha)	(ha)
< 10% indigenous cover left	36	771	7,132	1,595	9,534	*1%*	439,147	448,681
10-20% indigenous cover left	18	1,159	13,687	3,534	18,398	*1%*	128,906	147,304
20-30% indigenous cover left	55	1,335	11,448	2,099	14,937	*1%*	29,042	43,979
> 30 % left and < 10% protected	-	3,478	15,765	3,075	22,318	*1%*	33,665	55,982
> 30 % left and 10-20% protected	0	12,995	19,902	10,262	43,159	*3%*	89,636	132,795
> 30 % left and > 20% protected	864	399,540	1,146,952	46,210	1,593,566	*93%*	488,763	2,082,329
Rest of area/water	7	777	5,296	337	6,418	*0%*	9,887	16,306
Total Southland District Land Environment	981	420,055	1,220,182	67,112	1,708,330	*100%*	1,219,046	2,927,376
Land Cover Share of Total District	0%	14%	42%	2%	58%	na	42%	100%
Land Cover Share of Indigenous Cover	0%	25%	71%	4%	100%	na	na	na

Source: Ministry for the Environment, M.E.

Table 54 shows that 1% of indigenous land cover falls within environments where there is less than 10% coverage remaining. Another 1% falls within environments with between 10% and 20% cover remaining and 1% falls into environments where there is between 20% and 30% of original cover remaining. The majority of indigenous cover (1,593,566ha, or 96%) falls into environments where there is more than 30% cover remaining and there is a high degree of protection. This is largely made up of Fiordland National Park, followed by Stewart Island, the Longwood Forest Conservation Area and the Catlins Conservation Park.

Figure 47 and Table 55 summarise the location and mix of the indicative terrestrial SNAs identified for the purpose of this analysis. As Southland District has yet to carry out SNA mapping, current indigenous land cover (from the LCDB) has been adopted as a proxy for indicative SNA cover. This proxy should be interpreted as the indicative SNAs prior to ground truthing (and so over represents likely SNA coverage, but also excludes potential SNAs that are not located within the LCDB indigenous cover area).

Figure 47 highlights that indicative SNAs (pending ground-truthing) (i.e. total indigenous land) cover over half of the district (58% as shown in Table 54). Because the indicative SNAs are one and the same as indigenous land cover in this analysis, Table 55 shows that they occupy 100% of indigenous land cover. In reality, this is unlikely to be the case if SNAs were comprehensively defined and ground-truthed in accordance with the NPSIB.

Figure 46 - Threatened Environment Classification by Indigenous Land Cover – Southland

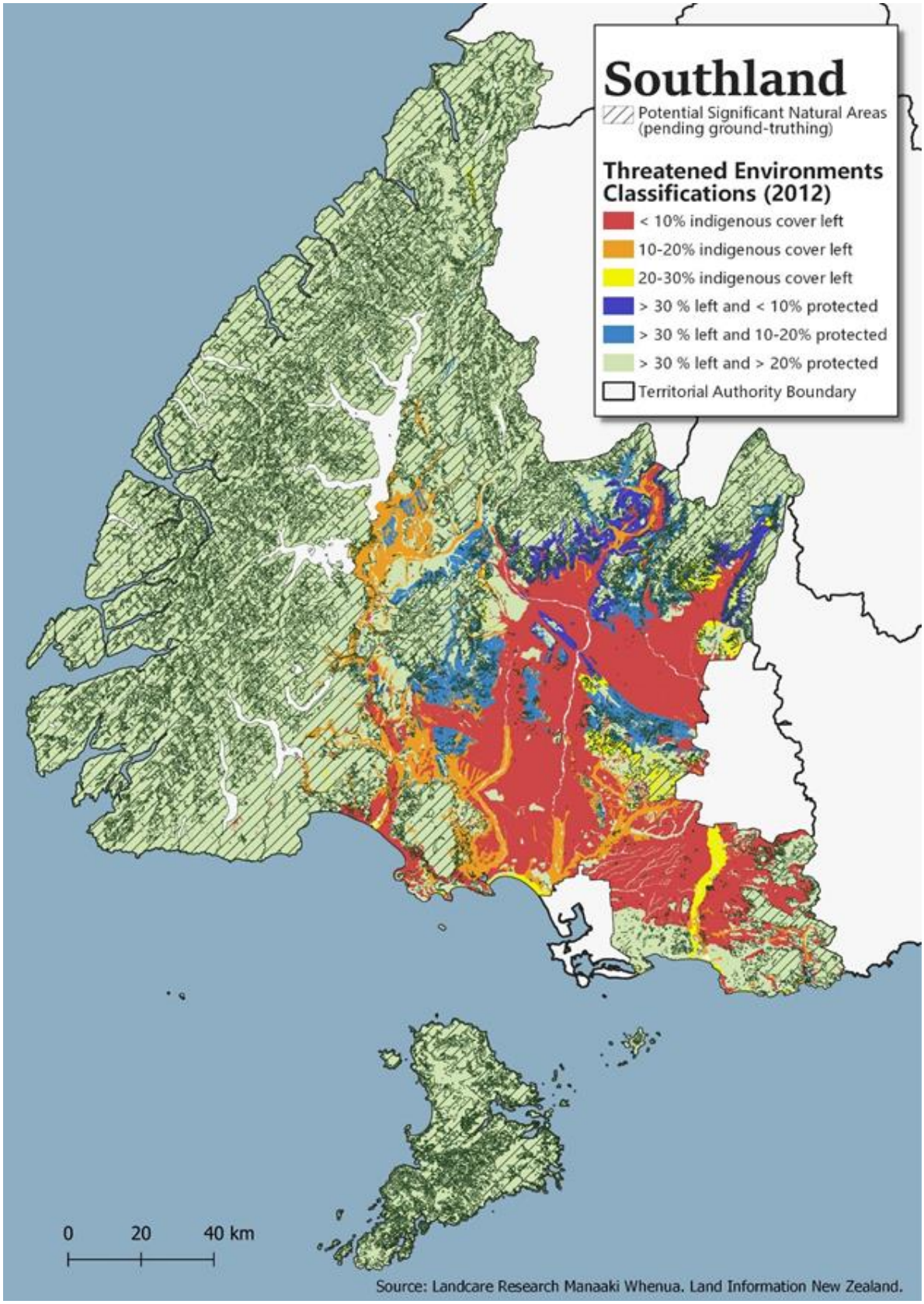


Figure 47 – Indicative Significant Natural Areas (Pending Ground-Truthing) – Southland

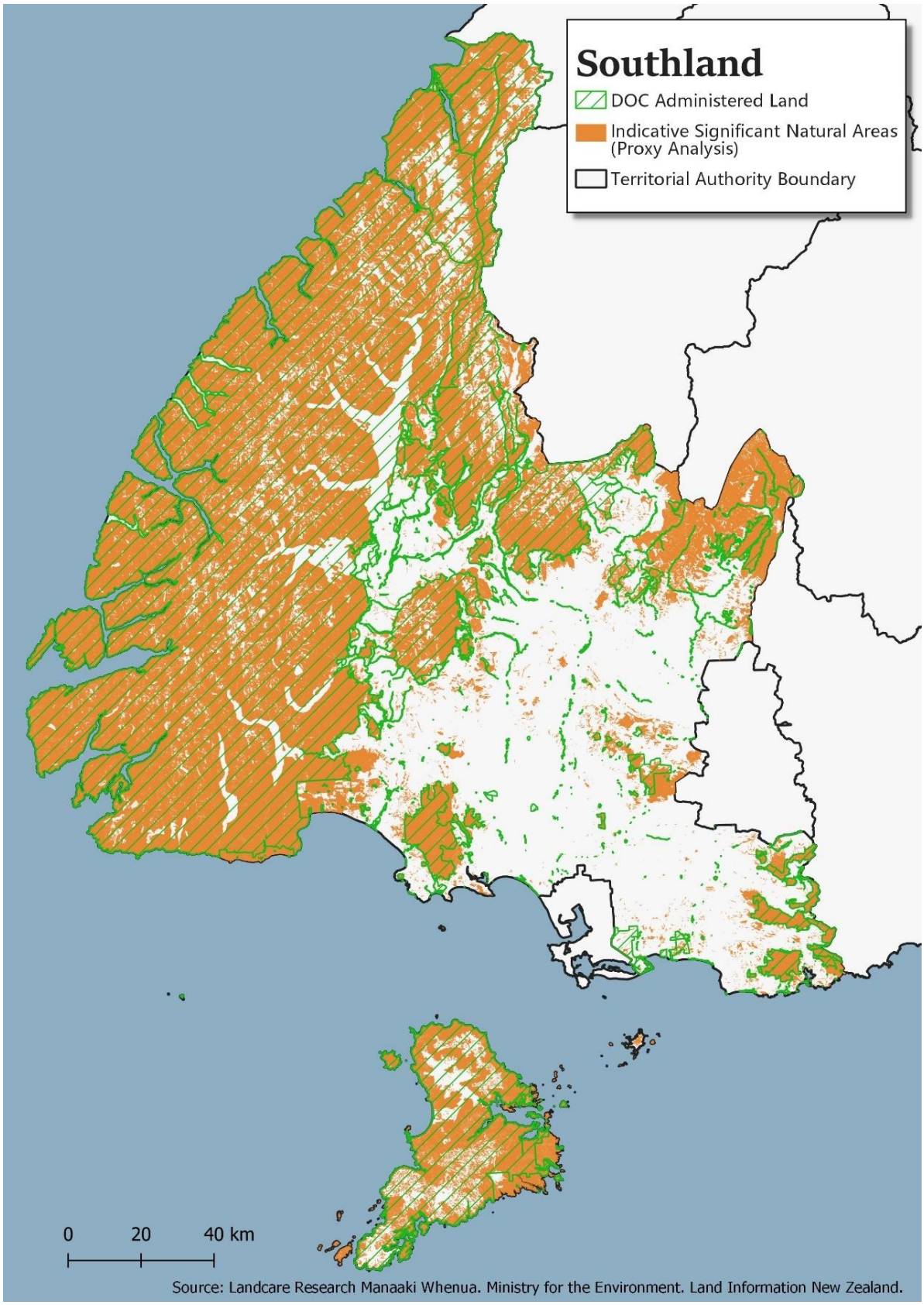


Table 55 also provides a breakdown of Southland District's indicative SNAs (pending ground-truthing) into indicative High and Medium categories by area. Based on the simple approach applied for this analysis, there is an estimated 16,947ha of Indicative High SNAs and these make up just 1% of the total. Indicative Medium SNAs equate to an estimated area of 1,691,382ha (99%) of indigenous land cover. The Indicative Medium SNAs are dominated by indigenous forest cover (72% of their area). By comparison, indigenous forest makes up 45% of Indicative High SNAs and indigenous scrub / shrubland makes up 31%.

Table 55 – Indicative Significant Natural Areas by Land Cover – Southland

	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
Area (ha)			
Flaxlands	43	938	981
Grasslands	4,117	415,938	420,055
Indigenous Forest	7,585	1,212,597	1,220,182
Indigenous Scrub/Shrubland	5,202	61,910	67,112
Total Potential SNA Coverage *	16,947	1,691,382	1,708,330
Potential SNA Share of Indigenous Land Cover (%)			
Flaxlands	4%	96%	100%
Grasslands	1%	99%	100%
Indigenous Forest	1%	99%	100%
Indigenous Scrub/Shrubland	8%	92%	100%
Total Potential SNA Coverage *	1%	99%	100%
Land Cover Share of SNA (%)			
Flaxlands	0%	0%	0%
Grasslands	24%	25%	25%
Indigenous Forest	45%	72%	71%
Indigenous Scrub/Shrubland	31%	4%	4%
Total Potential SNA Coverage *	100%	100%	100%

*Source: MfE, LCDB, M.E. * Pending ground-truthing.*

Figure 48 and Table 56 provide a summary of the tenure of Southland District indicative SNAs (proxy analysis). Overall, there is 140,152ha of Crown owned land in the district, considerably more than any other case study. A total of 69% of Crown land falls within indicative SNAs, and it makes up an estimated 6% of total Indicative SNA land area. In most case studies examined, Crown owned land made up less than 1%.

There is a very significant amount of DOC land in Southland (1,829,126ha), which is approximately 800,000ha more than in Westland District. A significant 81% of this is captured by the indicative SNAs, and 19% is not. DOC land makes up 87% of total indicative SNA hectares (mostly in the Indicative Medium SNAs). A significant 83% share of land administered under the Māori Land Court in Southland falls within indicative SNAs. Māori Land is discussed further below with respect to NPSIB provisions relating to managing adverse effects on SNAs. Māori Land accounts for 2% of the indicative SNA coverage. Conversely, only 8% of Treaty Settlement Land is captured in indicative SNAs and this accounts for less than 1% of indicative SNA area.

Only 6% of indicative SNA land is in general ownership (a very small share relative to DOC ownership). Of the total area of general tenure land, indicative SNAs cover just 10%. This highlights that general land owners will be less impacted as a group by the protection of SNAs (all else being equal) compared to Māori Land owners, although they are three times more significant in terms of hectares affected (94,229ha of general land within indicative SNAs compared to 32,555ha of Māori land). This is examined future below.

Figure 48 – Indicative Significant Natural Areas and Land Tenure – Southland

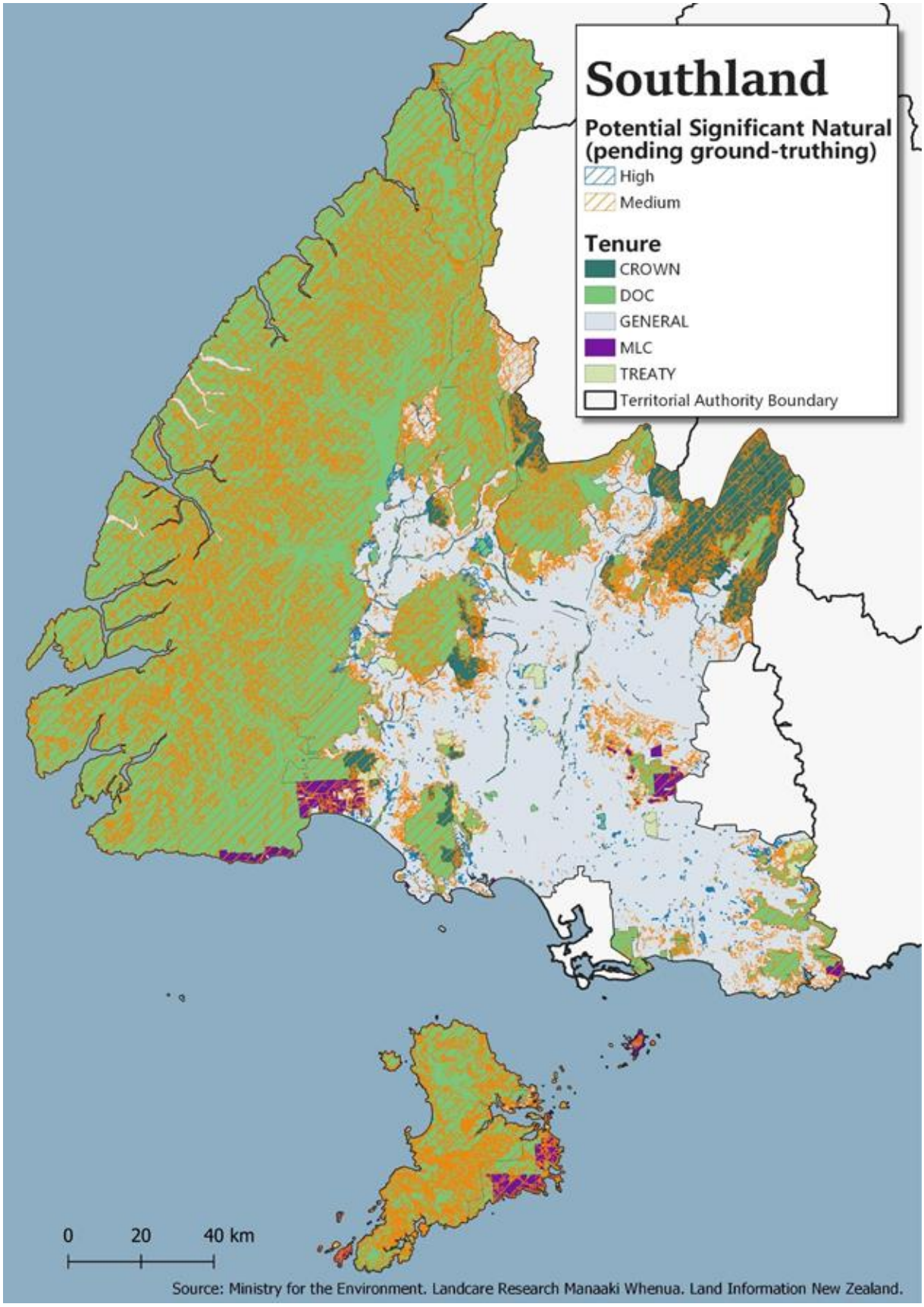


Table 56 – Indicative Significant Natural Areas and Land Tenure – Southland

Tenure	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area outside Potential SNAs *	Total Land Area
Area (ha)					
Crown	433	95,653	96,086	44,067	140,152
DOC	6,167	1,476,913	1,483,080	346,046	1,829,126
General	10,035	84,194	94,229	886,980	981,210
Maori Land Court	170	32,385	32,555	6,648	39,203
Treaty Settlement	142	2,238	2,380	27,769	30,149
Not Specified	*0*	*0*	*0*	-	*0*
Total Land Area	16,947	1,691,382	1,708,330	1,311,510	3,019,840
Share of Land by Tenure (%)					
Crown	3%	6%	6%	3%	5%
DOC	36%	87%	87%	26%	61%
General	59%	5%	6%	68%	32%
Maori Land Court	1%	2%	2%	1%	1%
Treaty Settlement	1%	0%	0%	2%	1%
Not Specified	*0%*	*0%*	*0%*	*0%*	*0%*
Total Land Area	100%	100%	100%	100%	100%
Share of Tenure by SNA/Non-SNA (%) *					
Crown	0%	68%	69%	31%	100%
DOC	0%	81%	81%	19%	100%
General	1%	9%	10%	90%	100%
Maori Land Court	0%	83%	83%	17%	100%
Treaty Settlement	0%	7%	8%	92%	100%
Not Specified	*0%*	*100%*	*100%*	*0%*	*100%*
Total Land Area	1%	56%	57%	43%	100%

*Source: MfE, LCDB, M.E. * Pending Ground-Truthing*

7.2

SNAs & Provisions Managing Adverse Effects – Specific Activities

The NPSIB provisions include some exemptions to the provisions to avoid certain adverse effects on SNAs, including exemptions for activities that have a functional or operational need to locate in certain locations. This includes nationally significant infrastructure, mineral and aggregate extraction for domestic supply, the provision of papakainga, marae and ancillary community facilities on Māori land and provision of dwellings (building sites) on lots created prior to the NPSIB coming into force. In these circumstances, effects on Medium SNAs are to be managed through the effects management hierarchy.

Table 57 –Indicative SNAs Within Mining Resource/Extraction Areas – Southland

Selected Policy Area	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA *	Area Outside Potential SNAs *	Total Mining Area
Area (ha)					
LINZ mines	3	9	12	252	264
Share of Policy Area (%)					
LINZ mines	1%	3%	4%	96%	100%
Share of SNA Area (%) *					
LINZ mines	0.017%	0.001%	0.001%		
Sub-Total Selected Policy Areas *	0.017%	0.001%	0.001%		

*Source: LINZ, M.E. * Pending Ground-Truthing.*

For Southland District, we considered the LINZ national mining resources spatial data (open cast), as we are not aware of any specific mining or extraction policy areas in Southland. The LINZ mining data shows several mining areas in Southland District. Table 57 shows that these mining areas total 264ha, of which 12ha fall within indicative SNA areas (4%). These mining locations account for an immaterial share of total indicative SNA land.

We are not aware of any *proposed* nationally significant infrastructure in Southland District. While the National Grid corridor is existing, this is shown in Figure 49 as additional context to the NPSIB provisions relating specifically to nationally significant infrastructure. The Manapouri Power Station is located at the terminus of the western branch of the national grid. As an existing activity the national grid will have ongoing maintenance and upgrade requirements and this activity coincides extensively with indicative SNAs, particularly in the western corridor. The same applies to the existing Milford Highway (state highway 94).

While the potential to subdivide land parcels can be quantified (although has not been investigated for this indicative CBA), it is not possible to predict the likelihood that landowners *will* subdivide. It is therefore difficult to provide more certainty on the impact that the NPSIB might have on subdivision activity (including the exact nature of provisions that might be developed by Council in this regard).

Figure 50 is included to provide some context on how active subdivision activity is in Southland District. It shows that a low-moderate amount of subdivision has occurred recently, with the most current titles issued spread throughout the district rather than in a concentrated area.

To the extent that subdivision is occurring on general land, Figure 50 shows some of the locales where subdivision activity is occurring could (once formally identified) coincide with both Indicative High and Medium SNAs. As subdivision is usually a pre-cursor to development, opportunity costs for land owners is likely to be a more relevant (although not necessarily significant) issue under the NPSIB in some parts of Southland than in others.

Table 58 considers the issue of potential opportunity costs for general landowners in Southland District. The analysis combines indicative SNA coverage (proxy analysis) of each property, by property size bracket. The rationale being that the higher the property coverage of SNA, particularly on smaller sized properties, the higher the likelihood that activities (including providing a building site) might be constrained by provisions that protect the SNA. We note that this analysis does not identify if general land parcels already have a dwelling or whether they are currently vacant. Further, we have not considered the subdivision potential of each site based on its zone location.

The results show that 89% (35,096) of general owned properties have no indicative SNA coverage. This means that the vast majority of landowners will not face any opportunity costs specifically related to protecting SNAs (but may still be impacted by indigenous biodiversity protection outside of SNAs once defined). A 7% share of general owned properties include an area of Indicative Medium SNA (2,706). An estimated 1% (551) have 80% or greater Indicative Medium SNA property coverage. Many of these are large sized properties (greater than 10ha), so for the purpose of locating a dwelling, for example, there would still be a potentially large area of land free of indicative SNAs. However, an estimated 281 properties are less than 1ha in size and have 90% or greater indicative SNA coverage. If already containing a dwelling, these will generally appear as bush blocks with a house site and driveway added. If any of these

existing lots do not already have dwellings, effects on indigenous biodiversity could be managed under provisions that manage adverse effects on SNAs but at a cost to the landowner. Further creation of these lots in Southland District might be deterred under the NPSIB.

Figure 49 – Indicative SNAs Within Mining Resource/Extraction Areas – Southland

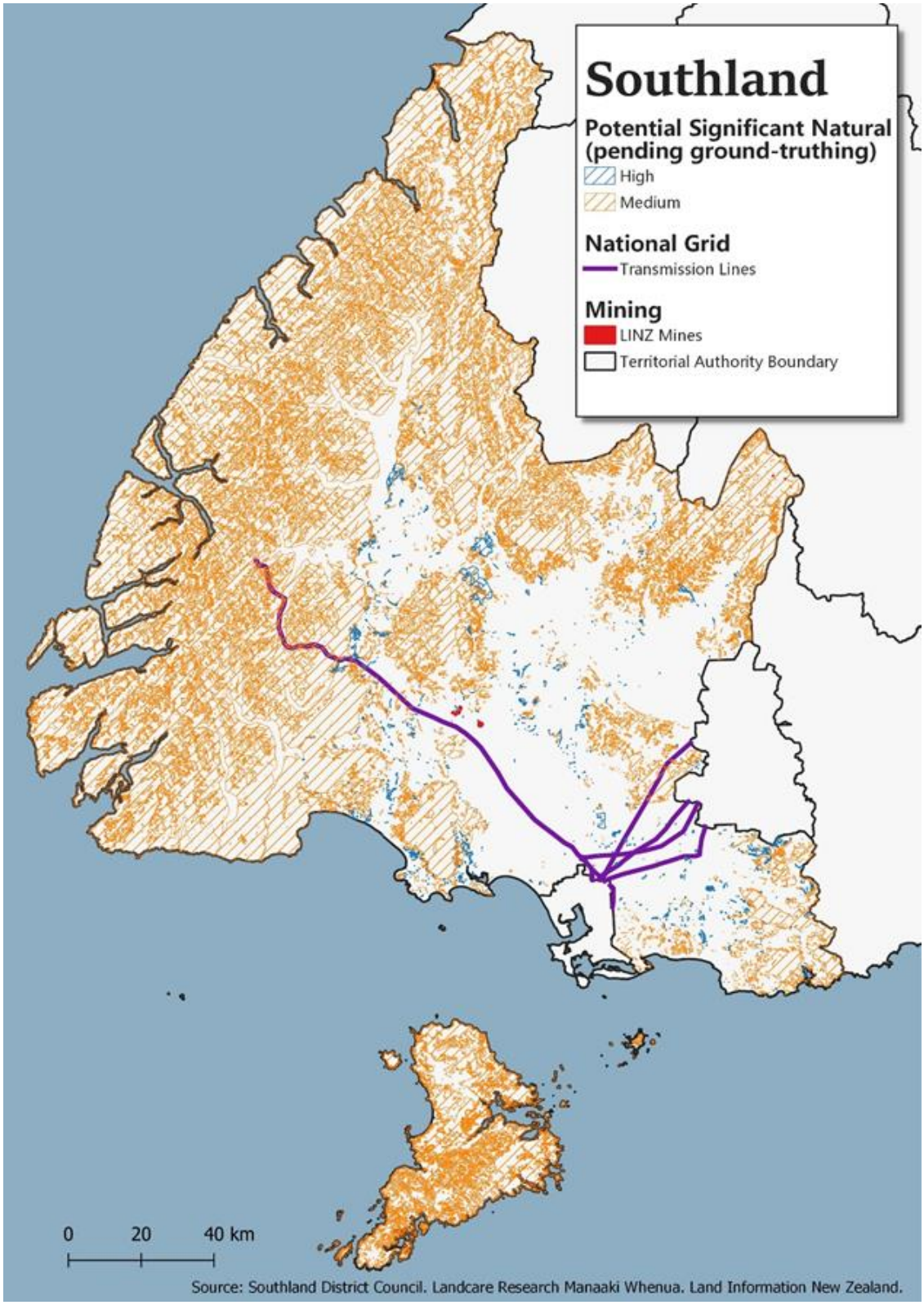


Figure 50 – Location and Temporal Trends for Land Subdivision – Southland

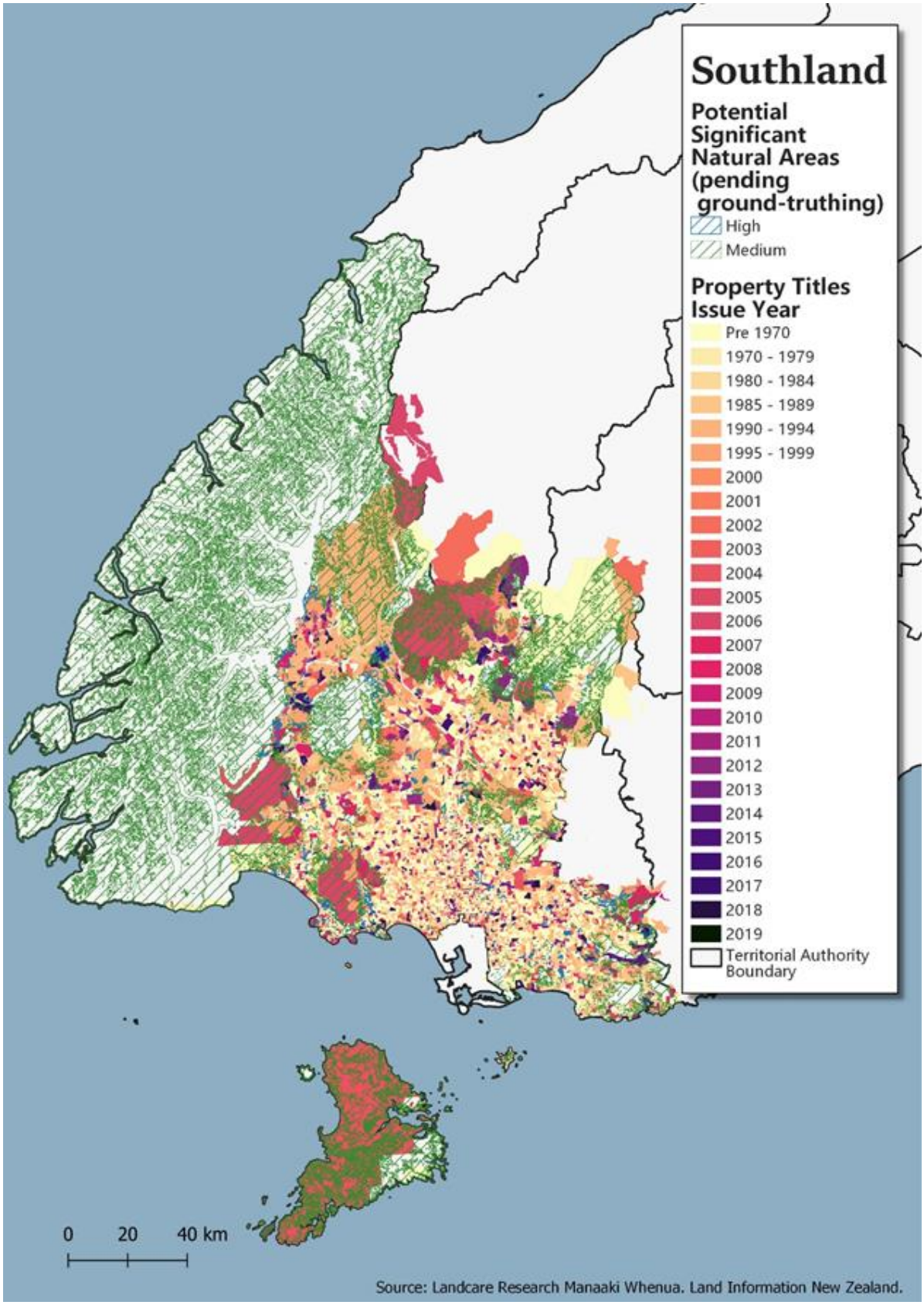


Table 58 also shows that 4% (1,695) of general owned properties include an area of Indicative High SNA (this is half the 8% share in Waikato District). Note, where those properties also included an area of Indicative Medium SNA, the assessment combines the coverage. A very small 0.2% of total general properties (86) have 80% or greater property coverage of indicative High SNA. Thirty properties with 90% or greater indicative SNA coverage are less than 1ha in size. It is not known how many of these lots have yet to be developed but if there is no room for a house site without vegetation clearance, then development would be precluded under NPSIB provisions that relate to avoiding certain effects on SNAS. This would be a significant opportunity cost for those property owners, but again the exact number of landowners potentially affected is not known (and would require additional site-specific analysis).

Table 58 – Count of General Land Parcels by Size and Indicative SNA Coverage – Southland

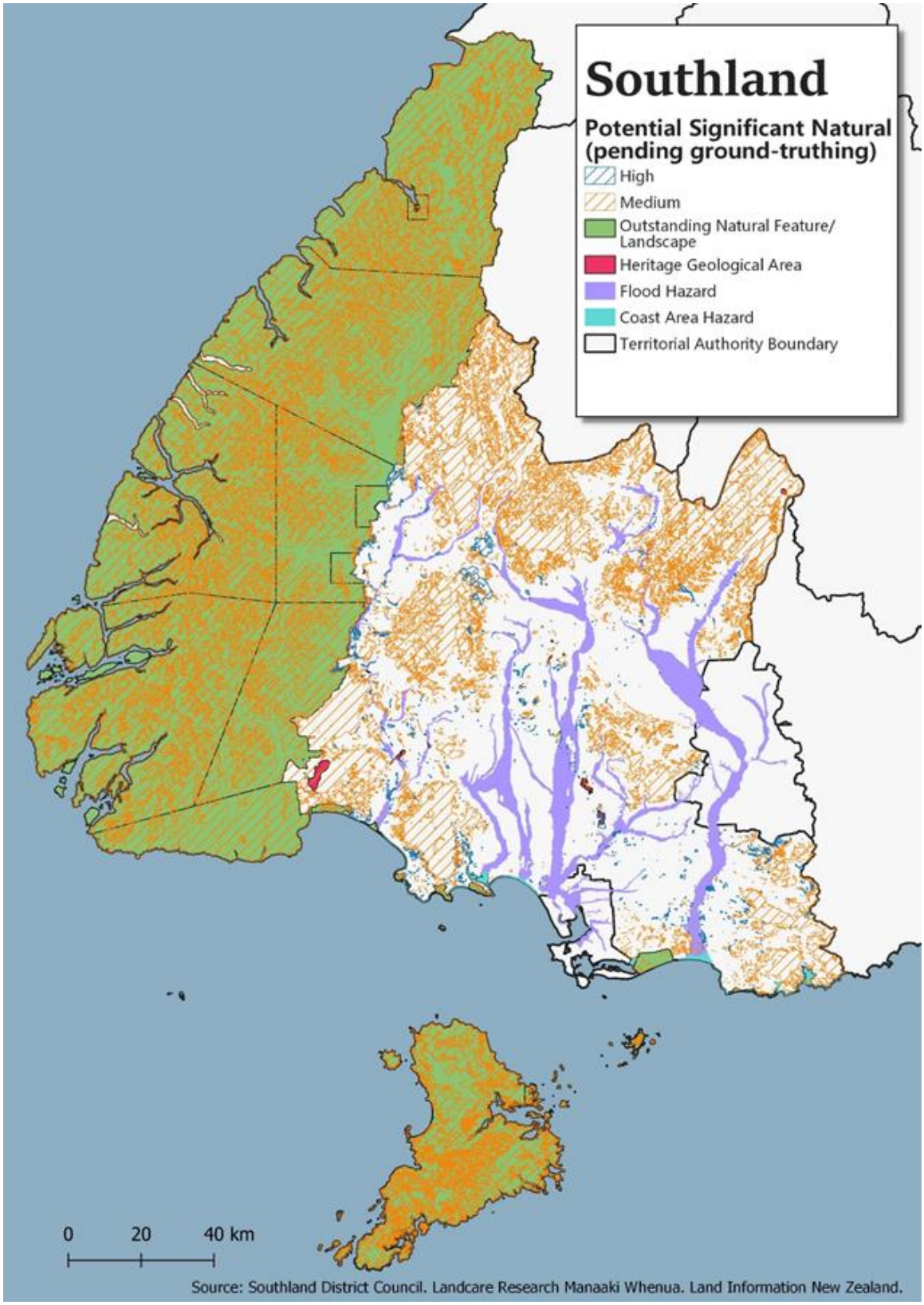
Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	19,796	-	-	-	-	-	-	-	19,796	56%
1ha-2ha	1,849	-	-	-	-	-	-	-	1,849	5%
2ha-5ha	3,316	-	-	-	-	-	-	-	3,316	9%
5ha-10ha	1,683	-	-	-	-	-	-	-	1,683	5%
10ha-20ha	1,695	-	-	-	-	-	-	-	1,695	5%
20ha-50ha	3,856	-	-	-	-	-	-	-	3,856	11%
50ha-100ha	1,966	-	-	-	-	-	-	-	1,966	6%
100ha-150ha	623	-	-	-	-	-	-	-	623	2%
150ha-250ha	233	-	-	-	-	-	-	-	233	1%
250ha-500ha	73	-	-	-	-	-	-	-	73	0%
500ha-1,000ha	6	-	-	-	-	-	-	-	6	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	35,096	-	-	-	-	-	-	-	35,096	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	20	72	31	40	27	31	26	281	528	20%
1ha-2ha	8	19	8	6	9	11	6	29	96	4%
2ha-5ha	19	51	21	10	10	9	7	61	188	7%
5ha-10ha	10	51	12	23	9	8	7	21	141	5%
10ha-20ha	24	83	21	15	12	9	8	21	193	7%
20ha-50ha	67	232	53	29	14	11	6	26	438	16%
50ha-100ha	69	289	62	26	16	11	4	14	491	18%
100ha-150ha	38	135	41	12	11	15	3	18	273	10%
150ha-250ha	29	70	21	11	6	7	2	4	150	6%
250ha-500ha	20	55	12	6	4	2	-	3	102	4%
500ha-1,000ha	7	36	7	2	5	3	-	2	62	2%
>1,000ha	3	19	8	8	4	-	-	2	44	2%
Total Properties	314	1,112	297	188	127	117	69	482	2,706	100%
Share of Properties	*12%*	*41%*	*11%*	*7%*	*5%*	*4%*	*3%*	*18%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	6	60	27	27	18	19	10	30	197	12%
1ha-2ha	10	28	10	5	5	5	2	2	67	4%
2ha-5ha	9	50	13	6	7	8	3	5	101	6%
5ha-10ha	17	51	14	6	6	3	2	4	103	6%
10ha-20ha	29	87	20	10	1	4	1	5	157	9%
20ha-50ha	74	227	38	14	8	8	1	6	376	22%
50ha-100ha	63	164	25	10	2	1	3	4	272	16%
100ha-150ha	44	84	15	2	4	2	-	-	151	9%
150ha-250ha	29	78	13	4	-	-	-	1	125	7%
250ha-500ha	10	38	7	4	4	3	2	1	69	4%
500ha-1,000ha	5	31	3	4	1	1	-	3	48	3%
>1,000ha	3	11	11	2	-	1	1	-	29	2%
Total Properties	299	909	196	94	56	55	25	61	1,695	100%
Share of Properties	*18%*	*54%*	*12%*	*6%*	*3%*	*3%*	*1%*	*4%*	*100%*	

Source: Southland District Council, MfE, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

Future creation of lots with very high indigenous biodiversity coverage in Indicative High SNAs would be highly unlikely under the NPSIB. This would be a positive outcome for protecting indigenous biodiversity and would redirect development of general land to other locations (but potentially still including Medium SNAs).

Figure 51 – Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Southland



Another relevant piece of contextual information as to whether the NPSIB would create opportunity costs on landowners and infrastructure providers (for example) is the degree to which there are already constraints on new use, subdivision and development. These status quo constraints (in the District Plan) are important to recognise as the NPSIB may only have a marginal impact.

Figure 51 illustrates several potentially relevant policy or overlay areas in the Southland District Plan that are expected to constrain (to some degree) what can and cannot be done on properties that fall within these areas as well as indicative SNAs. The results are summarised in Table 59.

Of the layers selected, no indicative SNA hectares fall within a building restriction area. 105ha or 3% of the coastal hazard area falls within indicative SNAs. 56ha of designated areas fall in the indicative SNAs, but this makes up less than 1% of the total designation area. The majority of designation land that falls within indicative High SNAs is at the airport (27ha). Of the flood hazard areas, 1% or 1,552ha falls within indicative SNAs. A large share of heritage geological areas falls within indicative SNAs (71%) but these 2,397ha account for a very minimal share of total SNAs.

Table 59 – Indicative SNAs & Selected Overlays that Constrain Development & Subdivision – Southland

Selected Policy Area	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Policy Area
Area (ha)					
Build Restrict	-	-	-	22	22
Coast Hazard Area	23	82	105	3,034	3,139
Designation	31	25	56	21,237	21,293
Hazard Flood	807	745	1,552	152,612	154,164
Heritage Geological Area	237	2,160	2,397	997	3,394
Nohoanga	0.2	0.2	0.4	1.3	1.7
Outstanding Natural Feature/Landscape	444	1,230,077	1,230,521	293,541	1,524,062
Visual Amentiy Area	1,480	8,667	10,147	25,432	35,579
QEII covenant	1,731	4,919	6,650	2,848	9,498
Statutory Acknowledgement	4	364	368	5,796	6,163
Share of Policy Area (%)					
Build Restrict	0%	0%	0%	100%	100%
Coast Hazard Area	1%	3%	3%	97%	100%
Designation	0%	0%	0%	100%	100%
Hazard Flood	1%	0%	1%	99%	100%
Heritage Geological Area	7%	64%	71%	29%	100%
Nohoanga	12%	13%	25%	75%	100%
Outstanding Natural Feature/Landscape	0%	81%	81%	19%	100%
Visual Amentiy Area	4%	24%	29%	71%	100%
QEII covenant	18%	52%	70%	30%	100%
Statutory Acknowledgement	0%	6%	6%	94%	100%
Share of Potential SNA Area (%)					
Build Restrict	0.0%	0.0%	0.0%		
Coast Hazard Area	0.1%	0.0%	0.0%		
Designation	0.2%	0.0%	0.0%		
Hazard Flood	4.8%	0.0%	0.1%		
Heritage Geological Area	1.4%	0.1%	0.1%		
Nohoanga	0.0%	0.0%	0.0%		
Outstanding Natural Feature/Landscape	2.6%	72.7%	72.0%		
Visual Amentiy Area	8.7%	0.5%	0.6%		
QEII covenant	10.2%	0.3%	0.4%		
Statutory Acknowledgement	0.0%	0.0%	0.0%		

*Source: Southland District Council, LCDB, M.E. * Pending Ground-Truthing*

The Ngai Tahu Statutory Acknowledgement area (covering 6,163ha) and the small Nohoanga site of significance to Māori (1.7ha) have some overlap with indicative SNAs (6% and 25% respectively). A 29% of the visual amenity area is within indicative SNAs (but account for just 0.6% of SNA hectares). As expected, a high share of the QEII covenant area is captured by indicative SNAs (estimated at 70% in this analysis). Last, as shown in other case study areas, the

majority of Outstanding Natural Features/Landscapes (81%) falls within the indicative SNAs. These do however correlate strongly with DOC land, so will not be influencing general land to a significant degree.

Table 60 considers the potential opportunity costs on Māori land parcels (using the same approach as general land described above). There are 485 (estimated) Māori land properties in Southland District. Of those, 21% (102) have no indicative SNA coverage. A further 73% (354) have some Indicative Medium SNA coverage and 55% of the total (269) have 80% or more Indicative Medium SNA coverage. These are however mostly large (greater than 10ha) or moderately large (2-10ha) properties so the share of land not covered by Indicative Medium SNA may therefore be appropriate to accommodate some form of development anticipated under provisions that relate to managing adverse effects on SNAs.

Table 60 – Count of Māori Land Parcels by Size and Indicative SNA Coverage – Southland

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total Maori Land Properties	Share of Properties (%)
No SNA Coverage Distribution										
<1ha	69	-	-	-	-	-	-	-	69	68%
1ha-2ha	5	-	-	-	-	-	-	-	5	5%
2ha-5ha	15	-	-	-	-	-	-	-	15	15%
5ha-10ha	4	-	-	-	-	-	-	-	4	4%
10ha-20ha	4	-	-	-	-	-	-	-	4	4%
20ha-50ha	2	-	-	-	-	-	-	-	2	2%
50ha-100ha	1	-	-	-	-	-	-	-	1	1%
100ha-150ha	-	-	-	-	-	-	-	-	-	0%
150ha-250ha	1	-	-	-	-	-	-	-	1	1%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	1	-	-	-	-	-	-	-	1	1%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	102	-	-	-	-	-	-	-	102	100%
Share of Properties	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*	
Medium SNA Coverage Distribution										
<1ha	-	-	-	1	1	-	-	6	8	2%
1ha-2ha	-	-	-	-	-	-	1	3	4	1%
2ha-5ha	-	2	3	-	1	5	11	29	51	14%
5ha-10ha	-	-	-	2	2	-	2	11	17	5%
10ha-20ha	-	4	2	3	4	3	2	13	31	9%
20ha-50ha	-	4	-	-	1	3	-	26	34	10%
50ha-100ha	-	1	2	3	1	1	-	37	45	13%
100ha-150ha	-	5	7	2	6	10	7	100	137	39%
150ha-250ha	1	2	-	-	1	1	-	18	23	6%
250ha-500ha	-	-	-	-	-	-	-	1	1	0%
500ha-1,000ha	-	-	-	-	-	-	-	1	1	0%
>1,000ha	-	-	-	-	-	1	-	1	2	1%
Total Properties	1	18	14	11	17	24	23	246	354	100%
Share of Properties	*0%*	*5%*	*4%*	*3%*	*5%*	*7%*	*6%*	*69%*	*100%*	
High SNA Coverage Distribution (Includes coverage where there is both High and Medium SNA areas on the property - i.e. coverage grouped all as High)										
<1ha	-	1	-	-	-	-	2	-	3	10%
1ha-2ha	-	-	-	-	1	-	-	-	1	3%
2ha-5ha	-	-	-	-	-	-	-	-	-	0%
5ha-10ha	-	-	-	-	-	-	-	-	-	0%
10ha-20ha	-	-	-	-	-	-	-	-	-	0%
20ha-50ha	-	-	-	-	1	-	-	1	2	7%
50ha-100ha	-	1	-	-	-	-	1	4	6	21%
100ha-150ha	-	3	1	-	1	1	1	7	14	48%
150ha-250ha	-	-	-	1	-	-	-	2	3	10%
250ha-500ha	-	-	-	-	-	-	-	-	-	0%
500ha-1,000ha	-	-	-	-	-	-	-	-	-	0%
>1,000ha	-	-	-	-	-	-	-	-	-	0%
Total Properties	-	5	1	1	3	1	4	14	29	100%
Share of Properties	*0%*	*17%*	*3%*	*3%*	*10%*	*3%*	*14%*	*48%*	*100%*	

Source: Southland District Council, MfE, M.E. Properties tagged to Maori Land based on the centroid of the property parcel relative to the tenure land areas.

**Pending ground-truthing*

The remaining 6% (29) of Māori land parcels contain an area of Indicative High (or High and Medium) SNA. An estimated 4% of total Māori land properties (18) have 80% or more Indicative High SNA coverage. All but 2 of these are large properties (greater than 10ha) so, again, whatever share is not covered by Indicative High (or High and Medium) SNA, is likely to still be large (in hectare terms) and therefore able to accommodate some form of development if appropriately located. We note that 9 properties are totally covered by indicative SNA, but as these properties have a mix of High and Medium Indicative SNA coverage, they could potentially still be developed to some level under the NPSIB provisions that relate to managing adverse effects on SNAs (where adverse effects can be demonstrated to be managed). Therefore, no single property is considered to be rendered unavailable for some form of development based on the information available (i.e. no site-specific assessment).

The rationale for including specific provisions in the NPSIB that recognise the importance of development opportunities on Māori land is especially evident in Southland District - not because there is a significant number of Māori Land properties (although there is more than some case studies), but because the coverage of indicative SNAs is particularly high in percentage terms.

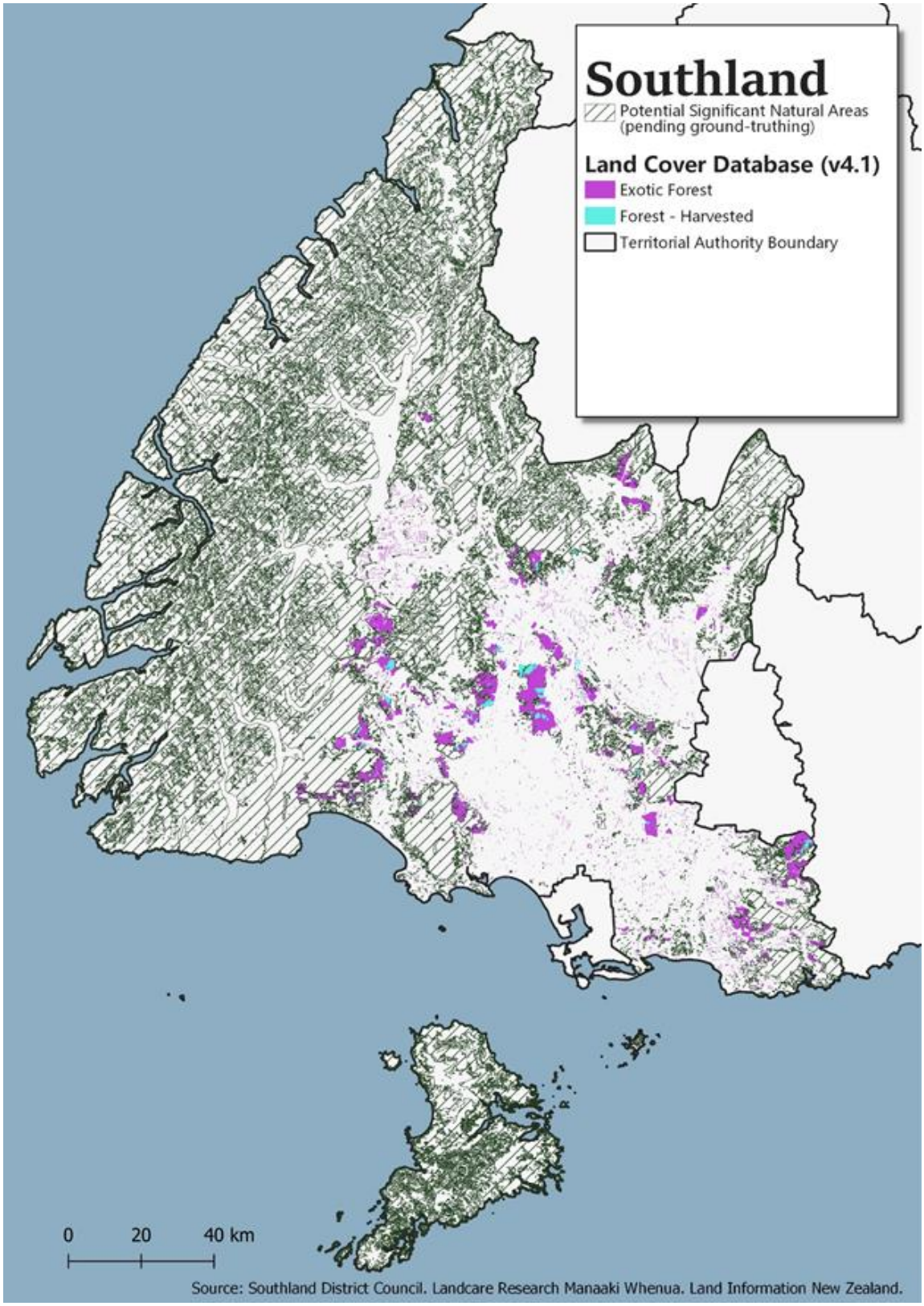
Figure 52 provides some context on the exemption in the NPSIB provisions relating to plantation forestry. Using the two LCDB layers as a guide, Figure 52 shows that there are several large areas of exotic forestry in Southland District and they are generally centralised or to the far east. In total there is about 86,545ha (estimated) of exotic forestry land cover in Southland District (Table 61). 76% of exotic forestry areas (cohesive polygons) are less than 5ha in size so are not the big 'commercial' forestry blocks, although 70 discrete areas are greater than 250ha and 8 areas are greater than 1,000ha. It is not possible to identify which forestry areas contain an overlap with indicative SNAs as both layers are sourced from the LCDB and that dataset treats all layers as mutually exclusive (i.e. they don't overlap). This limitation is revealed in Table 61 which shows no overlap with indicative SNAs.

Table 61 – Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Southland

Land Cover	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Area Outside Potential SNAs *	Total Exotic Forestry Area
Area (ha)					
Exotic Forest	-	-	-	78,473	78,473
Forest - Harvested	-	-	-	8,072	8,072
Sub-Total Plantation Forest	-	-	-	*86,545*	*86,545*
Other Land Cover	16,947	1,691,382	1,708,330		
Total Potential SNA Area *	16,947	1,691,382	1,708,330		
Share of Land Cover Area (%)					
Exotic Forest	0%	0%	0%	100%	100%
Forest - Harvested	0%	0%	0%	100%	100%
Sub-Total Plantation Forest	*0%*	*0%*	*0%*	*100%*	*100%*
Share of Potential SNA Area (%)					
Exotic Forest	0%	0%	0%		
Forest - Harvested	0%	0%	0%		
Sub-Total Plantation Forest	*0%*	*0%*	*0%*		
Other Land Cover	100%	100%	100%		
Total Potential SNA Area *	100%	100%	100%		

*Source: LCDB, M.E. * Pending Ground-Truthing*

Figure 52 - Indicative Significant Natural Areas Relative to Exotic Forestry Land Cover – Southland



SNAs & Provisions Relating to Existing Activities

Provisions in the NPSIB provide broad recognition of existing activities. While it is not possible to determine existing activities on each and every property, and the degree to which this may or may not impact or interact with indigenous biodiversity (now and in the future), we have considered two datasets that provide some context for this issue.

Figure 53 – Indicative Significant Natural Areas by Operative District Plan Zone – Southland

7.3

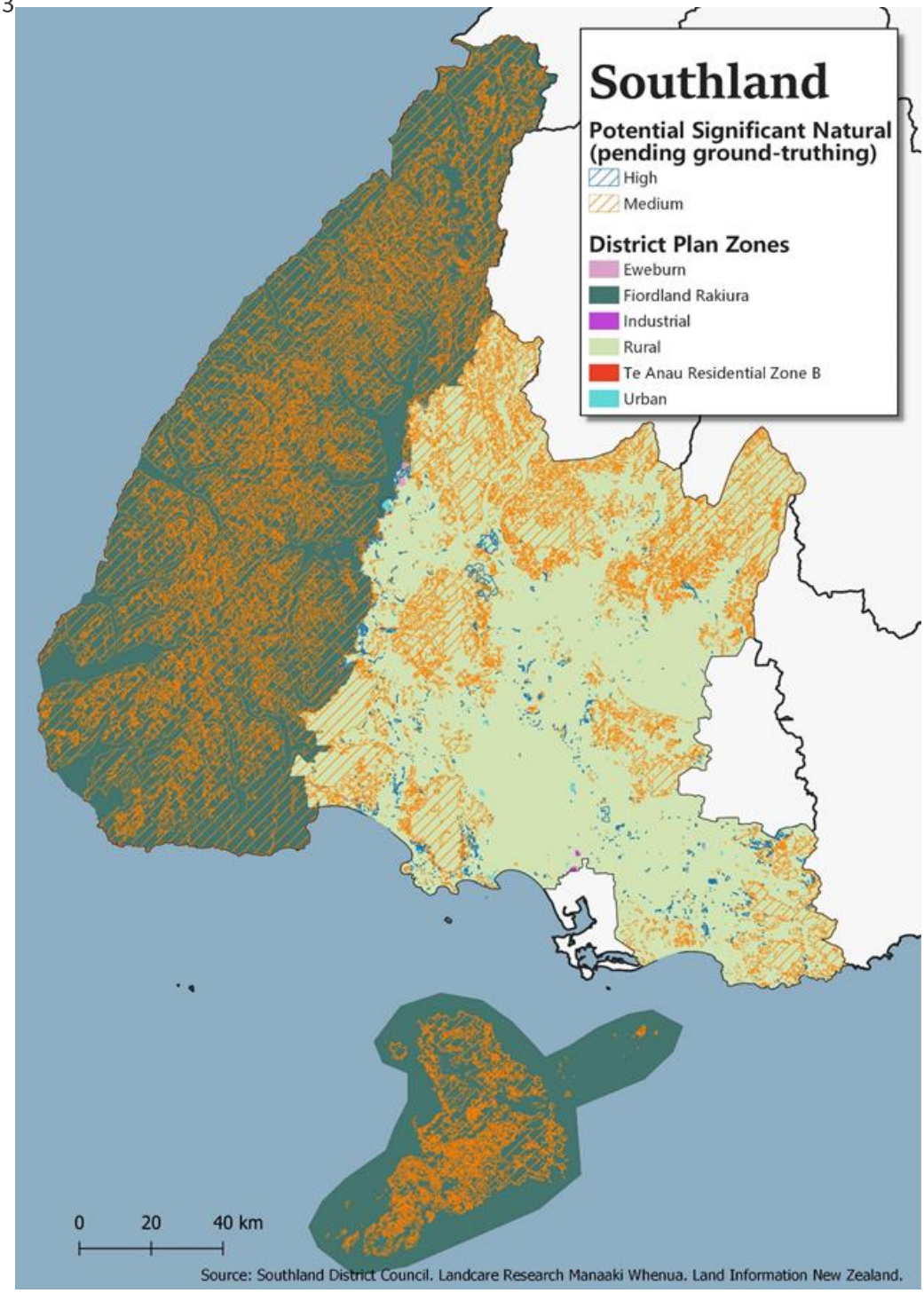


Figure 53 and Table 61 summarise the incidence of indicative SNAs with operative district plan zones in Southland. In total, 77% of indicative SNAs by area fall within the Fiordland Rakiura Zone. A further 23% falls within the Rural Zone.

For both of these zones, Indicative High SNAs make up only a very small share. There is 48ha of indicative SNA in the Urban Zone area, which include 10ha of indicative High SNA land located in urban areas of Tuatapere and Manapouri. In the indicative Medium SNA land, the urban zone of Oban (Stewart Island) covers a significant portion of this area.

Table 62 – Indicative Significant Natural Areas by Operative District Plan Zone – Southland

Operative District Plan Zone	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*	Indicative High Potential SNA (based on TEC)*	Indicative Medium Potential SNA (based on TEC)*	Total Potential SNA*
	(ha)			(% Share of Total)		
Eweburn	6	46	52	0%	0%	0%
Fiordland Rakiura	395	1,315,401	1,315,796	0%	77%	77%
Rural	16,537	375,860	392,397	1%	22%	23%
Urban	10	38	48	0%	0%	0%
Other areas n.e.c	-	37	37	0%	0%	0%
Total SNA Area (2019) *	16,947	1,691,382	1,708,330	1%	99%	100%

*Source: Southland District Council, LCDB, M.E. * Pending Ground-Truthing.*

It is possible to examine land use codes for properties in Southland District. Table 63 shows the count of properties in general land ownership by land use category. This gives a more detailed indication of the sorts of activities that may be taking place on private land. As previously discussed, 89% of general properties have no indicative SNA coverage. A total of 4,401 (11%) contain an area of indicative SNA (pending ground-truthing). Notable land uses with a relatively high share of indicative SNA land cover include:

- 71% of Commercial Tourism properties
- 50% of Exotic Forestry properties
- 17% of Mining Coal and Limestone Quarry properties each
- 28% of Other Passive Reserves properties
- 19% of Pastoral Fattening properties
- 55% of Pastoral Grazing properties
- 16% of Specialist Deer properties

Figure 54 and Table 64 provide some contextual analysis on pastoral farming, given that this is specifically provided for in NPSIB provisions in terms of land clearance activity. Pastoral farming is a significant component of Southland's land use and economy. The extent of high producing grassland land cover in the LCDB is extensive across the district (outside of the national parks). However, because the LCDB shows all land covers (including indigenous land cover which is used in this case study as a proxy for indicative SNAs) as mutually exclusive (with no overlap), Figure 54 indicates that no indicative SNAs would be located on improved pasture land. This is not realistic as both Auckland and Waikato have shown that when ground-truthed, SNAs are found on improved pasture properties. The same can be expected in the Southland.

As an alternative approach, we have examined the general owned land properties that are categorised as having a primary industry, pasture-related land use (i.e. dairy farming, stock fattening etc), and overlapped this with indicative SNA coverage. This does show overlap as they are two separate datasets. Unlike for Waikato and Auckland, Table 64 considers general land only (and not Māori and Treaty Settlement properties with improved pasture).

Table 64 indicates a significant total of nearly 24,950 properties that potentially maintain improved pasture. Overall, just 2% of all pastoral properties are estimated to have 50% or greater indicative SNA coverage. A significant 89% share have no or less than 1% indicative SNA coverage and 10% have between 1% and 50% coverage. This result is to be expected given that indigenous land cover was predominantly cleared to enable pastoral farming in the past.

This data is not able to inform the degree of regeneration of indigenous cover on these properties outside of indicative SNAs. Rather, it highlights that in Southland District, the exemption for continued land clearance to maintain pasture outside of SNAs is likely to be highly relevant for farmers, and more relevant than in the other case studies examined.

Table 63 – Count of General Land Properties with Indicative SNAs by Land Use – Southland

Land Use Category	No Potential SNA Coverage	Some Potential SNA Coverage	Total Count of General Properties	Distribution of Properties with Some Potential SNA Coverage	Properties Containing Potential SNA as Share of Total
Arable Non-Irrigated	22	-	22	0.0%	0%
Commercial Accomodation	166	15	181	0.3%	8%
Commercial Educational Uses	8	-	8	0.0%	0%
Commercial Elderly	14	-	14	0.0%	0%
Commercial Health Operations	1	-	1	0.0%	0%
Commercial Liquor	88	1	89	0.0%	1%
Commercial Motor Vehicle	8	-	8	0.0%	0%
Commercial Offices	37	-	37	0.0%	0%
Commercial Other Multiple Uses	80	3	83	0.1%	4%
Commercial Parking	1	2	3	0.0%	67%
Commercial Retailing	245	-	245	0.0%	0%
Commercial Service Station	15	-	15	0.0%	0%
Commercial Tourism	5	12	17	0.3%	71%
Commercial Vacant	66	-	66	0.0%	0%
Commercial Vacant Provincial	26	-	26	0.0%	0%
Dairy Factory	5,715	474	6,189	10.8%	8%
Forestry Exotics	179	176	355	4.0%	50%
Forestry Indigenous	6	35	41	0.8%	85%
Forestry Protected	6	40	46	0.9%	87%
Forestry Vacant	-	5	5	0.1%	100%
Horticulture Berry	2	-	2	0.0%	0%
Horticulture Flower	5	-	5	0.0%	0%
Horticulture Glasshouse	4	-	4	0.0%	0%
Horticulture Market Garden	2	-	2	0.0%	0%
Horticulture Other	8	-	8	0.0%	0%
Industrial Freezing	43	-	43	0.0%	0%
Industrial Heavy Manufacture	37	2	39	0.0%	5%
Industrial Light	257	3	260	0.1%	1%
Industrial Noxious/Dangerous	3	-	3	0.0%	0%
Industrial Other/Multiple Uses	60	-	60	0.0%	0%
Industrial Services	247	-	247	0.0%	0%
Industrial Vacant	83	-	83	0.0%	0%
Industrial Warehouse	16	-	16	0.0%	0%
Lifestyle Farmland Improved	3,248	196	3,444	4.5%	6%
Lifestyle Farmland Vacant	1,675	119	1,794	2.7%	7%
Mining Coal	5	1	6	0.0%	17%
Mining Limestone Quarry	15	3	18	0.1%	17%
Mining Other	2	-	2	0.0%	0%
Mining Rock/Shingle	19	1	20	0.0%	5%
Other Assembly Halls etc	138	4	142	0.1%	3%
Other Educational	189	3	192	0.1%	2%
Other Health/Medical	14	1	15	0.0%	7%
Other Maori Sites	1	1	2	0.0%	50%
Other Multiple	240	23	263	0.5%	9%
Other Passive Reserve	412	160	572	3.6%	28%
Other Religious	93	6	99	0.1%	6%
Other Sporting	362	5	367	0.1%	1%
Other Utilities	143	27	170	0.6%	16%
Other Vacant	248	20	268	0.5%	7%
Pastoral Fattening	10,109	2,316	12,425	52.6%	19%
Pastoral Grazing	169	206	375	4.7%	55%
Pastoral Run	17	8	25	0.2%	32%
Residential Converted Flats	1	-	1	0.0%	0%
Residential Dwelling	7,535	285	7,820	6.5%	4%
Residential Home/Income	13	-	13	0.0%	0%
Residential Multiple Dwelling	6	3	9	0.1%	33%
Residential Own Your Own Flats	80	1	81	0.0%	1%
Residential Rental Flats	66	1	67	0.0%	1%
Residential Vacant Block	36	4	40	0.1%	10%
Residential Vacant Section	2,221	146	2,367	3.3%	6%
Specialist Aquaculture	1	-	1	0.0%	0%
Specialist Deer	500	92	592	2.1%	16%
Specialist Horses	67	-	67	0.0%	0%
Specialist Other	11	1	12	0.0%	8%
Specialist Pigs	1	-	1	0.0%	0%
Specialist Poultry	4	-	4	0.0%	0%
Total General Properties	35,096	4,401	39,497	100.0%	11%

Source: Southland District Council, M.E

Table 64 – Count of Improved Pasture General Only Properties by Indicative SNA Coverage – Southland

Property Size	<1% Potential SNA* Coverage	1%-20% Potential SNA* Coverage	20%-35% Potential SNA* Coverage	35%-50% Potential SNA* Coverage	50%-65% Potential SNA* Coverage	65%-80% Potential SNA* Coverage	80%-90% Potential SNA* Coverage	90%-100% Potential SNA* Coverage	Total General Pasture Land Properties	Share of Properties (%)
Potential SNA Coverage Distribution										
<1ha	7,001	48	17	19	15	12	8	30	7,150	29%
1ha-2ha	1,624	43	17	9	9	9	6	20	1,737	7%
2ha-5ha	3,109	92	29	11	13	9	5	51	3,319	13%
5ha-10ha	1,611	93	22	24	11	7	6	17	1,791	7%
10ha-20ha	1,677	151	39	22	12	10	8	17	1,936	8%
20ha-50ha	3,927	438	85	40	16	14	4	17	4,541	18%
50ha-100ha	2,061	423	78	32	18	11	6	9	2,638	11%
100ha-150ha	693	210	49	11	14	9	2	8	996	4%
150ha-250ha	277	137	30	14	5	5	1	3	472	2%
250ha-500ha	92	80	16	8	6	4	1	4	211	1%
500ha-1,000ha	13	57	9	6	5	3	-	3	96	0%
>1,000ha	5	28	17	7	3	1	1	1	63	0%
Total Properties	22,090	1,800	408	203	127	94	48	180	24,950	100%
Share of Properties	*89%*	*7%*	*2%*	*1%*	*1%*	*0%*	*0%*	*1%*	*100%*	

Source: Southland District Council, M.E. Properties tagged to General Land based on the centroid of the property parcel relative to the tenure land areas.

** Potential SNAs only, pending ground-truthing. Includes General owned properties categorised as Arable Not-irrigated, Dairy, pastoral, lifestyle farmland, Specialist stock.*

Figure 54 – Indicative Significant Natural Areas and Improved Pasture Land Cover – Southland