
BEFORE THE ENVIRONMENT COURT

In the matter of appeals under clause 14 of the First Schedule to the
Resource Management Act 1991 concerning proposed One
Plan for the Manawatu-Wanganui region.

between **MERIDIAN ENERGY LTD**
 ENV-2010-WLG-000149

and **MIGHTY RIVER POWER LTD**
 ENV-2010-WLG-000147

and **TRUSTPOWER LTD**
 ENV 2010-WLG-000145

and **GENESIS POWER LTD**
 ENV-2010-WLG-000159

 Appellants

and **MANAWATU-WANGANUI REGIONAL COUNCIL**
 Respondent

**EVIDENCE IN REPLY FROM CLARE BARTON ON THE TOPIC OF
OUTSTANDING NATURAL FEATURES AND LANDSCAPES, INCLUDING
SCHEDULE F, ON BEHALF OF MANAWATU-WANGANUI REGIONAL
COUNCIL**

Dated: 14th March 2012



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**EVIDENCE IN REPLY FROM CLARE BARTON ON THE TOPIC OF OUTSTANDING
NATURAL FEATURES AND LANDSCAPES, INCLUDING SCHEDULE F, ON BEHALF OF
MANAWATU-WANGANUI REGIONAL COUNCIL**

Introduction

Qualifications and experience

1. My name is Julie Clare Barton and I am a Senior Consents Planner at Manawatu-Wanganui Regional Council (MWRC). My qualifications and experience are set out in my statement of evidence to the Court dated 31 January 2012.

Planner Conferencing on the Topic of Natural Features and Landscapes

2. On 28 February 2012 the planners for Meridian, Mighty River Power, Genesis, TrustPower and myself met. A record of the conferencing statement was provided to the Court on 29 February 2012. There was general agreement amongst the planners on a number of matters. The remaining areas of disagreement are:
 - (a) The desirability of changes to Policy 3-3 and the definition of 'upgrade' to provide for the upgrading or re-powering of existing wind farms.
 - (b) The desirability of the retention of the words "full extent" within Schedule F item (a).
 - (c) The desirability of changes to Policy 7-7 to:
 - (i) Include the words "identified in Table F1 of Schedule F" in clauses (aa) and (a).
 - (ii) Provide for the upgrading or re-powering of existing wind farms within the Policy.
 - (iii) Confine clause (aa), dealing with cumulative effects to being within the natural features and landscape areas, and to alter clause (aa) to focus not just on avoidance but also on remediation or mitigation.

3. I provide comment on each of these matters and in doing so I have considered the record of technical conferencing sent to the Court on 6 March 2012.

Areas of Disagreement Amongst the Planners

Changes to Policy 3-3 and the definition of upgrade to provide for the upgrading or re-powering of existing wind farms.

4. Mr Schofield for TrustPower proposes an amended definition for upgrade and a consequential change to Policy 3-3(a)¹. I set out the reasons why I do not consider a change to the definition of upgrade is appropriate in paragraph 95 of my Statement of Evidence in Chief². I have not altered my opinion on this matter.

The inclusion of the words “full extent” within Schedule F item (ia).

5. The wording for Schedule F item (ia) is included in Attachment I to my Statement of Evidence in Chief³.
6. The technical conferencing between Mr Coombs for Mighty River Power, Mr Boffa for TurstPower, Mr Brown for Meridian and Mr Anstey for MWRC took place on 1 March. At the conferencing Mr Brown and Mr Coombs concluded that the area between the Pahiatua Track and Wharite Road (i.e. a portion of both the Tararua and Ruahine Ranges) does not meet the ONFL criteria and should be excluded from Schedule F item (ia). I note that the technical conferencing notes are silent on Mr Boffa’s opinion in relation to this matter. Mr Anstey concluded the area meets the criteria of an ONFL and should be included.
7. Mr Coombs and Mr Anstey undertook technical conferencing together on 18 January 2012⁴. Both experts concluded that the description for item (ia) should include the term “full extent”, and this was subsequently agreed at the planner conferencing on

¹ Statement of Evidence of Robert John Schofield on behalf of TrustPower Limited relating to the the Proposed One Plan Landscape Provisions, 17 January 2012. Paragraphs 2.56 and 2.57, page 19.

² Statement of Evidence of Clare Barton on the Topic of Outstanding Natural Features and Landscapes, including Schedule F, on behalf of Manawatu-Wanganui Regional Council, TEB, page 4494.

³ Ibid. TEB, pages 1557-4560.

⁴ Memorandum regarding Record of Technical Conferencing on Wednesday 18 January 2012 and Record of Planner Conferencing on Thursday 19 January 2012, on Landscapes and Natural Features including Schedule F, 31 January 2012. Appendix A.

19 January⁵ by the planners for TrustPower, Genesis, Mighty River Power and MWRC. Mr Coombs states in his evidence to the Court⁶ that he stands by the record from the technical conferencing of 18 January⁴ and supports the retention of the words “full extent” until a comprehensive landscape assessment is undertaken.

8. I understand the issue centres on how best to protect an ONFL and in this case is it necessary to protect the integrity and coherence of the full extent of the Range to achieve this protection.

9. Mr Brown in his Statement of Evidence in Chief goes on to state:

“Consequently, any assessment of landscape values necessarily involves an appreciation of the greater whole, the landscape as both the product of its components and, in some cases, much more than that – especially where landscapes are considered to be truly outstanding.”⁷

10. Mr Brown further on in his Statement of Evidence in Chief states:

“If one were to assess this section of the joint ranges landscape in isolation, I therefore doubt that any landscape architect would identify the sequence of upper mantle of ridges and hilltops between Pahiatua Aokautere Road and Wharite Road as an ONFL. Instead, it is the association of this sequence to the extended axis of ranges/state forest parks both south and north of these roads (respectively) that gives rise to the proposed ONFL (ia) and its revised description referring to the “full extent” of the Ruahine-Tararuas ‘chain’.”⁸

“Yet the fact remains the environs between Wharite and Aokautere Roads are already about as disturbed and modified as most rural landscapes get.”⁹

“It is also clear that cumulative effects can be very significant in some locations: In particular, successive wind farm developments on the northern Tararua and southern Ruahine Ranges have taken a ‘toll’.”¹⁰

⁵ Ibid., Appencix B.

⁶ Statement of Evidence of Braddyn (Brad) Coombs for Mighty River Power Limited, undated. Paragraph 19, page 5.

⁷ Statement of Evidence by Stephen Kenneth Brown, 15 February 2012. Paragraph 20, page 8.

⁸ Ibid. Paragraph 34, page 12.

⁹ Ibid. Paragraph 35, page 12.

¹⁰ Ibid. Paragraph 42, page 14.

11. I take from these statements that Mr Brown acknowledges that this section of the Ranges is included because of its association with the wider Ranges, but that he then concludes that, because this area is now so disturbed and modified, it should be excluded from the ONFL.
12. The conclusions reached by Mr Brown raise the following questions for me:
- (a) If there are built structures in a landscape then does this mean the landscape is no longer an ONFL? If there are built structures then has the underlying landform and values of that landscape are altered such that it is no longer important?
 - (b) Will perverse visual outcomes occur from excluding a portion of a landscape where it is acknowledged by the experts that this part of the landscape has important associations with the remainder?
 - (c) Are we accepting that this part of the Ranges no longer qualifies as part of an ONFL and should therefore be a sacrificial landscape?
13. To help me reach a conclusion in relation to addressing these three questions I refer to the Environment Court case High Country Rosehip Orchards Ltd vs MacKenzie District Council [2011] NZEnvC 387 where the Court found that [emphasis added]:
- “We have given serious thought to whether the Tekapo and Pukaki Canals divide the Mackenzie Basin in two landscapes – one either side of the infrastructure corridors. However, there is no specific evidence suggesting that is a valid approach, and it does seem to smash the basin into two pieces which are rather less than the whole. Based on Mr Densem’s 2007 report and Dr Pfluger’s report, we find that the Mackenzie Basin is one large intact basin. From many points within the basin its rim can be seen more or less all around. Obviously the people who first called this area “the Mackenzie Basin” recognised that it is perceived as a unified whole, and the name has stuck. It is impossible to have the bottom (plains) of a basin without the (mountain) sides. We find that the Mackenzie Basin is the epitome of a large landscape which can be and is meaningfully perceived as a whole.”¹¹
14. I understand that the Court was stating that the whole of the landscape should be classified as an ONFL if the integrity of the whole landscape is of concern. Further, that even if the whole of the landscape is accepted as outstanding then this does not

¹¹ Paragraph 90.

always mean that development is inappropriate, but rather that different constraints may apply.

15. I reach the following conclusions in answering the three questions I posed, and having considered the Court case referred to above and the technical evidence provided to the Court by the landscape architects:

- (a) If there are built structures in a landscape then does this mean the landscape is no longer an ONFL? If there are built structures then has the underlying landform and values of that landscape altered such that it is no longer important?

I consider it problematic to suggest an ONFL ceases to have that status merely because of the effects of built elements deemed appropriate for the purpose of s.6(b) RMA. Were it so the Puketoi Skyline should also be removed as now the receiving environment has been modified by a consent for a wind farm, albeit unimplemented. Mr Brown's approach has undesirable consequences in setting resource capacity for s.6(b) landscapes and features, because he reclassifies the landscape (i.e. takes it out of the s.6(b) class) depending on his perception of the development scale permitted.

- (b) Will perverse visual outcomes occur from excluding a portion of a landscape where it is acknowledged by the experts that this part of the landscape has important associations with the remainder?

I consider the answer to this can only be yes. Visually one sees the Ranges (Tararua and Ruahines) as a continuous Range or, in the words of the Court case quoted above at paragraph 13, "can be and is meaningfully perceived as a whole". If more intensive development was to occur on one section of the Range then it would look out of place with the remainder (I accept this will be determined on the specifics of a case).

- (c) Are we accepting that this part of the Ranges no longer qualifies as part of an ONFL and should therefore be a sacrificial landscape?

I can only answer this by expressing the hope that this is not what MWRC is looking to do. For the reasons outlined above I consider the Ranges are viewed

as a whole and therefore the effects need to be considered in the context of the whole.

16. If this section of the Ranges were to be excluded as an ONFL and therefore excluded from Schedule F then the consequence would be that Policy 7-7, and specifically clause (aa) regarding cumulative effects, would not apply. Given the presence of existing wind farms in this section of the Ranges I consider that the application of this policy to any change within this environment is important.
17. There still needs to be an assessment on a case by case basis as to what contribution any particular part of an ONFL makes in the context of a specific proposal. This case by case assessment has, to date, resulted in consents being obtained and I see no change occurring through the retention of the full extent of the Ranges within Schedule F.

Implementation of Chapter 7 relating to ONFL's by territorial authorities

18. Policy 7-7 in the POP (as agreed at mediation and included as Attachment 1) provides that ONFLs are to be spatially defined by territorial authorities. This is being done. By way of example:
 - a. Included as **Attachment 2** are documents relating to the review of the landscape provisions of the Horowhenua District Plan, including a review by Boffa Miskell of the spatial extent of ONFL's in the various environmental domains within the Horowhenua District;
 - b. Included as **Attachment 3** is landscape report by Mr Hudson that is the technical evidence in support of the identification of the ONFL's in the proposed Rangitikei District Plan.

Changes to Policy 7-7.

19. The concern expressed by the planners for Genesis, Meridian and TrustPower is that Policy 7-7 (specifically clause (aa) dealing with avoiding significant adverse cumulative effects) and Policy 3-4 (renewable energy) conflict and do not guide how the policies are to be implemented.

20. This concern is summarised by Mr Schofield for TrustPower where he states in his Evidence in Chief that:

“In respect of the Proposed One Plan, I would contend that there is a live issue in respect of the uncertainty created by policy seeking a specific outcome (Policy 7-7(aa)) against a more generic set of policies regarding renewable electricity generation (Chapter 3).

While I accept that inserting a new sub-policy to Chapter 3 as recommended by Ms Barton will ensure that this requirement is expressed within the One Plan (refer paragraph 2.61 above), in my opinion, positively implementing the NPSREG requires a much broader exercise, in which all proposed policies within the RPS are considered in terms of:

- (a) The potential to frustrate or conflict with the NPSREG; and
- (b) The potential to enable further renewable electricity generation as appropriate.”¹²

21. I consider that this analysis mis-states the issue and has the effect of undermining achievement of Part 2, when the proper premise is that NPS REG was intended to provide more direction in a manner that is consistent with Part 2.

22. The logical sequence is:

- a. Is the landscape or feature an ONFL?
- b. What is appropriate development in an ONFL?
- c. In answering (b) above, consider how the NPS REG can be read and implemented in a manner that is consistent with Part 2.

23. My analysis is that the NPS REG provides no indication that significant cumulative effects on ONFL's is the intention and, given that Policy 7-7(aa) is concerned with when 'enough is enough', I find nothing in the NPS that suggests the intention was to regard renewable energy development that is more than enough as appropriate for the purpose of s.6(b).

¹² Statement of Evidence of Robert John Schofield on behalf of TrustPower Limited relating to the the Proposed One Plan Landscape Provisions, 17 January 1012. Paragraphs 2.78 and 2.79, page 25.

24. Consistency between s.6(b) with NPS REG is best achieved in the context of the Manawatu-Wanganui Region by providing strong policy support for renewable energy while underscoring that this should not cause significant adverse cumulative effects on the characteristics and values of ONFLs.
25. In conclusion, I confirm the statements made in my Evidence in Chief¹³ that Policy 7-7 meets the tests of being a good policy and there is no case for exempting renewable energy proposals from the application of Policy 7-7. As outlined in my Statement of Evidence in Chief¹⁴ I do accept the policy suite in the DV POP could be better supported in relation to upgrades and therefore propose changes to Policy 3-4.
26. In relation to the wording change proposed by Mr Peterson for Mighty River Power¹⁵ regarding the insertion of the words "identified in Schedule F" within clauses (aa) and (a) of Policy 7-7 I note the following:

(a) Appendix 1 to the record of technical conferencing dated 1 March 2012 states:

"All parties agree that assessment of values and effects under Policy 7-7 should not necessarily be limited to solely addressing the characteristics and values currently identified in Schedule F. All parties agree Policy 7-7 should reference "the characteristics and vales of those outstanding natural features and landscapes."

The Landscape Architects consider the words "identified in Schedule F" should not be inserted into clauses (aa) and (a). On that basis I do not propose the insertion of the words within Policy 7-7.



Clare Barton
SENIOR CONSENTS PLANNER

¹³ Statement of Evidence of Clare Barton on the Topic of Outstanding Natural Features and Landscapes, including Schedule F, on behalf of Manawatu-Wanganui Regional Council, Paragraphs 66 and 67, TEB, pages 4484 and 4485.

¹⁴ Ibid. Paragraph 102, TEB, pages 4496 and 4497.

¹⁵ Statement of Evidence of Richard Peterson on behalf of Mighty River Power relating to the Proposed One Plan Landscape Provisions, 15 February 1012. Paragraph 9, page 5.

ATTACHMENT ONE

THE WORDING OF POLICIES 7-7 AND 7-7A AS AGREED AT MEDIATION

(The wording shown in yellow highlight are the changes agreed at mediation)

7.4.2 Landscapes and Natural Character

Policy 7-7: Regionally outstanding natural features and landscapes

The natural features and landscapes listed in Schedule F Table F1 must be recognised as regionally outstanding **and must be spatially defined in the review and development of district plans**. All subdivision, use and development directly affecting these areas must be managed in a manner which:

- (aa) avoids **any** significant adverse cumulative *effects*[^] on the characteristics and values of those outstanding natural features and landscapes, and
- (a) except as required under (aa), avoids adverse *effects*[^] as far as reasonably practicable and, where avoidance is not reasonably practicable, remedies or mitigates adverse *effects*[^] on the characteristics and values of those outstanding natural features and landscapes.

Policy 7-7A: Assessing outstanding natural features and landscapes

The Regional Council and *Territorial Authorities*[^] must take into account **but not be limited to** the criteria in Table 7.2 when:

- (a) identifying outstanding natural features and landscapes, and **consider whether the natural feature or landscape is conspicuous, eminent, remarkable or otherwise outstanding, and**
- (b) considering adding to, **deleting from, or otherwise altering, redefining or modifying** the list of outstanding natural features or landscapes listed in Table F1 of Schedule F, or
- (c) considering the inclusion of outstanding natural features or landscapes into any *district plan*[^], or
- (d) establishing the relevant values to be considered when assessing *effects*[^] of an activity on:
 - (i) outstanding natural features and landscapes listed in Table F1 of Schedule F, or
 - (ii) any other outstanding natural feature or landscape.

Table 7.2 Natural Feature and Landscape Assessment Factors

Assessment factor	Scope
(a) Natural science factors	<p>These factors relate to the geological, ecological, topographical and natural process components of the natural feature or landscape:</p> <ul style="list-style-type: none"> (i) Representative: the combination of natural components that form the feature or landscape strongly typifies the character of an area. (ii) Research and education: all or parts of the feature or landscape are important for natural science research and education. (iii) Rarity: the feature or landscape is unique or rare within the district or Region, and few comparable examples exist. (iv) Ecosystem functioning: the presence of healthy ecosystems is clearly evident in the feature or landscape.
(b) Aesthetic values	<p>The aesthetic values of a feature or landscape may be associated with:</p> <ul style="list-style-type: none"> (i) Coherence: the patterns of land[^] cover and land[^] use are largely in harmony with the underlying natural pattern of landform and there are no, or few, discordant elements of land[^] cover or land[^] use. (ii) Vividness: the feature or landscape is visually striking, widely recognised within the local and wider community, and may be regarded as iconic. (iii) Naturalness: the feature or landscape appears largely unmodified by human activity and the patterns of landform and land[^] cover are an expression of natural processes and intact healthy ecosystems. (iv) Memorability: the natural feature or landscape makes such an impact on the senses that it becomes unforgettable.
(c) Expressiveness (legibility)	<p>The feature or landscape clearly shows the formative natural processes or historic influences that led to its existing character.</p>
(d) Transient values	<p>The consistent and noticeable occurrence of transient natural events, such as daily or seasonal changes in weather, vegetation or wildlife movement, contributes to the character of the feature or landscape.</p>
(e) Shared and recognised values	<p>The feature or landscape is widely known and is highly valued for its contribution to local identity within its immediate and wider community.</p>
(f) Cultural and spiritual values for <i>tangata whenua</i>[^]	<p>Māori values inherent in the feature or landscape add to the feature or landscape being recognised as a special place.</p>
(g) Historical <u>Heritage values associations</u>	<p>Knowledge of historic events that occurred in and around the feature or landscape is widely held and substantially influences and adds to the value the community attaches to the natural feature or landscape. <u>Heritage features, sites* or structures that are present and add to the enjoyment and understanding of the feature or landscape.</u></p>

OUTSTANDING NATURAL LANDSCAPES & FEATURES REVIEW

HOROWHENUA DISTRICT COUNCIL
August 2011



Prepared for Horowhenua District Council by Boffa Miskell Ltd



Interpretation of Lines on Maps

The ONFL areas are mapped to communicate their location and general spatial extent. However, landscapes are a continuum and the combination of landscape values that contribute to part of the landscape being identified as an ONFL do not conveniently stop and start at a particular points or boundaries. Consequently, the mapped lines should be considered as 'zones of transition' rather than precise lines that mark absolute points of change. However, for the practicality of the District Plan and landscape management a line does need to be defined.

The boundaries for this ONLF review are based on topographical features, aerial photographs and maps of various scales. While care has been taken to accurately map the lines some discrepancies may occur when integrated at at scales larger than 1: 50 000.

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OUTSTANDING NATURAL LANDSCAPES & FEATURES REVIEW

HOROWHENUA DISTRICT COUNCIL
August 2011

Prepared for Horowhenua District Council by Boffa Miskell Ltd



PURPOSE AND BACKGROUND

Horowhenua District Council (HDC) engaged Boffa Miskell Ltd to undertake a landscape evaluation of the eight outstanding natural landscapes (ONL)* and outstanding natural features (ONF)* proposed in Plan Change 22 (PC22). The scope of the landscape evaluation did not require consideration of the high amenity landscapes (HAL) proposed in Plan Change 22, or any other landscapes or features in the Horowhenua District.

The Proposed ONLs and ONFs (study sites) being considered in this review are:

- Foxton Dunefields
- Manawatu Estuary
- Hokio Stream
- Lake Horowhenua
- Lake Papaitonga

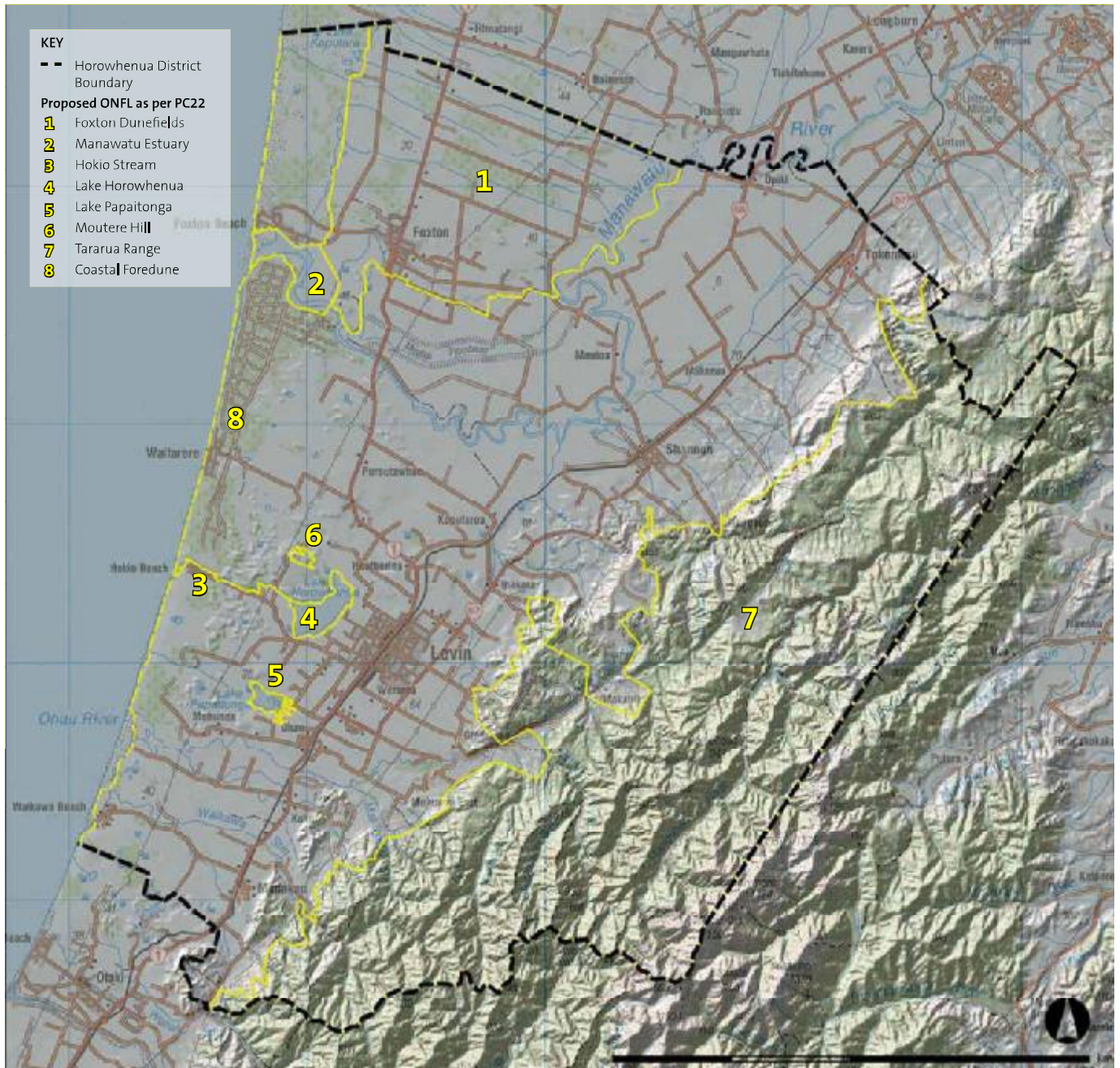
- Moutere Hill
- Tararua Range
- Coastal Foredune

The purpose of this review is to evaluate the proposed ONFLs in relation to Section 6(b) of the RMA. The evaluation will therefore assess the landscapes and features in terms of their status; that is, do they reach the threshold of outstanding, what is their extent and where are the boundaries?

*** NOTE;**

ONFs and ONLs are referred to collectively throughout this document as ONFLs

Figure 1: OUTSTANDING NATURAL FEATURES AND LANDSCAPES PROPOSED IN PLAN CHANGE 22



EVALUATION METHODOLOGY

The landscape evaluation methodology is consistent with current 'best practice'. The landscape factors to be considered in the evaluation are also consistent with the Proposed One Plan's¹ requirements for evaluating ONFLs, (Policy 7-7A: *Assessing outstanding natural features and landscapes*, including Table 7.2² *Natural Features and Landscape Assessment Factors*), as well as with Policy 15(c) of the New Zealand Coastal Policy Statement 2010 (NZCPS 2010).

The assessment factors listed in both policies are very similar (with one exception) and are referred to as the 'Amended Pigeon Bay criteria'; these criteria are widely used by the New Zealand landscape profession³ as a set of guiding factors that are useful when assessing landscapes.

Use of the assessment factors do not themselves constitute an evaluation of a landscape. Determining if a landscape qualifies as outstanding requires a subsequent 'weighting' process, and the consideration as to whether the combined significance of the relevant landscape values reaches the threshold of 'outstanding' when compared to other landscapes being considered.

An outstanding natural feature or landscape is defined as having *attributes that are exceptional or pre eminent. These attributes make it stand out amongst other natural features or landscapes. While evidence*

*of human presence and activity may be apparent, natural attributes dominate*³.

A *Best Practice Note; Landscape Assessment and Sustainable Management* issued by the New Zealand Institute of Landscape Architects (June 2010) groups the 'Amended Pigeon Bay Criteria' under the following three broad categories:

- Biophysical features patterns and processes, (or Natural Science)
- Sensory qualities (or Perceptual) and;
- Associative (or Shared and Recognised) activities and meanings.

This study has considered the landscape values of the Proposed ONFLs in the context of following framework.

¹Decisions' version of the One Plan currently under appeal.

²The Table 7.2 assessment factors listed (also known as the Amended Pigeon Bay criteria) is not necessarily an exhaustive list of all the possible factors by which a landscape can be assessed, nor do they apply to all landscapes, and several of the factors overlap, they provide consistent guidance for landscape assessments.

³Landscape planning definitions discussed and agreed to by senior Boffa Miskell Landscape Architects at a workshop, April 2011.

EVALUATION CATEGORY

LANDSCAPE ATTRIBUTES

NATURAL SCIENCE

Biophysical features, patterns and processes may be natural and/or cultural in origin, and range from the geology and landform that shape a landscape, to the physical artefacts, such as roads, that mark human settlement and livelihood.

REPRESENTATIVENESS

The combination of natural components that form the feature or landscape and strongly typifies the character of an area.

RESEARCH & EDUCATION

All parts of the feature or landscape are important for natural science research and education.

RARITY

The feature or landscape is unique or rare within the district or region, and few comparable examples exist.

ECOSYSTEM FUNCTIONING

The presence of healthy ecosystems is clearly evident in the feature or landscape.

SENSORY/PERCEPTUAL

Sensory qualities are landscape phenomena as directly perceived and experienced by humans, such as the view of a scenic landscape, or the distinctive smell and sound of the foreshore.

COHERENCE

The patterns of land cover and land use are in harmony with the underlying natural pattern of landform and there are no significant discordant elements of land cover or land use.

VIVIDNESS

The feature or landscape is visually striking and is widely recognised within the local and wider community for its memorable and sometimes iconic qualities.

NATURALNESS

The feature or landscape appears largely unmodified by human activity and the patterns of landform and land cover appear to be largely the result of intact and healthy natural systems.

EXPRESSIVENESS (Legibility)

The feature or landscape clearly shows the natural processes that led to its existing character.

TRANSIENT VALUES

The consistent and noticeable occurrence of transient natural events, such as seasonal change in vegetation or in wildlife movement, contributes to the character of the feature or landscape.

ASSOCIATIVE/ SHARED AND RECOGNISED

Associative meanings are spiritual, cultural or social associations with particular landscape elements, features, or areas, such as tupuna awa and waahi tapu, or sites of historic events or heritage. Associative activities are patterns of social activity that occur in particular parts of a landscape, for example, popular walking routes or fishing spots. Associative meanings and activities engender a sense of attachment and belonging.

RECOGNISED VALUES

The feature or landscape is widely known and is highly valued for its contribution to local identity within the immediate and wider community, including recreational values.

TANGATA WHENUA VALUES

Maori values inherent in the feature or landscape add to the feature or landscape being recognised as a special place.

HISTORICAL ASSOCIATIONS

Knowledge of historic events that occurred in and around the feature or landscape is widely held, and substantially influences and adds to the value the community attaches to the natural feature or landscape.

EVALUATION PROCESS

The process involved a combination of a review of the work previously undertaken for PC 22, desktop analysis, field work and consultation with PC 22 submitters³, to document and identify the relevant landscape values. The review has relied on the research material presented in the previous landscape assessments⁴, supplemented with further research and analysis of available GIS data.

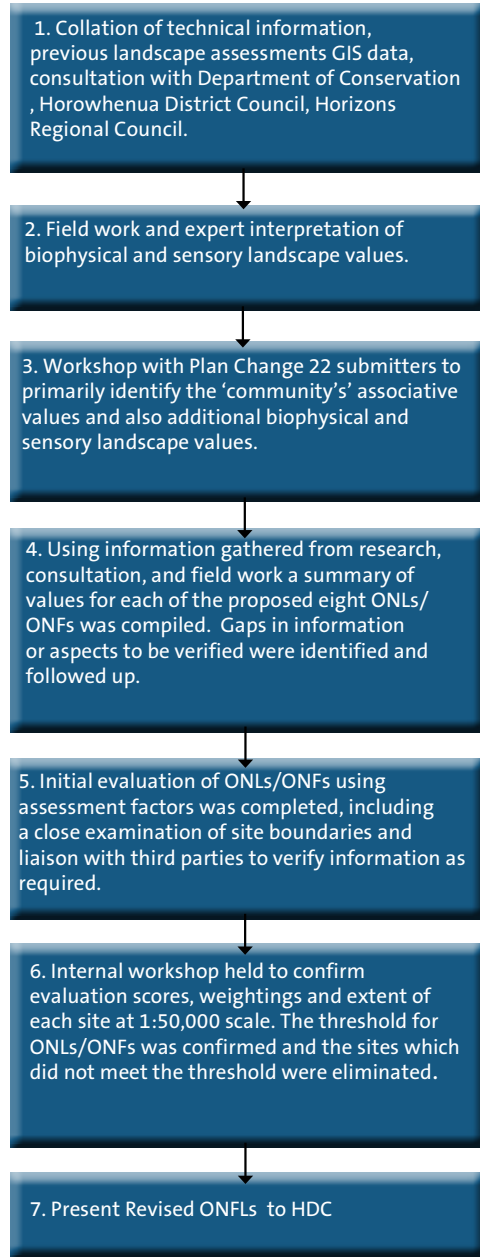
The landscape values for each proposed ONL/ONF were evaluated, ranked and reviewed at an internal workshop of landscape experts. Those landscapes/features that reached the threshold of 'outstanding' are presented to Horowhenua District Council as revised ONFLs. In this, 'outstanding natural landscapes' and 'outstanding natural features' are not distinguished separately because they are considered as having the same level of significance, the difference being only a matter of scale.

³ Consultation involved a workshop in April 2011 attended by many of the submitters on Plan Change 22 and subsequent face to face meetings with a few landowners.

⁴ Treadwell Associates, *Assessment of the Outstanding Landscapes and Natural Features of the Horowhenua District*, Prepared for Horowhenua District Council, August 2009.

Landscape Assessment of the Rural Environment of the Horowhenua District, Prepared for Horowhenua District Council, October 2008.

Moutere Hill



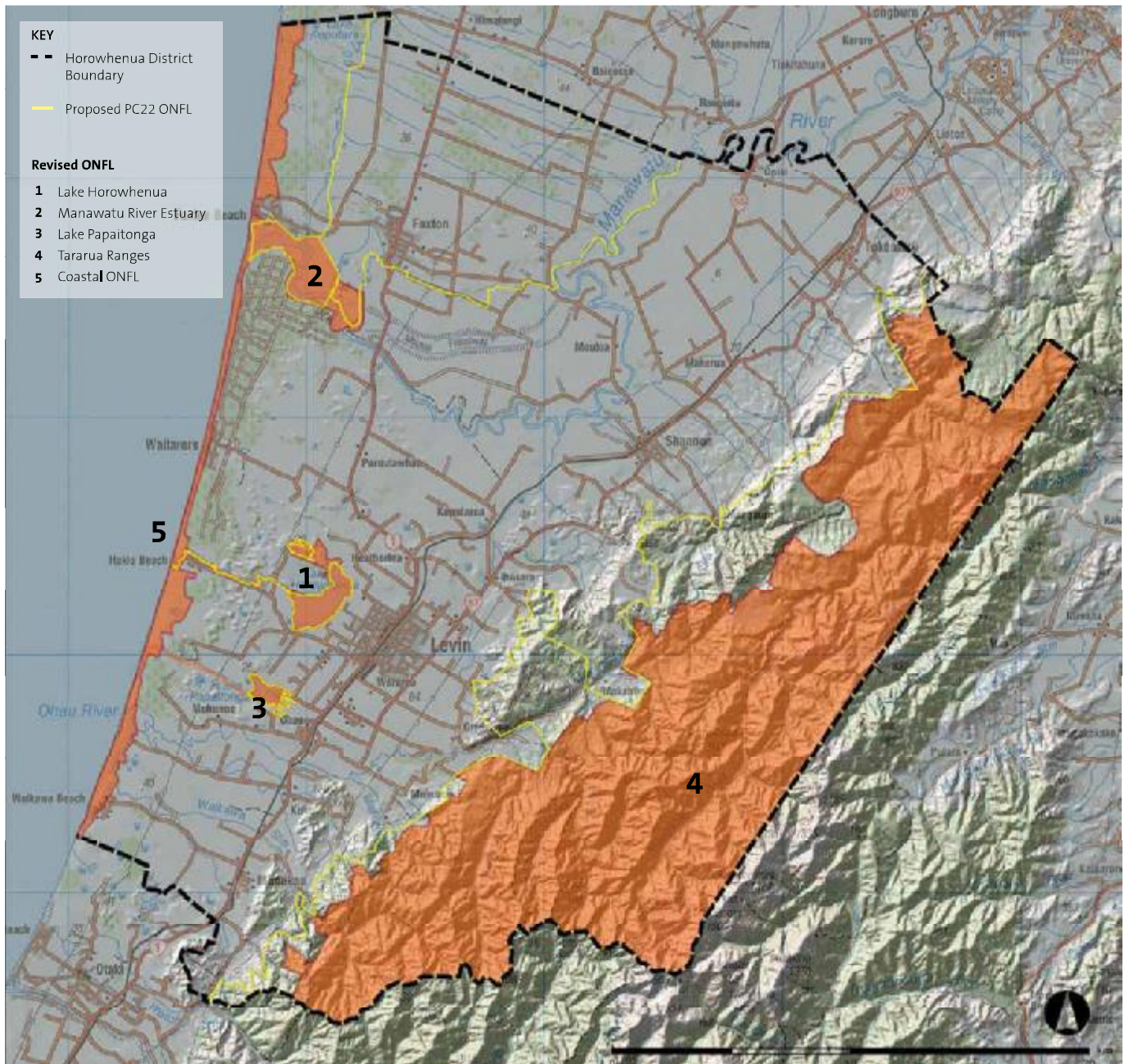
The Tararua Ranges form a backdrop to much of the district



EVALUATION SUMMARY

EXISTING ONFL	BIOPHYSICAL	SENSORY	ASSOCIATIVE	PLAN CHANGE 22 STATUS	REVISED ONFL STATUS
Foxton Dunefields	Moderate	High	Moderate	ONL	Deleted
Coastal Foredunes	High	Very High	Very High	ONF	Expanded area and renamed Coastal ONFL
Manawatu Estuary	Very High	Very High	Very High	ONL	Changed Boundary
Lake Horowhenua	Moderate	High	Very High	ONF	ONFL Combine Lake Horowhenua, Hokio Stream and Moutere Hill
Hokio Stream	Moderate	High	Moderate	ONF	
Moutere Hill	High	High	High	ONF	
Lake Papatonga	Very High	Very High	Very High	ONF	Same boundary add Waiwiri Stream
Tararua Range	Very High	Very High	Very High	ONL	Reduced in Size

FIGURE 2: REVISED OUTSTANDING NATURAL FEATURES AND LANDSCAPES



8 LAKE HOROWHENUA

OUTSTANDING NATURAL FEATURES AND LANDSCAPES REVIEW

The closely linked landscape features of Lake Horowhenua, Hokio Stream and Moutere Hill are recommended to be combined into a single ONFL. Each of these features are individually well known and highly valued by the community and iwi, and they have a range of important biophysical values. They are strongly associated to each other culturally, physically and hydrologically, and are more appropriately considered as components of the same outstanding natural landscape, rather than as separate elements.

Lake Horowhenua also known as Waipunahau, covers 2.9 square km (290 ha) and is relatively shallow with an average depth of less than 2.0m. The lake located on the inner margin of an old dune belt, 6.4km inland from the coast. The lake was created when an old course of the Ohau River was dammed by wind blown sand forming a large dune barrage.

A weir at the lake outlet controls the lake level, and the Hokio Stream drains the lake 5km to the sea.

The water source for the lake is a combination of local streams and groundwater originating in the Tararua Ranges. Between 1952 and 1987 treated sewerage was discharged directly into the lake. Currently stormwater from Levin and runoff from surrounding farmland combined with the lake's shallowness mean the water quality is poor. The water quality of Hokio Stream is largely determined by the quality of the lake's water and high nutrient levels have caused infestation of weeds in the stream bed in places. For the majority of its length, the stream margins are well vegetated, reducing the adverse environmental effects of runoff from surrounding farmland.

Natural Science Values

The natural values of the lake and stream are much diminished from what was once a densely vegetated and diverse natural environment. However, the underlying hydrological systems and natural landform of the lake is largely unmodified. The lake margin restoration project will, in time, improve the habitat, biodiversity and water quality of the lake.

The lake was once enclosed by diverse forests of kahikatea, pukatea, and rata that extended to the Tararua Ranges. Whitiki Bush and Swamp (RAP 15) located in the northwest corner of the lake contains remnant kahikatea forest which is extremely rare in the Foxton Ecological District. Another smaller area of kahikatea forest is located in the southwest corner of the lake (RAP 14).



Hokio Stream with Lake Horowhenua in background

Moutere Hill is biophysically unique in the area due to its height, large size and physical shape. The hill is a large old coastal dune 87m height (30m higher than the surrounding land). The dune's geomorphology is notable, as being the opposite profile to the other dunes in the dune belt. That is, the coastal face of the dune is very steep while the inland face (the lee side) slopes gently down to Lake Horowhenua. All the surrounding dunes have a gently sloping coastal face and a steep lee face.

Lake Horowhenua and Hokio Stream are elements of the same and much larger hydrological system that extends from the Tararua Ranges to the sea.

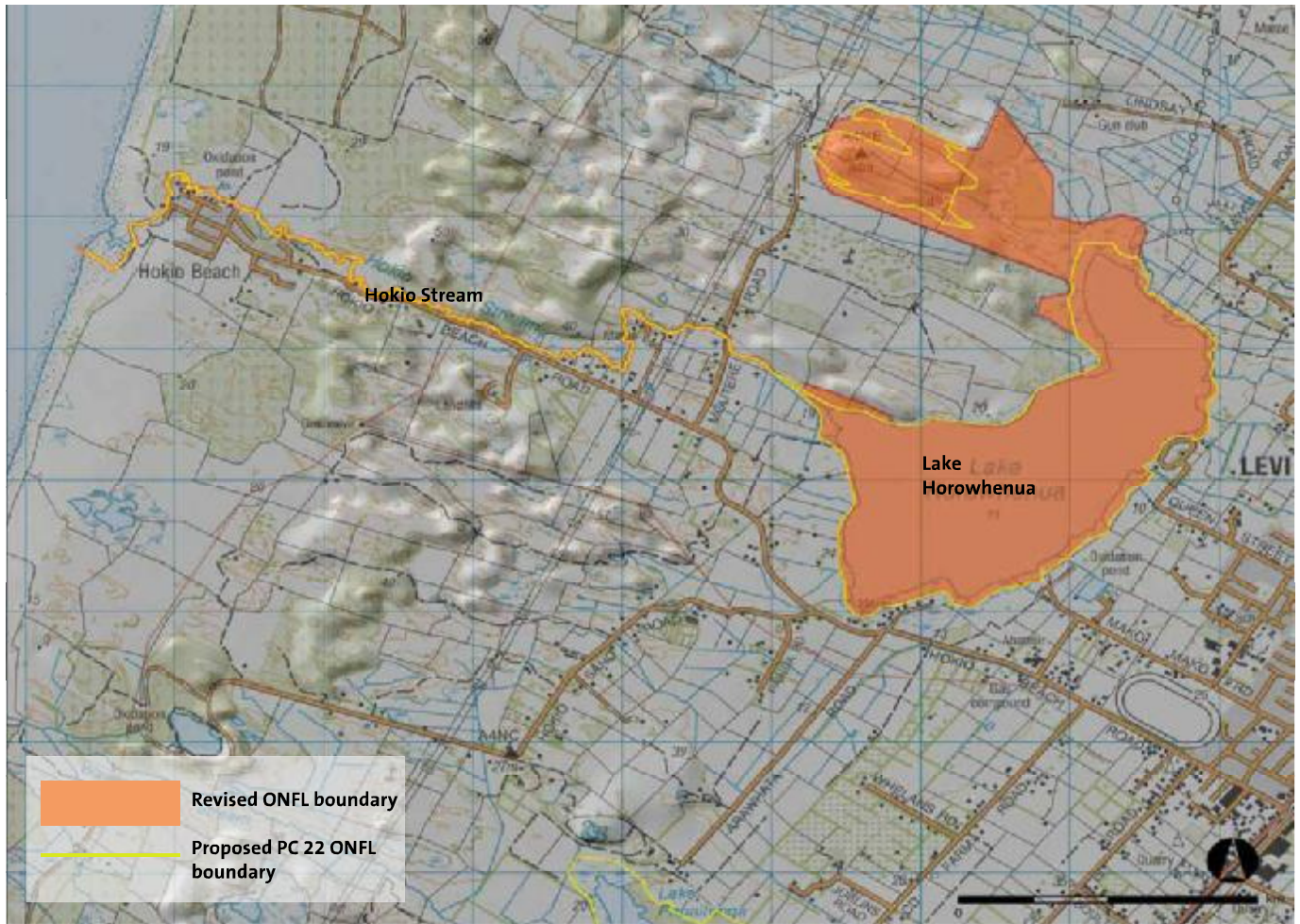
The community acknowledges that there is huge potential to improve the environmental health of lake, stream and their margins. Currently, the water quality of the lake and stream are poor. The very strong community awareness of this and the evident desire to remedy the situation will, in time, see improvements in the water quality. Muaupoko, through their Lake Horowhenua Trust, own the lake bed, a riparian margin around the lake edge and the outlet stream, Hokio¹. The Lake Horowhenua Trust is undertaking an extensive lake margin restoration project to re-establish indigenous vegetation to the lake edge and improve the water quality of the lake.

Lake Horowhenua from the air



Moutere Hill- a prominent and unusually shaped sand dune





Sensory Values

The large size of the lake and the openness it creates make it a visually striking element of the landscape, allowing distant views across the lake toward the coast. For most of its length, Hokio Stream is nestled into its small valley with native and exotic vegetation along its margins and so is not visually apparent until the estuary, where it is visually striking and contributes strongly to the high amenity of the area.

Moutere Hill is particularly well known in the local community due to its height and proximity to the lake. From some local locations its characteristic 'lopsided' profile and the mature pine trees on its summit make a memorable landmark.

Shared and Recognised Values

The lake and its margins, Hokio Stream and Moutere Hill hold significant cultural values for Muaupoko who regard the lake as taonga. For centuries, the lake and its surrounding wetlands and dense forests have provided food, shelter, a place to live, as well as cultural and spiritual sustenance. For iwi, the lake and Hokio Stream are inextricably linked as components of one system, connecting the lake and sea, and providing for the seasonal migration of fish, particularly tuna (eel).

The lake is used for recreational activities such as wind surfing, sailing and rowing. However, the poor water quality and weeds in the lake reduce the general amenity of lake for recreational activities on and around the lake. Notwithstanding, the lake still holds an important place in the community's sense of place, and there is strong community support to improve the water quality and for the lake margin restoration project.

Historically, the lake has been a gathering place for the community and has provided a rich source of freshwater fish species, and recreational activity such as swimming, boating and fishing.

Notes on defining the revised ONFL boundary

It is recommended that Lake Horowhenua, Hokio Stream and Moutere Hill should be combined as one ONFL rather than being dealt with as three separate areas.

The ONFL area extends 20m from each bank of the stream.

The revised ONFL should incorporate the two forest remnants (RAP 15 and RAP 14) together with the wetlands situated in farmland between the lake and Moutere Hill.

¹www.Lake Horowhenua Trust

Landscape Values

- Three valued landscape features in close proximity with strong cultural associations
- Moutere Hill is biophysically unique, due to its size and physical shape
- Lake Horowhenua and its margins, Hokio Stream and Moutere Hill hold significant cultural values for Muaupoko
- The lake and Hokio Stream are linked components of one hydrological/ecological system providing for the seasonal migration of fish, particularly tuna (eel)
- Important forest remnants and wetlands on and near the lake edge
- Lake Horowhenua holds an important place as part of District's identity

10 MANAWATU RIVER ESTUARY

OUTSTANDING NATURAL FEATURES AND LANDSCAPES REVIEW

The estuary of the Manawatu River is the largest in the lower North Island, covering approximately 250ha and comprising tidal mudflats, saltmarsh, a sand spit and part of the Manawatu River. The area is bounded on the south by the exotic production forest (Waitarere Forest), Foxton Beach settlement on the north, with grazed farmland enclosing the estuary to the east.

Horizons One Plan includes the Manawatu River estuary in its 'Coastline ONFL', identifying its ecological values as being important habitat for indigenous fauna. RAP # 22 lies within the ONL.

Natural Science Values

Approximately 200 ha of the river and adjoining wetlands comprise the RAMSAR¹ convention site, and therefore the estuary is a wetland of international importance, as well as being nationally, regionally and locally recognised for its bird habitat. In all, 93 bird species have been recorded on the estuary, including year-round species as well as migratory birds, some of which are threatened species or critically endangered.

While the water quality of the Manawatu River is generally low, the environmental qualities and biodiversity of the estuary remain high, assisted by on-going natural processes such as tidal flushing, and wind and water action. Physically, there is little modification of the estuary or its margins with the bird observation platform and boat ramp facilities being the only structures of note.

Sensory Values

The daily movements of tides concealing and exposing the tidal mud flats contribute to the transient values of the area, as does the ephemeral nature of seasonal arrival and departure of migratory birds. The form of the estuary is very expressive of the natural processes that have formed it; the effect of erosion and sand deposition, and the forces of the wind and sea alter the course of the river, constantly changing the mud flats, salt marshes and vegetation patterns.

Key sensory qualities of the estuary derive from its expansive openness, and the experience of the changing coastal environment; wind, salt, sand, sun and light. Overall, the estuary has a very natural appearance and feel.

Shared and Recognised Values

The Manawatu Estuary is widely known and highly valued by the community for its natural, historical and recreational values. It contributes significantly to local and wider community's identity, and has been a popular holiday spot since the early days. Recreationally, the estuary is used for boating, fishing, bird watching and walking. In

particular, the bird life attracts people from beyond the Horowhenua. Every year, an official welcome and farewell is held for the migratory birds, including godwits and knots which come from Alaska and Siberia.

Historically, the Manawatu estuary and river served as an important transport and trading node providing water access inland as far as Palmerston North and to Foxton where export of flax was once a major industry. Prior to road and rail travel, the beach provided the main land route between Wellington and Whanganui. A ferry house near the mouth of the Manawatu River provided an overnight stopover point.

For Maori, the estuary is a highly significant cultural and spiritual landscape with rich ancestral associations, including many generations of occupation, as an important source for food and natural resources, for transportation inland, as the location of battles and conquest, and sites of waahi tapu and urupa.

Notes defining the revised ONFL boundary

The revised boundary is primarily based on the proposed PC 22 ONL with;

- The addition of an inland area, that was proposed to be included in the proposed Foxton Dunefield ONL. An area of sand dunes in the north side of the river mouth.
- Exclusion of the Foxton Beach Motor Camp

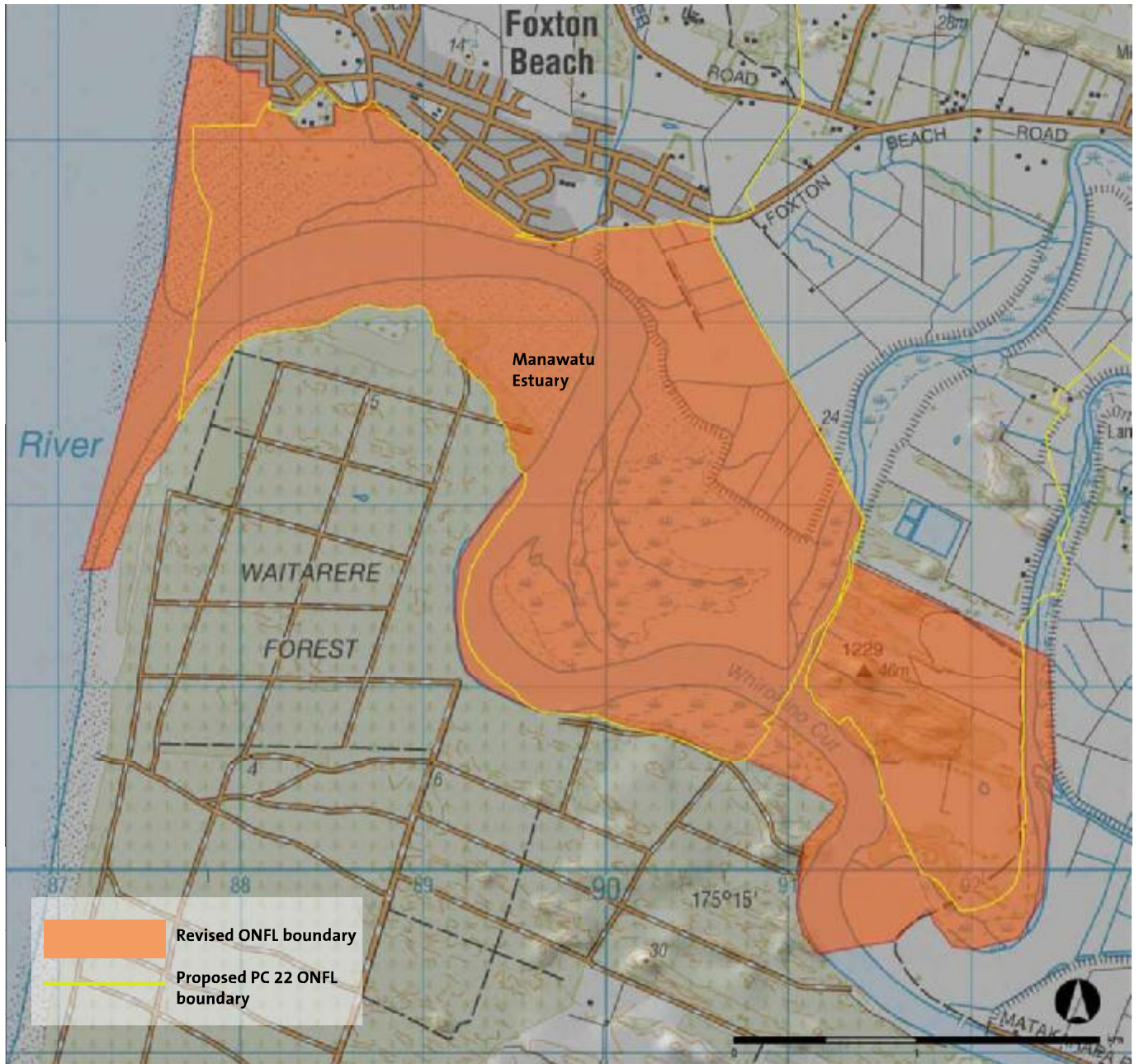
¹Inter- governmental treaty for the conservation and wise use of wetlands and their resources, 1971.

Manawatu River Estuary



Internationally important habitat for some migrating bird species.





Landscape Values

- Large estuary system with diverse range of biodiversity and habitat
- Internationally important site for some migratory bird species
- Open expansive landscape allowing views inland from the coast
- Rich sensory experience due to ever changing coastal environment - tides, salt, and wind
- Highly significant cultural and spiritual landscape for tangata whenua
- Well recognised and valued historical associations as an early trading and transport node.

Estuary saltmarsh and mudflats



12 LAKE PAPAITONGA

OUTSTANDING NATURAL FEATURES AND LANDSCAPES REVIEW

Lake Papaitonga (61.8 ha), also known as Waiwiri, is a dune lake surrounded by indigenous forest, which together makes up the 122ha Papaitonga Scenic Reserve administered by the Department of Conservation. The Lake contains two islands, Motukiwi and Motungarara; these were previously named Papaitonga and Papawhaerangi. Motungarara is an artificial island created by Muaupoko in 1820.

The Waiwiri Stream is the outlet to the lake and crosses the 4.8 km of sand plains and farmland to the coast. Lake Papaitonga and Waiwiri Stream are highly interdependent in terms of their hydrological balance and ecological health. For iwi, the lake and stream are inextricably linked as components of one system, connecting the lake and sea, and providing for the seasonal migration of fish. Consequently, both landscape features are considered to form a single ONFL.

Natural Science Values

The lake, its wetland margins and the vegetation are rare remnants of the original ecology that once covered the Horowhenua sand country, and it is the only intact sequence from wetland to mature dry terrace forest in Wellington and Horowhenua¹. It is also one of the largest habitats of the endangered *Powelliphanta* snails in the region, and the rare leafless mistletoe, *Korthalsella salicornioides*².

The wetland forest associations of kahikatea/pukatea, tawa and pukatea-tawa-swamp maire are now rare. The reserve is home to waterfowl and wading birds as well as forest bird species. Overall, the Reserve has high biodiversity and is in good ecological health.

The rich history and natural and cultural values of Lake Papaitonga and environs are eloquently described by Dr Geoff Park in his 1995 book, *Nga Uruora: The Groves of Life*³.

Looking west above Lake Papaitonga



Lake Papaitonga at dusk, from viewing platform

Sensory Values

The lake and surrounding vegetation has a high degree of naturalness. Views of the lake, its wetlands and forest backdrop are visually striking and the reserve is a popular destination for those seeking a tranquil natural environment. Externally, the Reserve appears as a large forest remnant set in grazed farmland with views of the lake itself not possible because of it being surrounded by dense native forest.

Shared and Recognised Values

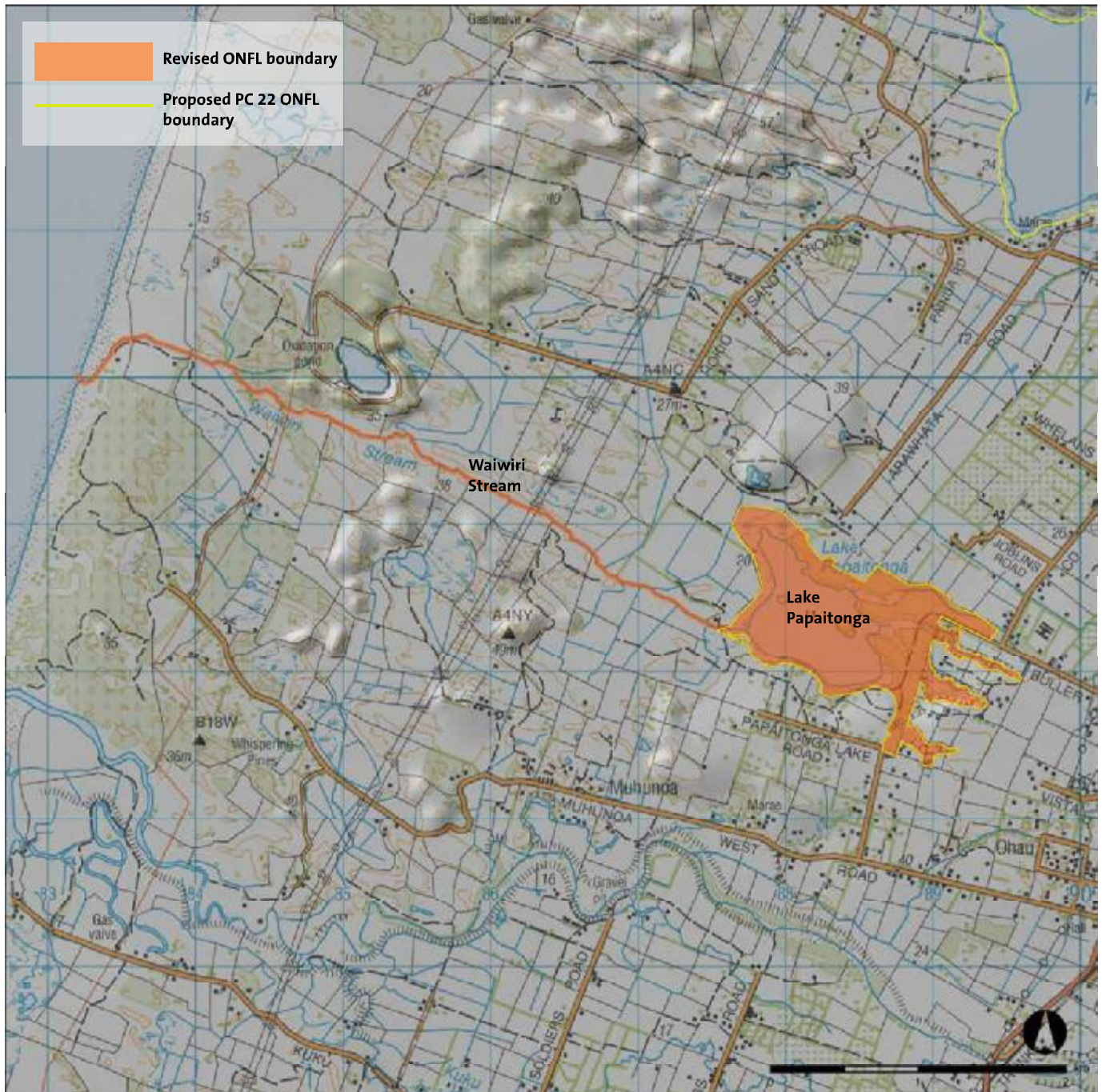
Lake Papaitonga is widely known and highly valued throughout the Horowhenua as valuable sand country landform and forest remnant. The Lake and the surrounding area also has a rich and complex human history and it has important historical associations for Muaupoko. The lake, its surrounds and Waiwiri Stream are highly valued as an ancestral landscape, for its historical values and sites including waahi tapu, burial and pa sites, and also for cultural values attached to wildlife, such as eel and birds.

There are several well known stories relating to Maori history in the vicinity of the lake, including occupation, massacres, battles and invasions. Sir Walter Buller eventually purchased property that included Lake Papaitonga in 1897. In recognition of its scenic values, he designated 27.5 ha of native forest as a reserve in 1901, for the benefit of future generations. However, the lake was not added to the Reserve until 1991.

Tracks through the forest surrounding the lake allow visitors to appreciate the natural values of the native vegetation, the lake and wildlife.

Landscape Values

- Regionally rare remnant of interdunal lake, wetlands, stream and coastal forest.
- Good biodiversity and rare intact sequences of lake/wetland/forest ecosystems.
- The lake, its surrounds and Waiwiri Stream are highly valued as an ancestral landscape by tangata whenua.
- Several well known and documented stories relating to Maori and European history in the vicinity of the lake.
-



Notes on defining the revised ONFL boundary

The revised ONFL boundary is the same as the boundary proposed for PC 22, but with the addition of Waiwiri Stream.

The Waiwiri Stream ONFL area extends 20m from the banks of the stream.

¹<http://www.doc.govt.nz/parks-and-recreation/places-to-visit/manawatu-whanganui/manawatu-area/papaitonga-scenic-reserve/>

²ibid

³The Lake in the Sand Country in *Nga Uruora: The Groves of Life*, Geoff Park, Victoria University Press, 1995, pp163-223.

Waiwiri Stream is integrated with Lake Papatonga's hydrological and ecological systems.



14 TARARUA RANGES

OUTSTANDING NATURAL FEATURES AND LANDSCAPES REVIEW

The Horowhenua District includes only a small part of the western side of the Tararua Ranges, comprising a high main ridgeline, slopes and complex of foothills. The main ridgeline rises from 855m (Ngawhakarara) in the north to approximately 1500m (Arete, Mt Dundas and Pukemoremore) in the south, to the east of Manakau. A secondary ridgeline to the east of Manakau has a more east-west alignment with intermediate elevations of between 800-1000m, including the high points of Twin Peak and Waitewaewae; this ridgeline forms part of the Horowhenua District boundary.

The Tararua Range Outstanding Natural Landscape includes the Tararua Forest Park and those adjoining areas beyond the Park boundary where indigenous forest and regenerating vegetation is prevalent. It excludes the areas of exotic production forest, although in a few isolated places, small patches of exotic forest may be included.

The Proposed One Plan identifies the *Skyline of the Tararua Ranges* as an outstanding natural landscape. An analysis of the Tararua skyline as experienced from The Horowhenua District is the subject of a separate report prepared for HDC.

Natural Science

The large scale of the ranges; their height, physical presence and ruggedness, make them a significant geological feature of the Horowhenua. The large area of intact original indigenous forest, contiguous with similar forest beyond the Horowhenua District, has significant ecological values at both a district and regional scale. The ranges contain a diverse range of ecosystems from lowland forest to alpine herb fields and are home to a wide range of native birds and native fish. The higher parts of the ranges, especially within the Tararua Forest Park, are almost completely unmodified giving this area high level of naturalness.

Sensory

The ranges provide a significant visual and physical backdrop to the district, sharply contrasting with the flatness of the Horowhenua plains. The high rugged skyline contributes to the striking visual quality of the ranges which can be appreciated throughout the district. The continuous forest cover, the steep topography and an absence of structures or significant modification contributes to the strong visual coherence of the landform and its very high natural qualities. The coolness and dappled light of the forest interior with dense native vegetation and streams is also widely recognised and appreciated.

Shared and Recognised Values

The ranges, its skyline and forested slopes are widely recognised and valued by the community and are regarded as an important feature of the identity of the Horowhenua District and also adjoining districts. As well as the scenic values, the ranges are highly valued for the recreational activities they provide, including wilderness experience, tramping, mountain biking and hunting.

Significant Maori cultural values are attached to the Ranges which are considered to be a very important ancestral landscape in this part of the lower North Island. The cultural values include Maunga Tapu, whakapapa, waahi tapu and values in relation to the vegetation and wildlife of the forest. The forested ranges provided a valuable source of food for Maori at certain times of the year and historically, numerous trails through the valleys connected Horowhenua to Wairarapa. The Ranges also provided refuge during times of tribal warfare.

Most of the high peaks along the range have Maori names that tell the stories of the early ancestors.

Notes on Defining the revised ONFL boundary

An initial draft line primarily sought to include only indigenous forest and vegetation. Using the land cover data base (LCDB2) and the aerial photography (2005), the draft line excluded exotic forest and grazed farm land. The scale of the mapping did not allow absolute exclusion or



Steep indigenous forest clad Tararua Ranges with many of the foothills and lower slopes farmed

inclusion of the above; it is an approximation.

The initial draft line was then amended to:

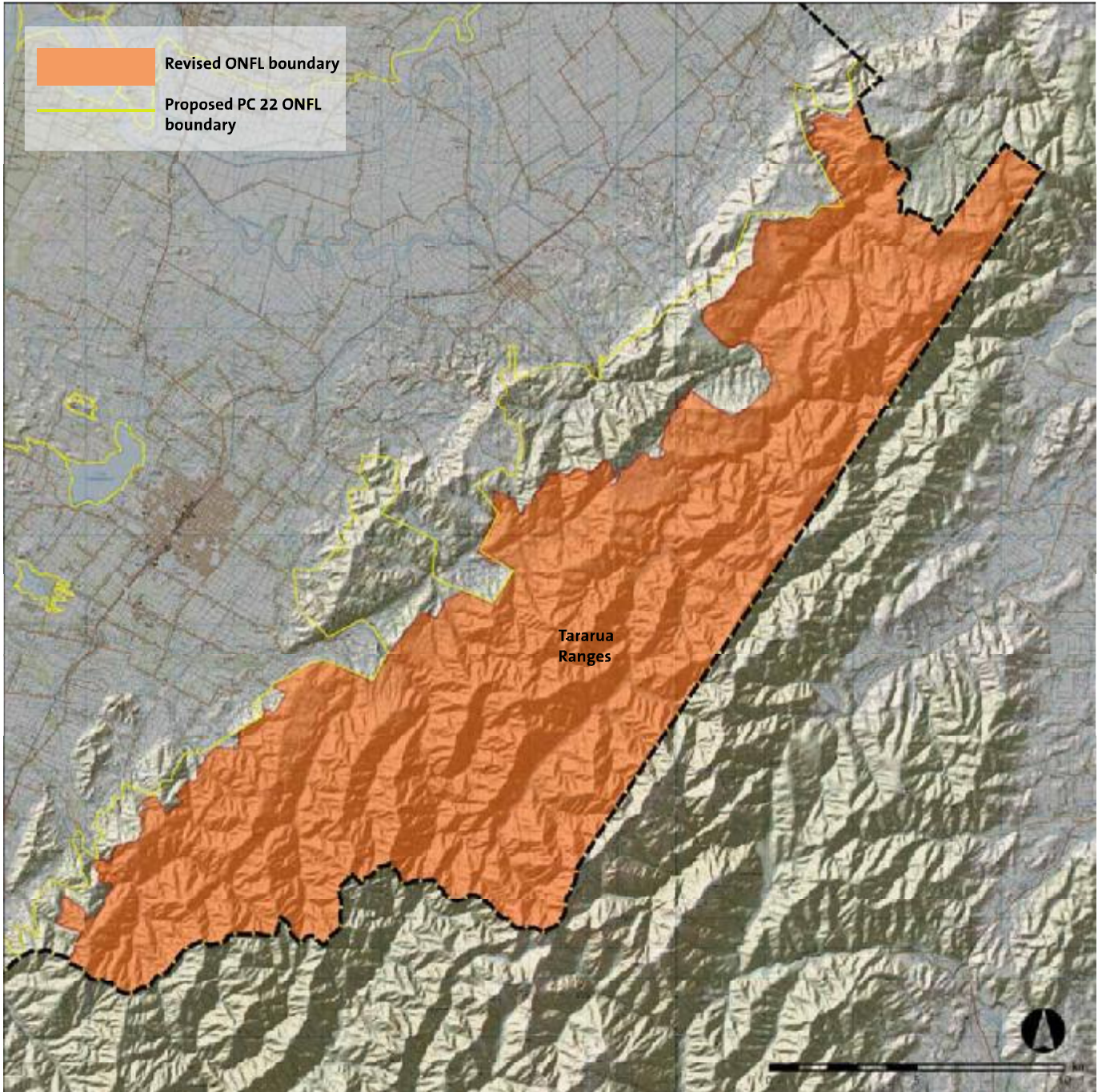
- Coincide with the Tararua Forest Park boundary where the two line locations and orientations were similar;
- Follow natural boundaries of ridge tops or streams where appropriate;
- Follow land parcel boundaries if practical; and
- Include the Tararua Forest Park and DoC conservation land if at all practical.

The draft line was then 'tested' in Google Earth to see if it appears 'logical from the ground'.

All but a very small part of Tararua Forest Park (near Manakau) and all DoC Estate is included in Revised Tararua Range ONL.

Landscape Values

- Significant geological feature, supporting large area of intact original indigenous forest.
- Significant ecological values at both a district and regional scale
- High rugged skyline contributes to the striking visual quality of the ranges and identity of the district
- Significant Maori cultural values are attached to the Ranges.
- Highly valued by the community for recreation.



The Tararua Ranges form a backdrop and western boundary to the whole of the Horowhenua District

16 COASTAL ONFL

OUTSTANDING NATURAL FEATURES AND LANDSCAPES REVIEW

The proposed Coastal Fore dune ONF is not mapped in PC 22, but is defined as;

“Coastal Fore dune Outstanding Natural Feature is a shore-parallel dune ridge formed on the top of the backshore of a beach by wind and sand transportation and deposition and where any vegetation consists of sand colonising flora such as pikao or pingao, spinifex, sand tussock or marram grass.”

As such, it includes just the first line of foredunes.

The Proposed Horizons One Plan identifies The Coastline of the Region as one of the regionally outstanding natural features and landscapes; in particular, it notes the Foxtangi Dunes and Hokio Beach South Dune Fields. The Ohau, Waikawa and Manawatu River estuaries are also noted for their ecological values, particularly as habitats for indigenous fauna.

The Proposed Horizons One Plan defines Coastal Fore dune as being “the strip of land between the Coastal Marine Area and a line roughly parallel with the beach, extending 200m inland of the first line of vegetation.”

This review considered the entire coastline and whether any of the coastline warranted to be an ONFL. This assessment also considered the coastal environment inland of the foredunes. However, it identifies the section of the coast at the Manawatu River mouth as part of the Manawatu Estuary ONFL.

The Survey Report for the Protected Natural Areas Programme¹ identifies three (priority one) areas in close proximity to the coast: Waikawa Estuary (RAP 13), Manawatu Estuary (RAP 22), Foxtangi Dunes (RAP 24).

The Horowhenua coast is a relatively short (35km) stretch of a much more extensive sand dune system extending from Paekakariki in the south to Whanganui in the north (130 km). The sand dune country with associated inter-dunal lakes and wetlands, lagoons and estuaries, is the most extensive dune system in New Zealand². However, much of the inland area of this dune system has been modified through farming, forestry, earthworks and settlement. The dominating influence of the coastal environment is the predominant west-northwesterly winds, which have a major influence on the physical shape of the dune landscape, and local climate.

The 1908 Sand Drift Act resulted in the establishment of large areas of exotic forest in the dune country aimed at stabilising the shifting dunes.

A series of lakes and wetlands aligned north south, lie approximately 4km inland of the coast (Lake Koputara, Koputara Lakes, Orouakaitawa Lagoon and Lake Omanu and their wetland/flaxland/ reedland margins). These features, while formed by coastal processes, are now isolated from the dynamic coastal edge by stabilised grazed pasture and areas of exotic trees. A QEII open space covenant includes part of the Koputara Lakes and wetlands area.

Natural Science Values

The coastal environment comprises sandy beaches and a band of active foredunes backed in a few places, by sand plains and low parabolic sand ridges (such as Foxtangi Dunes north of Foxton Beach and Hokio Dunes). Typically however, belts or plantations of exotic shrubs and trees (*Hakea* sp., macrocarpa, and pine) have been established immediately behind the foredunes and cover tracts of the sand plains beyond. While the original dune/sand plain landforms remain under the forested areas, they are not exposed to the active coastal processes and so have relatively low natural values.

The continuous line of foredunes is only interrupted by the river and stream estuaries, and at Foxton Beach, by the carpark and surf club building. The coastal housing settlements at Foxton Beach, Waitarere and Waikawa extend onto the back of the foredunes.

The sand binding plants, marram and spinifex, comprise the dominant vegetation of the foredunes with indigenous spinifex predominant. Less common, but scattered throughout the foredunes, are pingao, sand coprosma, tauhinu and small areas of native sand daphne.

Sensory Values

The coastal areas close to road ends are well used for recreational activities and at these locations the naturalness and remoteness of



Foxtangi Dunes



Foxton Beach

the long sandy beaches is diminished. However, along the majority of the coastline the expansive unoccupied beaches stretch unimpeded in both directions, and the sounds, smells and elements of the coastal environment are very evident. The river and stream estuaries particularly, add to the expressiveness of the coastal processes with the changes brought by tidal movements, and changing river mouth alignments and flows.

Shared and Recognised Values

Historically, the beaches along the west coast were the primary transport route between Wellington and Whanganui. Popular beach settlements are situated along this stretch of Horowhenua coast and also along the coast north and south of the district. The beaches are an important recreational destinations for Horowhenua residents and others outside the district for walking, driving, fishing and horse riding.

In places along the coast, community care groups are active in restoring the dunes, especially in the areas close to the settlements.

Notes on Defining the revised ONFL boundary

The inland extent of this ONFL has been partly informed by the analysis undertaken as part of the *Natural Character Assessment of the Horowhenua Coast*³, which identifies the inland extent of the coastal environment. The revised ONFL area includes more than just the foredunes so it is recommended that it be referred to as the Coastal ONFL (rather than the Coastal **Fore dune** ONFL)

The ONFL includes the foredunes and adjacent dunelands which are not occupied by settlements. Some areas of pasture land, grazed dunefield, and areas of forest lie within the revised ONFL area where they occupy land adjacent to and between dune landforms, as a result of needing to rationalise the ONFL boundary drafted at this scale.

In locations where forest and residential settlements are established immediately behind the foredune, the revised ONFL is approximately 150m wide. In areas where the natural dune landforms have not been modified, the revised ONFL is wider (eg Foxtangi and Hokio Dunes 500m to 1.0km wide). In other locations, such as estuaries or where exotic forest plantings are more patchy, the width of the revised ONFL varies between 150m and 500m.

The ONL boundary aligns with HDC zone boundaries and PC 22 boundaries at settlements, and in rural areas, where practicable, property boundaries are used.

The Coastal ONFL has been mapped as two separate areas; one north and one south of the Manawatu River Estuary ONFL. The sand spit and dunes at the Manawatu River mouth have been included as part of the Manawatu River Estuary ONL.

The Coastal ONFL includes coastal areas and features listed in Schedule F (Outstanding Natural Feature or Landscapes) of the Horizons One Plan as being part of (k) *Coastline of the Region*; namely Foxtangi Dunes, Hokio Beach South Dune Fields, and for their ecological values; the Ohau and Waikawa River estuaries.

While the uniqueness and high natural values of the dune lakes, wetlands and their margins, (4km inland) is acknowledged, they have not been included as part in the Coastal ONFL, due to their more inland location and separation from the coastal dunes by modified farmland.

However, it is recommended that these features do require some level of protection and ongoing management to ensure the natural values, biodiversity and habitats are retained and enhanced. A Coastal Management Strategy that addresses the management of these features would be a more appropriate and effective mechanism to protect these areas. Specific management provisions could be included as part of a future Coastal Management Strategy.

¹Mc Ewen 1987 in; Ravine D. A, *Foxton Ecological District, Survey report for the protected Natural Areas Programme 1992*. Biological Resource Centre DSIR

²ibid

³*Draft Natural Character Assessment of the Horowhenua Coast*. An assessment currently being prepared for Horowhenua District Council by Boffa Miskell Ltd., 2011
Hokio Dunes



Landscape Values

- Open, continuous and expansive landscape relatively free of visible structures
- Plantation forests and residential settlements detract from natural values
- Remnant dune areas of once extensive dune system
- Intact dunefields and river estuaries have a high proportion of indigenous vegetation and habitats
- Wild and natural coastal values valued by the community
- Coastal processes evident and still occurring
- Highly significant cultural and spiritual landscape for tangata whenua
- Historic values associated with coast providing an early transport corridor



The proposed Foxton Dunefield ONL occupies 107 square kilometres west of the Manawatu River, adjacent to the northern boundary of the Horowhenua District; the western boundary to this ONL is located approximately 3km inland from the coast. The proposed ONL area is part of New Zealand's most extensive transgressive dunefield covering 900km² between Whanganui and the Manawatu River¹.

A pocket of the proposed ONL in south-west corner includes the Manawatu flood plain and old river loop between Foxton and Foxton beach. This study has considered this area as part of the Manawatu Estuary ONL assessment, given the close proximity and hydrological connections of the river loop and wider river catchment.

The rural land consists of an extensive series of dunes aligned perpendicular to the coastline, separated by relatively flat inter-dunal areas. The dunelands were formed by coastal processes of wind deposited sands brought inland by the prevailing northwesterly on-shore winds. Consequently, the dunes lie parallel to the wind direction, resulting in a repeating sequence of lines of dunes separated by flatter low lying land.

The predominant land use of the area is grazed pasture for dairy and beef production with pockets of horticulture. Production forest plantations, woodlots and shelterbelts (typically radiata pine) are also a common land use, with several plantations over 50ha.

The key threat to the dune landforms within a working rural environment is physical modification, as a result of forest milling, farm tracks, earthworks for building platforms, and 'flattening' of dunes to enable large mobile irrigators to operate.

Natural Science Values

The dune landforms are still very evident and in places their form is accentuated by the different vegetation cover such as where production woodlots are established on the dunes and the flatter land between the dunes is grazed. Largely, the dunes appear to be intact, however the inter-dunal hollows and sandflats have been modified by being 'flattened' through continual cultivation and grazing practices.

Vegetation of the farmed land is almost exclusively exotic species, including improved grasses, greenfeed crops, and productive tree species. There is very little indigenous vegetation present; where it does occur the patches are small and scattered. Several reserves protect areas of indigenous vegetation and habitat, but with the exception of Round Bush Reserve, Himatangi Bush Scientific Reserve and Davis Bush, the other areas of indigenous vegetation are very small and fragmented.

The indigenous biodiversity is very low due to the prevalence of production farming systems throughout the area.

Sensory Values

The predominant character of the area is a productive working rural landscape. While the sequences of parallel dunes are a characterising element of the landscape, the overlay of human induced modification is dominant with buildings, fences powerlines, farm tracks and farming operations common features.

Some of the larger dunes as individual landforms, if their form is apparent, are visually striking when viewed at close quarters, but many of the dunes are masked by vegetation. While farmed animals, pasture and pine trees can be considered natural elements, the overall naturalness in relation to 'indigenous natural' is low.

Shared and Recognised Values

The dunefields are a well recognised feature of the Foxton area and also contribute to the identity of the Horowhenua District. Their close proximity to SH1, from where they are easily seen, means they are also readily visible to the travelling public. Historically, the Foxton area and parts of the dune fields were the hub of the flax export industry, and therefore the area has historic and heritage values associated with that activity.

This area, like much of the Horowhenua has high cultural values for the tangata whenua, as a landscape that was occupied by many generations. This area includes two Ngati Raukawa marae, various urupa, waahi tapu and land of cultural importance.

Discussion

It is not considered that the landscape values of the proposed Foxton Dune area as a whole, meet the threshold to consider the entire area as an outstanding natural landscape. That is, while all the landscape values are important and collectively contribute to the significance of the landscape, the area as a whole is not exceptional in the district that warrants the entire dunefields, much of which are substantially modified, being classified as an outstanding natural landscape.

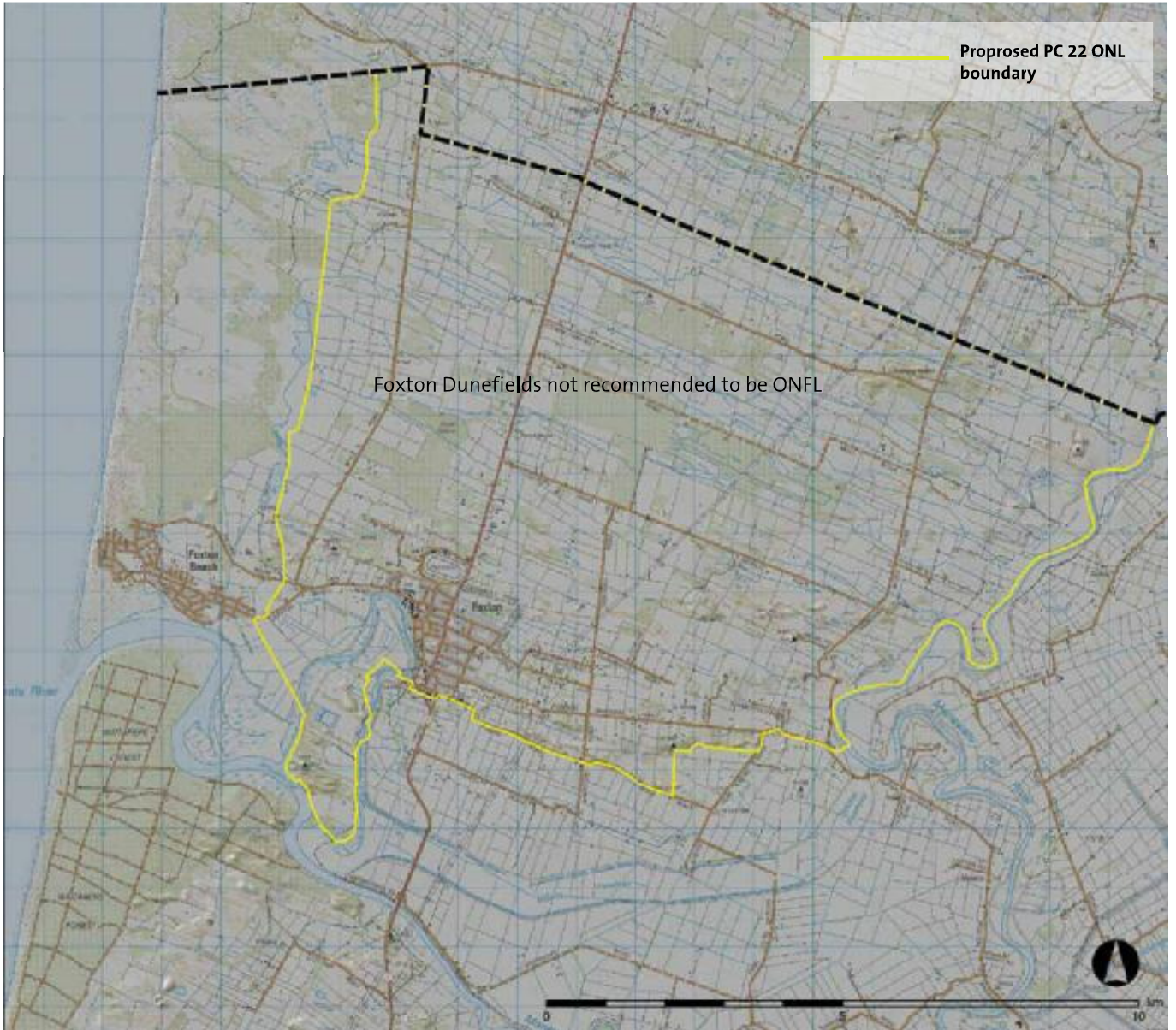
In terms of the criteria used in the assessment review of the ONFLs Foxton Dunefields do not meet the threshold of 'outstanding'.

Notwithstanding this, the dune landforms are an important characterising element of the Horowhenua landscape. The dunes should therefore be recognised in the District Plan via methods to protect or manage the dunes/ larger dunes, which fall outside the ONFL areas.

¹Dr C Sloss. *The Late Quaternary Geomorphology of the Manawatu Coastal Plain*. School of People, Environment and Planning Massey University. in Geosciences Conference

Very little indigenous vegetation remains in the area with productive land uses of farming and forestry predominating.





Areas of the dunefield are covered in production forestry.



ASSESSMENT OF THE OUTSTANDING LANDSCAPES & NATURAL FEATURES OF THE HOROWHENUA DISTRICT

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Photo: Tamzin Madley

Section A

Introduction

This report has been prepared for the Horowhenua District Council (HDC) to assist in the preparation of Plan Change 22 for the District Plan (the Plan). It addresses s6(b) of the Resource Management Act 1991 (RMA) and the requirements for district councils to identify and protect the outstanding landscapes and natural features (ONL) of the District against inappropriate subdivision and development.

The report contains an assessment of those landscapes and natural features considered to be having 'outstanding' or 'high amenity' values in the district context.

Background

In 1994, landscape architect Dr Tony Jackman undertook a mapping exercise to determine the outstanding landscapes in the Horowhenua District. Maps illustrating those areas identified by Dr Jackman are contained in the current District Plan Maps (Maps 32 and 33).

In 1999, the "Significant Natural Areas Review: Outstanding Landscapes and Natural Features" (SNAR) was prepared by HDC Projects Planner Louise Smith, in October 1999. This document was prepared in preparation for the then Proposed District Plan hearing, and outlines the process used to "ascertain the district's outstanding landscapes and natural features" and provides the results of the assessments utilised in doing so. Some of the findings, which are contained in a schedule to the Plan, are considered to be inadequate and/or inconsistent with the mapping process and similar assessments of Outstanding Landscapes in the country.

Given that the work completed by Dr Jackman was subsequently considered to have inadequate regard for the framework of the RMA, the uncertainty of the District Plan schedule listing landscapes as 'outstanding' and the subsequent limited statutory information regarding the status of those environments, HDC is undertaking another identification and assessment process to satisfy the requirements of the RMA.

In November 2008, an assessment of the Rural Environment of the Horowhenua District was completed by Treadwell & Associates Ltd in conjunction with HDC. This assessment identified distinct Landscape Character Domains, but deliberately stopped short of identifying outstanding landscapes and natural features in that environment as the work was required for the purpose of reviewing the rural

subdivision provisions of the District Plan. However, that document has been used as a first stage of this assessment of outstanding landscapes, as it addresses all the issues involved in assessing the district's landscape character, including the influence of outstanding landscapes and natural features on landscape character within the district.

As part of the public consultation exercise held by Horizons Regional Council in preparing the Proposed One Plan, some submissions were received that raised issues regarding the landscape provisions in the proposed plan, and the method and criteria utilised in the assessment of outstanding landscapes and natural features of the region.

One outcome of the ensuing discussions between Horizons and submitters was the need for assessment of outstanding landscapes at a district level, and the consistency in the assessment of these when undertaken by the Territorial Authorities within the region.

The assessment criteria proposed by Horizons for inclusion in the Proposed One Plan is in accordance with that used in this assessment of the Horowhenua District's outstanding landscapes and natural features. The criteria are discussed in detail in the following section.

Terms of Reference

Overall objective of the assessment

Given the background as outlined above, the objective of this assessment is to properly assess and identify those landscapes and natural features within the Horowhenua District that have a level of landscape values that qualifies as 'outstanding', in a manner consistent with case law to date. Those landscapes and/or natural features that do not quite reach the status of 'outstanding' but are still considered worthy of protection under the Act have been given the lesser status of 'high amenity'.

Outcomes required

The outputs from this assessment will include a detailed report, containing the identification, analysis, and evaluation of outstanding and significant landscapes and natural features, and associated maps detailing the location and boundaries of these.

The use of results

The assessment provides a basis on which district plan objectives, policies and rules can be developed to provide the required protection of these landscapes and natural features, as specifically required in section 6(b) of the RMA. These will be incorporated into Proposed Plan Change 22 and further detailed in the District plan Review.

Scope of the assessment

As discussed above, this assessment is limited to Outstanding and High Amenity Landscapes and Natural Feature Identification. While such assessments are usually part of an overall assessment of landscape character and value, in this case the more general assessment of the district has already been undertaken and its findings incorporated into proposed Plan Change 20.

Scale of the Assessment

The spatial area for the assessment is the entire Horowhenua district. This incorporates the ten landscape domains identified in the Rural Environment Assessment and the areas identified within the Horowhenua Development Plan (HDP), prepared for Plan Change 21.

The mappings included will, as noted above, define the locations and boundaries of the identified ONLs at a level of detail provided through the use of Geographic Information Systems (GIS).

Stakeholders

The identified stakeholders in this project are HDC and the communities and ratepayers of the Horowhenua District. Also included as parties of interest are the adjoining district authorities of Kāpiti Coast District Council and Palmerston North City Council, as well as agencies such as the Department of Conservation ("Doc"), Forest and Bird Incorporated, Horizons Regional Council and community groups involved in protecting and rehabilitating significant natural landscapes and features.

Iwi whose rohe is included in the district are Ngāti Raukawa, Muaūpoko, and Rangitāne. Sites of significance for those iwi are an important factor in the identification of outstanding landscapes. The relevant agencies are Te Mauri O Rangitāne O Manawatū, Tanenuiarangi Manawatū Inc., Muaūpoko Tribal Authority, Te Runanga O Raukawa, and Te Iwi O Ngāti Tūkorehe Trust.

The information received through consultation with iwi requires its own set of values which may combine all or some of the factors and associations included in the criteria set down in the Environment Court case notes. Importantly, it also includes their interaction with that landscape today as well as in the past, as there is no separation or difference between those in terms of cultural landscape values.

Sources of Information

Information included in this assessment has been sourced from the relevant iwi, Horizons Regional Council ("Horizons"), the Department of Conservation ("Doc"), Land Information Data from Land Information New Zealand (LINZ), various publications (included in the References section).

The previous work undertaken by HDC in 1994 and 1999 has also been utilised, as although both projects have been determined to be lacking in the required detail and methodology, they both provide a level of information that contributes to this assessment.



Photo: Landlink

Limitations

The previous landscape assessment for the rural environment covered much of the more general assessment of landscape character and value within the district (excluding those areas identified in the HDP) which are normally included in assessments of ONLs. Therefore, the scope of this assessment has a specific focus on the ONLs of the Horowhenua District, rather than a broader landscape character assessment.

Methodology

Assessment Criteria

In line with the criteria set out by the Environment Court in the 'Wakatipu' or 'Amended Pidgeon Bay' decision, the following criteria are utilised in the assessment of those landscape and features considered to be 'outstanding' within each landscape domain identified in the Rural Environment Assessment:

- The natural science features – geological, topographical, ecological, and dynamic components of the landscape or feature;
- Its aesthetic values, including memorability and naturalness;
- Its expressiveness (legibility) – how obviously the landscape or feature demonstrates the formative processes leading to it;
- Transient values – occasional presence of wildlife or its values at certain times of the day or year;
- Whether the values are shared and recognized;
- Its value to tangata whenua;
- Its historical associations.

The basis on which assessment of a particular landscape or feature occurs involved identifying specific areas of landscape which are predominantly natural, have very distinctive or remarkable characteristics, and that display high levels of most, but not necessarily all of the criteria listed above.

Some areas identified as "Outstanding" are on land administered by DoC. Much of the land in private title that has been identified as outstanding is on the District's coastline. There is also a significant portion of Māori land, and that therefore warrants additional consideration in the plan.



Photo: Landlink

Use of the Current Identified Outstanding Landscapes in this Assessment

Despite not considered having sufficient regard for the requirements of the RMA, the work undertaken by Dr Jackman has been utilised as a starting point for this assessment. The Planning Maps illustrate the areas that are identified as outstanding landscape areas in the Operative Plan. These are:

- Lake Horowhenua
- Lake Papaitonga
- Moutere Hill
- Tararua Forest Park
- Foxton Ecological Area
- Coastal Buffer Area
- Manawatū River Estuary
- Coastal Environment
- Manakau Downlands

The areas identified in these maps will be reassessed, and any other features or landscapes not identified, but which have been considered to potentially be of high landscape value are included in this assessment.

Those additional landscapes have been identified through a variety of means, which include, those known to be culturally significant to tangata whenua, and those having factors which contribute to a high level of landscape quality. These factors include:

- The presence of coastal features, including beaches, estuaries and coastal wetlands and dune systems
- Rarity – the presences of rare features and elements or a rare landscape character type that is either unique to or uncommon in the District.
- A strong sense of native/endemic heritage with the presence of indigenous vegetation, with the more continuous or extensive cover, the higher the rating, although remnant stands of native forest are also rated highly;
- The presence of large rivers or lakes;
- The presence of varied and often convoluted landforms;
- Diversity and variety within each landscape domain, provided this does not contribute to discontinuity and disharmony.
- The historical, spiritual and cultural connections tangata whenua have to a landscape or geomorphic feature.

Tangata Whenua iwi within the Horowhenua District

Rangitaane O Manawatū

Rangitaane O Manawatu iwi were one of the earliest peoples to settle in the district. Settlement of the Manawatu area occurred after the exploration of the Kurahapo descendant Whatonga and Tautoki first came to this area and described it as Te Taparanui O Whatonga or “the great supply of food for the chief Whatonga”. Tautoki’s son Tanenuiarangi settled the area with his descendants becoming known as Rangitaane. This occupation and connection to the land has remained unbroken for 700 years with many of the geomorphic features and landscape and their names containing the history, connections and wairua of the people.

Rangitaane O Manawatū Rohe

The Rangitaane O Manawatu southern portion of the rohe (tribal boundary) overlaps the HDC jurisdiction with the extent of overlap extending down to the south bank of the Manawatu River directly across to the Tararua Ranges and Mangahao River.



Rangitaane O Manawatū Rohe Map: Jon Proctor

Muaūpoko

Muaūpoko have occupied the Horowhenua district and south to Te Whanganui a Tara since the first peoples arrived to the area - hence the name Muaūpoko or “the people of the head of the fish of Maui”. Muaūpoko descend from Whatonga and Hotuwaipara and have occupied the head of the fish of Maui for over 700 years. Many of the landscapes and features in the Horowhenua were identified and named by Muaūpoko.

Muaūpoko Rohe

Muaupoko traditional rohe encompasses the entire Horowhenua District from the Rangitikei River across to Tokomaru and south to Te Whanganui a Tara.



Map: www.tkm.govt.nz

Raukawa

Following the 1817 migrations of Ātiawa from Taranaki, Ngāti Raukawa from Maungatautari and Ngāti Toarangatira from Kāwhia in the Waikato, Ngāti Raukawa settled the region from the Rangitākei River to the Kūkutārahi Stream north of Waikanae. The area is commonly described in the whakatauki: *Mai i Waitapu ki Rangatāua, mai i miria te kakara ki Kūkutārahi.*

In the last 200 years, Ngāti Raukawa have established twenty marae within this area - the homes of more than twenty two hapū.



Map: www.tkm.govt.nz

Section B

Landscape Assessment of the Rural Environment of Horowhenua

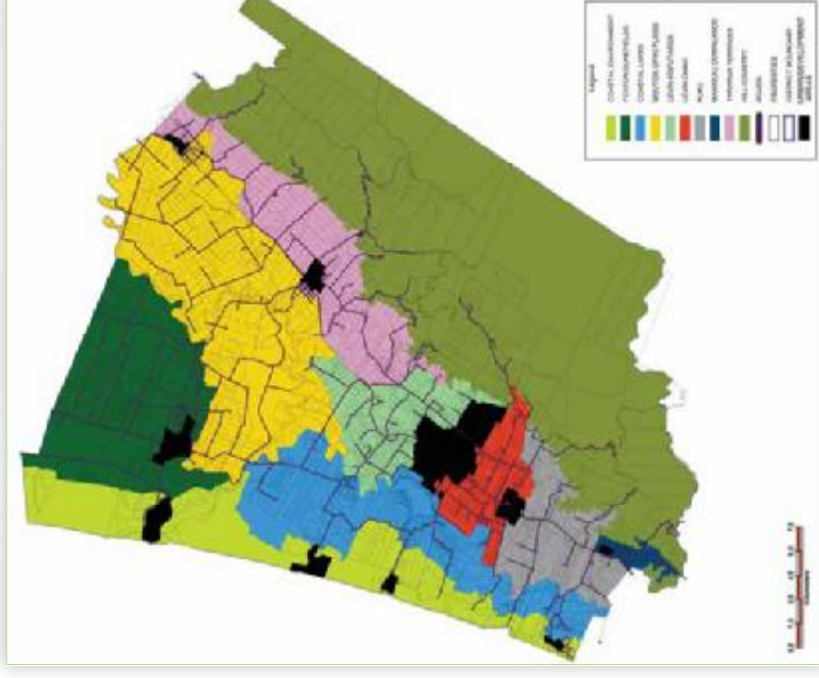
This report on the Outstanding Landscapes and Natural Features should be read in conjunction with the previous assessment prepared for HDC on the Landscape Character of the Rural Environment.

The previous assessment identified ten landscape domains within the District which each had characteristics sufficiently different to allow them to be categorized as separate areas. These are:

- Coastal Environment
- Foxton Dunefields
- Coastal Lakes
- Moutoa-Opiaki Plains
- Levin-Ōhau
- Levin-Koputaroa
- Kuku
- Manakau Downlands
- Tatarua Terraces
- Hill Country

Contained within some but not all of these domains are landscapes and/or features currently identified on Planning Maps 32 and 33 as Outstanding Landscape Areas (OLAs).

Landscape Domains



Outstanding Landscape Areas – District Plan 1999

The Operative District Plan 1999 does not identify any outstanding landscape areas in the Moutoa-Ōpiki Plains, Levin-Koputaroa, Levin-Ohau and Kuku landscape domains.

In summary, the landscape domains containing the currently identified outstanding landscape areas are:

DOMAIN	OUTSTANDING LANDSCAPE AREAS (1999)			
Coastal Environment	Coastal Buffer Area	Coastal Environment	Manawatū River Estuary	
Foxton Dunefields		Foxton Ecological Area		
Coastal Lakes	Moutere Hill	Coastal Environment	Lake Horowhenua	Lake Papaitonga
Manakau Downlands	Manakau Downlands			
Hill Country	Tararua Forest Park			
Levin-Koputaroa	Coastal Environment			
Moutoa-Ōpiki	Coastal Environment	Foxton Ecological Area		
Kuku	Manakau Downlands			

Nomenclature & Terminology

The nomenclature and terminology utilised in the identification of high value landscapes and features has been determined through case law and in other recent relevant instruments (e.g. Horizon's One Plan). To ensure consistency with other similar types of assessments and documents, and where only specific areas within the landscape domains (rather than the entire domain) have been identified as having high value, these landscapes have been given, in most cases, slightly different names than the domain in which they are located. This is explained in the following table.

DOMAIN	LANDSCAPE(S)	FEATURE(S)
Coastal Environment	Coastal Landscape	Dune Fields Hokio Stream & Estuary Manawatu River & Estuary Ohau River & Estuary Waikawa Stream & Estuary
Foxton Dunefields	Foxton Dunefield	
Coastal Lakes		Lake Horowhenua Lake Papaitonga Moutere Hill Hokio Stream Ohau River Waikawa Stream
Manakau Downlands	Tararua Foothills	
Hill Country	Tararua Range & Foothills	Ohau River & valley Waikawa Stream & valley Tokomaru River & valley Mangaore Stream & valley

The following tables identify the landscape characteristics of the domains considered to warrant assessment as outstanding natural landscapes, or high amenity landscapes or features.

Coastal Environment Domain				
Geo-Zone	Topography/Soils	Vegetation	L/S Character	Sensitivities
Severe Salt Belt	Low mobile young dunes	Exotic forestry species Pastoral grasses Remnant dunal and coastal species	Dynamic Rare Natural Coastal Residential Forestry Primary Production	Ecological value of dunes and estuaries Ecological value of wetlands Significant landscape features
Inland Dunes	Parabolic dunefields Dune lakes Thin soils Peaty soils in floodplain areas	Exotic forestry species Pastoral grasses Remnant indigenous bush, dunal and wetland species	Highly diverse Lacustrian Forestry Primary production	Ecological value of dunes, dune lakes, wetlands, habitats and remnant bush Scenic value

Foxton Dunefields Domain				
Geo-Zone	Topography/Soils	Vegetation	L/S Character	Sensitivities
Inland Dunes	Parabolic dunefields Dune lakes Thin soils Peaty soils in floodplain areas	Exotic forestry species Pastoral grasses Remnant indigenous bush, dunal and wetland species	Highly diverse Lacustrian Forestry Primary production	Ecological value of dunes, dune lakes, wetlands, habitats and remnant bush Scenic value

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Coastal Lakes				
Geo-Zone	Topography/Soils	Vegetation	L/S Character	Sensitivities
Inland Dunes	Parabolic dunefields Dune lakes Thin soils Peaty soils in floodplain areas	Exotic forestry species Pastoral grasses Remnant indigenous bush, dunal and wetland species	Highly diverse Lacustrine Forestry Primary production	Ecological value of dunes, dune lakes, wetlands, habitats and remnant bush Scenic value Outstanding landscapes

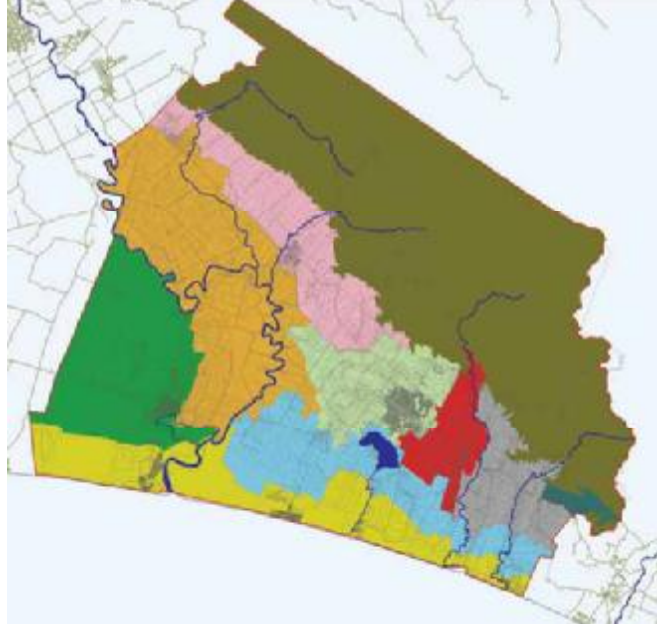
Manakau Downlands Domain				
Geo-Zone	Topography/Soils	Vegetation	L/S Character	Sensitivities
Volcanic lowland terraces	Well-defined terraces and dissected downlands Volcanic ash soils Relatively fertile Shaped by flood processes and loess down-cutting streams	Scattered exotic conifers and shelterbelts Deciduous exotic trees Willows lining streams	Intensive land use	Riparian margins and habitats Flooding High class soils
Nikau Belt	Lowland terraces Foothills Valley mouths Landforms softened by loess mantling and weathering	Vigorous, high nutrient-cycling regenerating species kohekohe Pockets of native forests and nikau palms	Intensive land use Kohekohe dominant forests Smooth compact canopies Soft bush edges	Ecological value of remnant and regenerating bush Earthworks conspicuous

This landscape domain information provides an important contextual basis for the more detailed description of the outstanding landscapes and natural features contained within the domains identified above. Each identified outstanding landscape is described in the following section, and assessed against the criteria listed in the methodology.

Hill Country Domain				
Geo-Zone	Topography/Soils	Vegetation	L/S Character	Sensitivities
Kamahi Country	Thin, leached soils Rocky fast-flowing incised streams with steep banks High, steep terrain Foothills	Relatively lower growth Tall regenerating species e.g. rewarewa Reverting farmland, e.g. tauhinau, bracken, kamahi	Naturalness Dynamic	Ecological value of vegetation Significant landscape features Outstanding landscape area

Rivers & streams, their margins & estuaries

This map illustrates the location of the main water bodies of the district and identifies the landscape domains through which these run. The rivers and streams are important determinants of landscape character and are significant landscape elements in their own right. Therefore, it is considered they warrant assessment as to the level of the landscape value of each waterbody. The findings of this assessment are included in Section D.



B
SECTION B

Section C

Coastal Landscape (Coastal Environment Domain)

Natural Science Factors

The Coastal Environment contains a mix of both mobile and stable dune systems which result in a dynamic landscape, with the strong prevailing winds contributing to the constant movement of sand on the dunes near the coastal edge. The inter-dunal hollows provide dune lakes and swamps where the water table is elevated, and the area also includes the estuaries for the District's rivers. As noted in the analysis for the Foxton Ecological Area and the Manawatū Estuary, the area contains important and unique landforms and environments.

Commercial forestry plantations and farming has changed the dominant vegetation to pine trees and exotic pastoral grasses, with exotic and indigenous dune species on the few dunes that have not been planted in forestry species or grass. Some small remnant areas of indigenous tree and shrub species remain, as do wetland areas and species and there are significant areas of indigenous vegetation within the estuarine areas. These areas function as important habitats for indigenous bird, mollusc and fish species.

The coastline is constantly undergoing transformation, due to the mobile dune processes, but also as a result of changes in sea levels, tidal action and increased erosion due to the removal of sand-binding species and general deforestation.

Aesthetic Values

The aesthetic values of the coastal environment are high – evidenced by a recent increase in coastal developments where a sea view commands a higher return in property prices. These values are a direct result of the natural science factors, and to a lesser extent, the level of rural character resulting from the dominant agricultural land use.

Expressiveness

The dynamism of the natural processes is clearly visible in this environment; tidal and wind movements continue to shape the land and the complex network of ecological processes illustrates the function of the entire hydrological catchment of the district. Climatic factors, such as heavy rain or drought periods, are expressed in the water levels of the estuaries and wetlands and the subsequent growth or otherwise of flora and fauna within these locations.



Photo: Nicky Treadwell

Transient Values

While not always a factor in every environment, in the case of the coastal environment transient values are high due to the constantly changing tides and the effects of this on the beaches, the gathering and movement of bird life and the light reflective properties of the sea and associated estuaries and water bodies.

Less constantly noticeable, but just as significant, is the movement of sand and the change in the shape of stream mouths and smaller river estuaries such as the Waikawa and Hokio waterways.

Value to Tāngata Whenua

As an important food and transport resource, the coast has been a huge influence on the settlement patterns of Maori. The value of those resources has also played a major part in tribal/territorial warfare, and the movement of various iwi throughout the lower north island, in particular.

Rangitaane O Manawatu

Rangitaane O Manawatu coastal interests lie north of the Manawatu River. The connections to the coast and coastal sand dune country have been recorded in waiata, korero and whaikoro. The Holocene dune sequence and unique landscape has also been a part Rangitaane identity and spiritual practice. The coastal area is also abundant in archaeological evidence, with ~35 recorded sites highlighting how heavily occupied and utilised the coast was. The soils between dunes in the low areas were highly valued and utilised for a variety of crops. Areas around lagoons were settled with some being modified with large constructed eel weir.

Muaupoko

The coastal Horowhenua area was more heavily occupied and settled by Muaupoko. Adkin (1948) provides the most detailed example by mapping the variety of sites and evidence of occupation in the coastal dune belt. Not only were the numerous wetlands and freshwater rivers utilised but also the native fauna that existed on the dunes. The dunes provide shelters and good soils for cultivation and the creation of a number of nurseries of native trees and flora valued for their uses in construction and as rongoa.

Numerous urupa exist in the dunes with a common practice being the burial of Muaupoko in the eastern end of a parabolic dune. The sand dunes and the movement of sand by the wind became important and iconic part of Muaupoko culture. These and other factors have been an integral part of cultural expressions and the naming of places.



Photo: Nicky Treadwell

Historical Associations

Until 1886, when the railway service began, coaches between Wellington, Ōtaki and Foxton followed the ancient Maori road that ran mainly along the coastal edge. Large Cobb & Co coaches, pulled by up to six horses, carried the mail and passengers up and down the coast for many years.

"We bowled along on the firm wet sand at a splendid rate. The heavy gale had but little abated. On our right a belt of foaming breakers stretches seawards for upwards of half a mile, for the billows on the gradually shelving beach break long before they reach the land. On our left, low sandy ground, undulating and covered with sparse vegetation, stretched to the foot of the Tararua Range, tall and thickly wooded."

Reverend Walter Lawry, 1855 in *Dreaver, A. 1984*.

Accommodation for the journey was provided at various hotels along the coast, at fords on the Waikanae, Ōtaki, Ōhau-Waikawa and the Manawatū (at Foxton, formerly Awahou) rivers where ferries and punts would take the travellers over the waterways. Crossings were also made at Hokio, Wirokino and Moutoa, the latter providing access to Shannon. These were places where the horses were changed, passengers refreshed and the mail delivered. Hector McDonald, former whaler, ran such a premises at the mouth of the Hokio Stream, another was located at the Ōhau River where "it was customary in flood-time to wait until the tide was in, when the coach could be swum across in the 'dead' water".

When the railway was put through, in 1887 the coach road along the beaches was no longer required for access up the coast. Remnants of it remain in various areas, called "Old Coach Road" in most instances.

The road and the grazing runs on the coast were established co-dependently. Large strips of Maori land was leased by pakeha settlers in the area; at the time the Horowhenua County was established there were some twelve properties along the coast, with flocks between one and ten thousand sheep. Dreaver notes there many Maori-owned flocks also, but generally of much smaller numbers.

The McDonald family leased land between the Waiwiri and Hokio Streams, where "the land was un-fenced and at first little modified from its original condition". A quote in Dreaver (not referenced, but probably Rod McDonald) notes:

"Later we cleared much of the country, felling the tutu and burning off the fern and toetoe, but I'm sure the flats ran less stock thereafter, whilst the destruction of the cover on the ridges aided the breaking up of the sandhills which has now so altered the appearance of the country that a man who had not seen it from 1870 to the present time, would not recognise it".

In the next few decades, with the land having been purchased from Maori owners though both commercially fair and unfair means, many of the large landholdings were subdivided and land use expanded to include horticulture and dairy farming.

Coastal Environment – Summary Analysis

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Unique dune formation processes	Includes both types of dune formation	Coastal margins contain important ecosystems	Yes	No

AESTHETIC VALUES

Natural Character	Amenity/Recreational Value	Memorability	Other Visual Qualities
Very high	High	Strong	Scenic, unique

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Rangitaane Raukawa Muaupoko	Significant sites for all iwi	Important resource location for spiritual, physical and cultural wellbeing	Dune burial sites, other wāhi tapu sites	Sites of seasonal and permanent occupation; middens etc

TRANSIENT VALUES	Changing effects from tidal action, dune movement
SHARED & RECOGNISED VALUES	Recreational, scenic
HISTORICAL ASSOCIATIONS	Important to accessibility of and development to district

Coastal Lakes (Coastal Lakes Domain)

As well as the distinct features of Lakes Papatonga and Horowhenua, there are a number of smaller lakes, wetlands, dunes and other natural features within this landscape domain. The lower reaches of the Waikawa, Kuku, Waitiri, Hokio, Managanano, Tikorangi and Manakau Streams and the Ohau River are all contained within this area and contribute to the high level of diversity it presents.

Natural Science Factors

The dominant topography in this domain is that of the parabolic dune field which extends in an easterly direction over 10km inland. The dune fields in this unit have been created during the younger dune building phases – the ‘Old Waitarere’ and the ‘Young Waitarere’ phases, as opposed to the ‘Motuiti’ phase of the Foxton dune fields – and do not extend as far inland as the older dunes. Mc Faden 1997.

However, they are still distinctive and a dominant landscape characteristic of this domain. The most significant of the dunes, Moutere Hill, is identified as an Outstanding Landscape/Natural Feature in the current District Plan.

Despite extensive modification through the imposition of deep channelled drains, the hydrology remains complex and dynamic. The remaining wetland areas – many of which are contiguous – still function naturally and provide habitat for a range of indigenous flora and fauna.

The freshwater dune lakes in this domain include Lake Horowhenua and Lake Papatonga which are identified as outstanding landscape areas in the current District Plan and have been discussed elsewhere in this report. Other water bodies in the area are more correctly lagoons, having been created through the capture of streams or rivers, rather than formed through ground water, and freshwater springs.

Adkin identifies all those in existence in 1948, when his book was published. Some of these no longer exist due to drainage and culverting of the contributing streams; those that remain are contained in the adjacent table:

LAKE	LAGOON	WETLAND/ SWAMP	OTHER
Papatonga	Oroukaitawa	Lake Horowhenua north swamp / Whitiki	Seymours Oxbow
Horowhenua	Nga Kawau (Rotomahana)	Makerua Swamp	
Koputara	Wai Ewe	Te Hakari Wetland	
Kopureherehere	Kemps	Heatherlea Park Swamp	
Waitawa	Ohita	Te Whanga Swamp	
Koputara Lakes	Ratahi	Muhunua Coastal Swamp	
Ohau River Dune Lakes	Ohourangi	Muhunua West Rd Swamp	
Omanu	Otaneko	Koputara Swamp	
	Kuku	Koputara Rail Wetland	
	Kai Kai		
	Oporau		

Original vegetation in the wet areas and stream margins would have included pukio, upoko tāngata, wīwī (sea rush) ōioi (jointed wire rush), raupo and kapungawha (lake club rush). Dune coverage further inland would have consisted of kowhai, ngaio, koromiko, maukoro (scented broom), tree tutu and toe toe. Vegetation in the inter-dunal areas included manuka, koromiko, karamu, hūkihūki (swamp coprosma), toetoe, ti kouka (cabbage tree), and harakeke (flax). Lowland terraced forests consisted of totara, titoki, kohokohe and matai, interspersed with manuka, poataniwha, makomako, kaimomako, mapou, kowhai, kawakawa, mahoe, wharangi and kohukohu.

Bird life included kereru, kaka, tui and parakeets, while in the waterways were tuna (eels), kokupu and other freshwater fish. Smith, H 2007.

The generally deforested (of indigenous species) stable inland fields have a mix of scattered small-scale forests on the residual dunes and pastoral activities on the low and inter-dunal areas.

Isolated pockets of high class soils are found near the Lakes Horowhenua and Papitonga, but otherwise are not a dominant soil class of the area; generally the soils are low nutrient sands, except in the northern area close to the Manawatū River margins where peaty wet soils exist.



Photo: Nicky Treadwell



Photo: Nicky Treadwell

The diverse nature of this landscape domain, despite the modification that has occurred, results in a fairly high level of natural value enhanced by sites such as Lake Papaitonga Scenic Reserve.

Aesthetic values

The existence of water bodies – including the wetlands, lakes, lagoons, streams and rivers – contributes to the level of the area’s aesthetic values, largely through their scenic attributes and level of natural values. As discussed above, the overall diversity of landform also provides a level of interest and certain features are sufficiently unusual (e.g. Moutere Hill) to raise the aesthetic values to a high level. Again, though degrading of the original landscape and its vegetation, a certain level of aesthetic value is derived from the overall rural character of the area.

Expressiveness

As previously noted, this landscape domain’s particular character is determined by the ecological processes that formed it – a combination of the ancient dune formation and the complex hydrology that results in the range of waterbodies and features. These are unique, not only at a district level, but also to this particular section of the west coast of New Zealand.

SECTION C

Coastal Lakes – Summary Analysis

NATURAL SCIENCE FEATURES			
Geological	Topographical	Ecological	Dynamic components
Rare and diverse systems	Distinctive and contrasting dune & interdunal areas	High ecological values	Lakes
			High class soils
			Some

AESTHETIC VALUES			
Natural Character	Amenity/Recreational Value	Memorability	Other Visual Qualities
High in less modified areas	In lakes and wetlands	Strong	Very scenic

VALUE TO TĀNGATA WHENUA					
Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use	
Muaupoko Raukawa	Yes Supply of natural resources.	Place of healing and physical & cultural wellbeing	Yes	Marae, pa sites	

TRANSIENT VALUES	Water bodies and bird life
SHARED & RECOGNISED VALUES	Recreational value of water bodies, ecological significance
HISTORICAL ASSOCIATIONS	Early pakeha settlement area

Transient Values

More fully discussed elsewhere in this report, the presence of waterbodies provides transient values in the reflection of light, varied visual reactions to climatic factors and through the presence of habitats for birds.

Value for Tāngata Whenua

The Coastal Lakes area was probably the most inhabited in the district by tāngata and mana whenua. The range and amount of resources for food and building materials, the opportunity for strategic placement of pa and kainga and access to both the coast and to the higher ground to the east was important to sustain well being and security.

“Ecosystems with particular species that were significant for food or other purposes, and which were known to have qualities considered to be vital to those species’ life sustaining processes, were likely to have had taonga status in the customary Maori landscape”.

Park, G. in Smith, H. 2007.

There are many significant sites, including urupa and burial sites within the dunes, wāhi tapu sites and overall, the richness of resources within the area enhanced the mana of those who inhabited it.

Historic associations

The Coastal Lakes area was one of the earliest pakeha settlement areas of the district; some books used as reference for this report are written by early occupants of the area (e.g. Adkin and McDonald), who recognized the particular landscape qualities it contains. The quality soils of the area promoted early pastoral farming, which remains a characteristic of the area today, with some of the early farms remaining.

Lake Papatonga (Coastal Lakes Domain)

Natural Science Factors

Lake Papatonga is a 61.8 ha dune lake with two artificially created islands, Motukiwi and Motungarara. It is located within a 122 ha protected a scenic reserve, managed by DoC.

The motu (islands) are now called Motukiwi and Motungarara but were previously named Papatonga and Papawaerangi. Motungarara is an artificial island created by Muāupoko in 1820 by driving stakes into the lake bed and filling in the area within the staked area with logs, stones and earth. Dreaiver, A. 2006.

As with Lakes Waitawa and Kopureherehe, Waiwiri-Papatonga is located in a dune-blocked branching gully system created by stream action in the sandstone basin of the district.

Vegetation around the lake is indicative of that likely to have been found prior to clearance across the dune area in which it is located and including kohekohe, tawa, nikau, with a dense understorey of supplejack (in Maori either kareao, karewao, or pirita), young nikau, mahoe and kawakawa.

These days the main area of the forest surrounding the lake is in good ecological condition and the reserve contains the only intact wetland to dry terrace forest sequence in the Wellington and Horowhenua districts, and the now rare wetland forest associations of kahikatea/pukatea, tawa, and pukatea/tawa/swamp maire. The vegetation of the larger motu, Motukiwi (Papatonga) is dominated by karaka trees.

The lake, islands and surrounds provides habitat for a wide range of waterfowl, swamp and forest birds and is one of the largest habitats of the endangered *Powelliphanta* snails in the region, and the rare leafless mistletoe *Korihalsella salicornioides*.

However, the high level of ecological value is now under threat due to land-use change over the last century in the immediate area. Drainage of areas outside or adjacent to the reserve boundaries have affected water levels in the lake system and altered the wetland processes in general.

Farm run-off has had an impact on the vegetation communities of the lake margin and the wetland to the west of the lake has reduced, which in turn reduces its ability to act as a natural buffer between the lake and farmland.



Photo: Nicky Treadwell

DoC has noted these issues in its Conservation Management Strategy and has objectives within the strategy to attempt to reduce the effects of land use on the lake and its surrounds, hopefully with the support and assistance of adjacent landowners.

Aesthetic Value

The area's status as a scenic reserve indicates the level of aesthetic value considered to exist there; tracks through the forest and bush to viewing areas of the lake provide visitors with the opportunity to appreciate the high level of naturalness which equates to high aesthetic value in this instance.

Papatonga Reserve was one of the earliest scenic reserves, formally set aside for preservation in 1901. Previously the lake and all property surrounding it were acquired by Sir Walter Buller, with the intention of preserving it for future generations.

*Dark clouds may brood on yonder peaks and spurs,
Chill winds may chase the sea foam flake on flake,
But here is peace. Nought ruffles, nothing stirs
The tranquil lake.*

William Pember Reeves

Expressiveness

"Its winding and, in part, deeply embayed shores, still largely clothed in magnificent native bush, owe their picturesque scenery to a combination of factors – the physiographic origin of the hollow occupied by the lake and the reflection of primal vegetation and sky tints in its oft-times placid waters."

G.L Adkins 1948

The reserve's role in preserving the wetland to dry terrace sequence and indigenous species of flora and fauna and their habitats of the wider area is important in that it is now the only area that provides examples of these environmental factors once common in and unique to the district.

Adkins notes that the original name of the lake, Wai-wiri, means 'quivering water' – "being the shimmer of sunshine on the usually almost motionless waters of this sheltered lake."

Transient values

Like any major water body, the lake provides a range of images for the observer; the time of day, the weather and different atmospheric conditions are all literally reflected in its waters.



Photo: Tamzin Mackley

Regular visitors to the reserve will have observed many of these images at different times as well as a sense of being in a completely different environment than that which surrounds the reserve. The silence is broken only by bird calls, noise from activities on adjacent land deadened by water and muffled by thick vegetation – the reserve provides a sanctuary for people, as much as it does for the endangered and rare species that inhabit the lake and its margins and wetlands.

Value for tāngata whenua

The lake has great mana and the islands are considered tapu by tāngata whenua. It has a long, rich and painful history, having being first settled in the early 1800s, with the large motu being constructed by Ruatapu's sons in 1820s to extend Muatūpoko's village area.

The lake and its isles have been significant sites in warfare for Muatūpoko – when a war party of Ngāti Hamua crossed the Tararua Range from Wairarapa and killed a Waikanae chief, they were chased to Papatonga by Ruatapu and his brother Potangotango where they were given refuge by the brother's sister, Te Riunga in her house on Papatonga motu. The warriors remained, and the two tribes became related through marriage between Hamua and Muatūpoko.

Even more significant consequences resulted when Ngāti Toa, led by Te Ruaparaha and allied tribe Te Atiawa commenced a heke in 1822 and travelled southward from Taranaki, where they had first stopped. When the party reached the Manawatū River, a canoe went missing and in act of utu, a Muatūpoko woman named Waimai was killed.

Shortly after, when Te Ruaparaha and his people had stopped to make camp at the then joint estuary of the Ohau and Waikawa rivers, an invitation was given to Te Ruaparaha to attend a feast of tuna at Papatonga and stay for the night. During the night, a group of Muatūpoko warriors ambushed the party, killing two of Te Ruaparaha's children who had accompanied him to the motu.

In revenge, Ngāti Toa launched canoes and travelled up the Hokio Stream to Lake Horowhenua surprising Muatūpoko on their island pa, and killing many.

After the renowned battle at Waiorua, Te Ruaparaha continued his campaign to be the occupying force of the lands from Porirua to the Manawatū River, overpowering and killing the chiefs at Papatonga.

Lake Papaitonga – Summary Analysis

NATURAL SCIENCE FEATURES			
Geological	Topographical	Ecological	Dynamic components
Large dune lake within wetland system	Distinctive and contrasting feature within dunal area	High level of ecological diversity; habitats of indigenous flora and fauna, inc endangered species;	Important hydrological feature;
			High class soils
			N/A

AESTHETIC VALUES			
Natural Character	Scenic Value	Memorability	Other Visual Qualities
High, pristine nature	Very high	Distinctive, aesthetically pleasing	Scenic beauty often noted in literature & art

VALUE TO TĀNGATA WHENUA				
Iwi/hapu	Ancestral landscape feature/ area	Cultural/ Spiritual significance	Wāhi tapu sites	Marae/pa/ kainga or other use
Muapoko	Highly valued; ancient settlement area; important archaeological items and structures	Lake has great mana; Islands are tapu and unique	Battle site, site of bloodshed and death	Fortified pa sites in and around lake

TRANSIENT VALUES	Changing effects from light reflected by water; bird movement
SHARED & RECOGNISED VALUES	Has scenic reserve status - DoC
HISTORICAL ASSOCIATIONS	Early recognition of scenic qualities by Buller; source of many items for collections; recreational use since pakeha settlement in district

Lake Horowhenua, and other areas in the district have competing tribal claims now going through the Treaty Of Waitangi claims settlement process. Papaitonga was taken by Walter Buller, who acted for Kēpa te Rangihīwinui of Muatipoko (Major Kemp), as his legal fee. Although now in Crown ownership, the lake remains a very significant site for all tribes involved in the battles within and around its shores.

Historical associations

While Buller was the first to recognise the lake’s scenic value and provided the early protection of this through designating it a scenic reserve, he also utilised the lake for recreational purposes, such as duck and kaka-snaring and took possession of some significant artefacts that are likely taonga for iwi. Buller wrote:

“Stone chisels and other evidences of ancient occupation are often dug up on the island and on the camping grounds of the olden time just opposite to it. Not long since a highly finished stone adze of phenomenal length, and with a sharp cutting edge in spite of its undoubted antiquity, was unearthed in the vicinity of the lake, and this relic, called by the Maoris ‘the scared toki of Papaitonga’, is now in the author’s possession.”

Adkin notes that, at the time of writing “Horowhenua” the adze was held in the Buller collection at the Dominion museum; it is now in the Maori collection at Te Papa, Museum of New Zealand. Similarly, Buller writes of Te Takinga, “an elaborately carved porch” displayed at the N.Z. Court at the Colonial and Indian exhibition in 1886, which was then “removed for preservation to the Dominion Museum” in 1910.

Buller also writes of Te Ranga, an ancient waka “with carved gunwales” relocated to Lake Horowhenua by Major Kemp, then, with “his full concurrence, it was purchased from the resident chiefs and removed to Papaitonga in 1892”. This taonga is now also held at Te Papa.

Lake Horowhenua (Coastal Lakes Domain)

"Lake Horo-whenua, or more correctly, Roto Horo-whenua, may be said to have been the 'centre and soul' of the district to which is has given its name."

G.L. Adkin 1948

Natural Science factors

Formed some 9000 years ago, Lake Horowhenua - Waipunahāu is a large dune barrage lake located on the inner-margins of the old dune belt, some 6.4 km from the coastal edge. The lake covers an area of 3.9 square kilometers, and lies in a depression, which Adkins notes was created by an old course of the Ōhau River then dammed by sand blown from dunes in the Hokio Beach area. Without afforestation, these dunes would eventually cover the lake.

The shallow lake (the average depth is 2 metres) is partially filled by small streams, but also by groundwater that comes through the porous gravel plains through aquifers originating in the Taranaki Range headwaters. Stormwater from the township of Levin also feeds in to the lake. The Levin fault that lies across the western end of the lake traps the groundwater in the depression, as it does with several other dune lakes in the area. Drainage of the lake is via the Hokio Stream to the Tasman Sea with the lake level controlled by a weir within this outlet.

Other than the gravel plains to the south-east, the soils of the former wetland area are peaty, with the land low-lying and flat except where interspersed by sand dunes. The original vegetation surrounding the lake would have been podocarp forest in a wetland ecosystem, but has since been deforested (apart from some small remnants) and the wetland substantially drained. Factors such as soil moisture and fertility, and exposure to sun and wind would have meant the forest composition would have differed from site to site around the lake.

Originally, swamp shrubs would have lined the lake margins and associated swampy ground. Haraheke (flax), raupo and other reeds would have made habitats of the wetter sites. When the lake was artificially lowered in 1931, most of the trees around the lake's edge were killed, and the embayment areas have become swamp, with haraheke, toetoe and other associated wetland species.

Although the lake and its surrounds have been heavily degraded through farming activities, stormwater and sewage disposal, they remain important habitats for several species of endangered birds. These include wewēia, the New Zealand dabchick, the Australian bittern, marsh crake, kotuku and royal spoonbill.

Once known and valued by Māori, and later early pakeha settlers, for the abundance of eels, the lake still supports a much reduced population of these as well as whitebait.



Photo: Nicky Treadwell

Aesthetic value

A level of aesthetic value is normally attributed to a large body of water, and despite the degradation of Waipunahāu - Lake Horowhenua, this is still the case although somewhat diminished from the previous high level described in Adkin's book. He quotes Rod McDonald:

"With scarce a ripple on its surface to dim the reflections of the fleecy clouds floating overhead, the lake lay clasped in the emerald arms of the bush which surrounded it on every side save immediately where we stood."

And:

"Straight and tall the timber grew to the water's edge, fringed with flax and nodding manuka, and over the bush flashing their white breast as they circled and wheeled in the sunshine, pigeons flew literally in thousands, singly drifting from tree to tree, rising in flocks of half a hundred or so, with a whirring of wings plainly to be heard across the calm waters; circling round in a wide sweep with characteristic rise and dip in flight, skimming the crystal-clear surface of the lake as they passed over, to rise and sweep back over the bush and settle on some other tree which caught their errant fancy."

In his own book, McDonald notes:

"Lake Papatonga was 'rightly regarded as the beauty spot of the Manawatū, but in the days I speak of (1860s) it was not even regarded as challenging [Lake] Horowhenua's claim to pre-eminence."

The lake has lost much of the 'natural' beauty, as described by McDonald but instead has a level of picturesque amenity value, with the Muatūpoko Park on its margin and other amenity values derived from the tended, public areas on its shores.

Similarly, a level of rural character can be perceived from the lake's position amongst what now is farmland (as a result of ongoing vegetation clearance after 1885) but McDonald's comparison between Lakes Papatonga and Horowhenua in the 1860s is now challenged as a result of the high level of modification that has occurred around and within Lake Horowhenua's waters.

Expressiveness

Despite the lake's high level of ecological modification through artificial drainage and the insertion of a weir to control its water level, its location within the dune fields and proximity to the streams that feed it and the Hokio River that drains it indicate the particular geomorphological process that created the lake, as discussed above.

The Lake Horowhenua Trust Board, which includes members of Muatūpoko iwi, has embarked on projects to rehabilitate the lake which include encouraging regeneration of indigenous flora and fauna. Such projects will assist in providing ecological corridors and seed source for revegetation of the lake's margins, and recent storm water and waste water management systems will help reduce eutrophication, thereby increasing the ecological health and making more visible the ecological processes.

Transient values

As with Lake Papatonga, this waterbody possesses a level of value resulting from the atmospheric effects it reflects, as well as the movement of bird life across its waters and beside its shores.

Value for tāngata whenua

The lake has extremely high level of mana and significance to Muatūpoko and only Muatūpoko. Currently, two marae are located on the shores of the lake, and also a plant nursery to assist in the replanting programme that aims to restore the wetland system, replenish the fish and eel populations and improve the quality of the water. This is somewhat of an uphill battle, however, until the issues of the pollutant activities are resolved.

Traditionally the lake is considered a great taonga to Muatūpoko being a focal point for the iwi and most likely the soul of the iwi. The lake is fed by spring waters from the Tararua Ranges and due to this is attributed with being a great source of Mauri for the iwi. The lake is abundant with natural resources and provided the iwi with everything they required. Numerous wāhi tapu exist on the shores of the lake as well as settlements and waka landings with some still occupied by the descendants of the original owners. Most unique to this lake are the constructed island pa and mahinga kai.



Photo: Nicky Treadwell

Lake Horowhenua – Summary Analysis

NATURAL SCIENCE FEATURES			
Geological	Topographical	Ecological	Dynamic components
Large dune lake within wetland system	Distinctive and contrasting feature within dunal area	Low- degraded through pollutants, deforestation, modification	Particular coastal hydrological feature;
			High class soils
			N/A

AESTHETIC VALUES

Natural Character	Scenic Value	Memorability	Other Visual Qualities
Low	High	Distinctive landscape element	Picturesque surrounds

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/ area	Cultural/ Spiritual significance	Wāhi tapu sites	Marae/pa/ kainga or other use
Muaupoko	Highly valued; ancient settlement area;	Lake has high level of mana and significance	Ritualistic and spiritual sites. Battle site, site of bloodshed and death	Old pa sites, current marae location

TRANSIENT VALUES

Changing effects from light reflected by water

SHARED & RECOGNISED VALUES

Has reserve status - HDC

HISTORICAL ASSOCIATIONS

Early recognition of recreational qualities since first pakeha settlement in district

The ownership of the lake bed, dewatered zone, islands and the Hokio Stream by Muaupoko iwi was determined by the Reserves and Other Lands Disposal Act, 1956. The lake waters, Muaupoko Domain, zone and one chain reserve strip in front of the Muaupoko Domain are vested under the Reserves Act 1977 in the Horowhenua Lake Domain Board.

There have been several legal and political proceedings over time that have diminished the level of control and management of the lake by Muaupoko; currently the lake is managed by a trust chaired by DoC, of which some Muaupoko people are members. Despite this, a range of activities that contribute to the degradation of the ecological health of the lake continue through consented private and public activities and in light of the past legal and political uncertainties, Muaupoko have placed a claim with the Waitangi Tribunal to ensure their ownership.

Historical Associations

As discussed above, the lake's scenic and recreational qualities – plus the fact that it is the largest body of water in the area – have provided value for the district in ways other than the value for tangata whenua.

“Pakeha eyes had been drawn towards the lake, and it had been suggested that it be purchased for regattas and other recreational purposes, preserving of course, Māori fishing rights”.

Stevens, 1897, NZPP Vol 100.

The Levin Boating Club built club rooms and boat shed on the shores of the lake in 1903 but all was not 'plain sailing' for pakeha boat enthusiasts at the time. The room provided the venue for a meeting between Prime Minister Seddon, Sir James Carroll and the Muaupoko, who met to discuss the conflict over Pakeha boating on the lake. The outcome of this meeting was an agreement which permitted Pakeha use of the surface of the lake, while preserving Māori ownership and fishing rights generally.

Rowing regattas and boat races were a feature of the club from the early days, and after the World War II, the Horowhenua Boating Club was formed and still continues the traditions of boating activities and celebrations on the lake. www.sailhorowhenua.co.nz

Foxton Dunefields (Foxton Dunefields Domain)

This area covers the entire landscape domain identified by the same name, replacing the previous name of “Foxton Ecological Area”. While the dunefield itself extends to Wanganui, the section of the dunefields within the Horowhenua District is that part that extends from the coast to the Manawatu River, and is located between the Coastal Environment Domain and the Moutoa-Ōpiki Plains Domain.

The current name of this OLA has been taken from the DoC term for the area which refers largely to the dunefield within it. While the term ‘ecological’ is not completely appropriate in the context of this assessment, the dunefields themselves are of sufficient rarity and contain important landscape values, the area warrants assessment as to the landscape values of the area.

Natural science factors

The dominant natural science feature of this landscape area is the dissected dunefields it contains. These linear dunes stretch some 20km plus in a northwest-southeast orientation. The inland dunes are of the Foxton sands, which began accumulating 6500 years before present (BP). Towards the coast, the dunes are younger and of the Motuiti phase (720 years BP), with those closest to the coast being of the Older Waitarere phase (400 years BP). Both sets of dunes have been stabilised through the planting of the now dominant land cover of exotic forestry.

Stabilisation through afforestation is thought to be the primary reason behind the ongoing loss of these previously mobile dunes in a national context. At a local level, irrigation, stock grazing and other agricultural activities, urbanisation, and waste disposal activities have caused local degradation but have contributed to the loss of mobility in a lesser way than stabilisation.

The Manawātū River is the dominant hydrological feature and forms the boundary of both the landscape domain and the currently identified outstanding landscape area. The river takes a complex and meandering course from the headlands of the Tairarua Ranges to the estuary at Foxton Beach and has several associated streams.

The inter-dunal areas and old, disconnected oxbows still contain some important remnant wetland areas, including Lake Koputara, however most swamp areas have been drained and are used for grazing. High class soils (LUC 1 and 2) are found in the south-western part of the unit where it extends to the fertile river terraces.

Despite the significant modification through pastoral and forestry activities, the area contains some remnant areas of indigenous vegetation, including Himatangi Scenic Reserve and Roundbush Reserves.

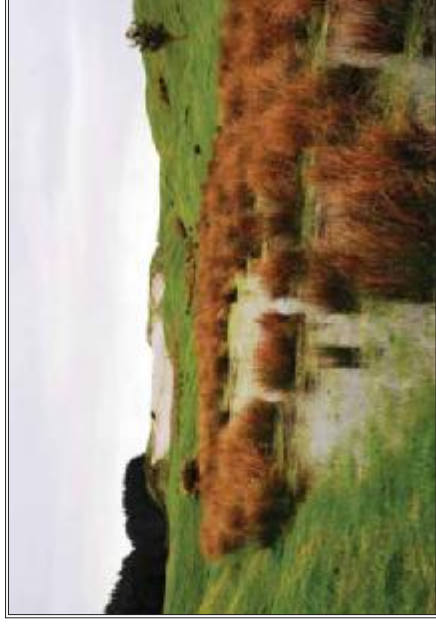


Photo: David McCorkindale

Indigenous species forming the vegetation cover of the dunes would have included tawa, matai, hinau, miro, totara, pukatea and kahikatea, as well as dunal grasses such as pingao. At the time of European settlement, however, clearance by the first people meant the vegetation on both Motuiti and Old Waitarere dunes was largely bracken fern, scrub, and indigenous grasses.

Subsequent planting of the exotic sand binding species of marram grass and lupin has further contributed, as intended, to the stabilisation of the dunes – but also at the expense of the indigenous dune species.

The inter-dunal swamps areas and peaty backswamps would have originally contained swamp forest and wetland species – where these landforms remain intact, the wetland shrub and reed species have persisted.

These dune formations are unique to the area, and indeed to the region and the country.

Aesthetic values

The regular linear form and advancement of the dunes inland is a particular aesthetic characteristic of this domain, and has influenced the location and direction of roads, siting of houses and provided view shafts through to both the Tasman Ocean and the Tararua Ranges.

The distinct and unique form of the dunefields appears generally unmodified when viewed from afar – they are visible from long distances across the northern area of the district. However, some modification of the dune forms has occurred over time for the purposes of pivot irrigation systems on farmland and where excavation or levelling has occurred for house sites and driveways.

In the Wanganui Conservancy CMS, published in April 1997, DoC notes:

“Forestry conceals dune landscapes, whereas farming can preserve much of the visual impact of extensive dunes aligned with the prevailing wind. If woodlots are grown on the dunes and the intervening flats are farmed, the visual impacts of the landforms are magnified. On the other hand, shelterbelts across the prevailing winds will break dune landscapes into unnatural blocks”.

The difference in elevation between the dunes and inter-dunal depressions and the contrast of this effect against the generally flat nature of the pasture contributes strongly to the perception of rural character of the area, emphasising a sense of openness and expanse in the low-lying areas that surround the dunes.



Photo: Nicky Treadwell

Expressiveness (legibility)

The height and extent of the dunefields speak of their ancientness and extended but now frozen period of formation, as discussed previously. The scale and linear form of the field is a product of the processes of winds, wave action and hydrology and is strikingly obvious in the otherwise low-lying terrain in the immediate area.

Stabilisation has interfered with the natural mobile process of these dunes; but the resulting effect paradoxically contributes to sense of permanence of these landscape features.

This also results in the dunes being clearly distinct from other local elevated topographical features in the wider district (such as terraces and foothills) and, as mentioned previously, is unique and a dominant characteristic of the landscape domain in which it is contained.

Shared and recognized values

As previously mentioned, the unique landforms and characteristics of the dunefields are considered to be of ecological/geological significance by DoC.

Value to tāngata whenua

Maori have occupied the wider dune area for an extensive period of time, although permanent settlements were more often near water bodies with temporary seasonal occupation occurring along the coast. The coast was also used as a route between the Wellington and Taranaki areas.

The Kurahapo people settled near rivers, swamps and lakes between Foxton and Wanganui; the sand country providing a valuable resource base for food and defense purposes. The dune lakes contained a plentiful supply of tuna (eels) and the wetlands were also an important resource for harakeke (flax) used for weaving, while raupo and kakaho (toetoe seed stalks) were used for construction of whare (houses) and other structures. Pingao, used for kete and tukutuku panels was found on the more open dunes.

Prior to stabilization, the mobile dunes covered and destroyed evidence of old settlement sites; however early archaeological recordings include middens and food storage pits.

Historical associations

Due to the peaty wet soils between and surrounding the dunes, flax production and harvest was one of the earliest industries of the Foxton area and was integral to the its initial economic growth; at one time 50 mills were operating within a 16 km radius of Foxton.

The industry influenced the growth of coastal shipping, contributing to the establishment of major ports at Foxton, as well as Wanganui and Patea. Evidence of the size and significance of the industry is apparent from the many buildings and structures that still remain in the area.

Foxton Dunefields – Summary Analysis

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Unique	Distinctive, contrasting	Remnant wetlands/ reserves	Manawatū River, Lake Koputara	Yes

AESTHETIC VALUES				
Natural Character	Scenic Value	Memorability	Other Visual Qualities	
Low	High	Distinctive/unique landform	View shafts of created by dune orientation	

VALUE TO TĀNGATA WHENUA				
Iwi/hapu	Ancestral landscape feature/ area	Cultural/ Spiritual significance	Wāhi tapu sites	Marae/pa/ kainga or other use
Rangitaane & Ngati Raukawa	Manawatū River	River provides mauri	Yes	Pa, marae

EXPRESSIVENESS	Clear expression of mobile parabolic dune process
TRANSIENT VALUES	Landforms create contrast and change through movement of sun
SHARED & RECOGNISED VALUES	Entire domain is identified by DoC as an Ecological Area
HISTORICAL ASSOCIATIONS	Early flax industry and shipping port were important to growth of Foxton

Tararua Ranges & Foothills (Hill Country Domain)

The area of the Tararua Ranges within the Horowhenua District that is the subject of this assessment extends to cover all of the Hill Country Domain, and includes the river valleys and foothills.

The ranges are the dominant characteristic of the landscape domain; their consistent elevated nature and that they extend the full length of the district also mean they form a dominant element of the entire district. The river valleys and foothills are important in their own right for the natural science factors, aesthetic and shared and recognised recreational values they maintain.

Originally proposed as a forest park by the Forest Service in 1954, Tararua Forest Park became a 'conservation park' when the Conservation Act was passed in 1987, with management becoming the responsibility of DoC when the Forest Service ceased to exist as a result of government restructuring.

The Forest Park itself forms a 116,535 ha area administered by the Wellington Conservancy of DoC and includes more than three-quarters of the entire range, extending from the Pahiatua Track in the north, to the Rimutaka Saddle on SH2 in the south.

Natural science factors

The Tararua Range plays an important role in conserving the indigenous biodiversity of the lower North Island. The forests, subalpine shrublands, snow tussocks, and the soils assist in conserving water quality and supply, and minimising flood risk to the surrounding lowlands. This diversity within the park is a result of a range of site factors, including exposure to wind, the depth and drainage of the soil, changes in altitude and aspect.

The range contains the upper catchments of the Hutt, Waikanae, Waitohu, Waitohine, Ōhau, Waingawa, Boar Bush Gully and Kaipaitāngata rivers; its annual rainfall measurement of around 5,000mm providing water supply for the Wellington-Hutt, Kapiti, Horowhenua and Wairarapa urban populations.

The high rainfall results in vegetation on the western side being predominantly conifers, ferns, shrubs and vines. At lower levels and on the foothills large areas of reverting farmland now have a vegetation cover of manuka, kamahi, tauhinau and bracken. In the northern part of the forest kamahi canopy with emergent podocarps (mito and mountain totara) occur at approximately 600-900m altitude. The most elevated areas are in alpine tussock grasslands.

Fauna in the Tararua ranges includes a range of indigenous birds, a species of native bat, endangered giant snails and native fish. The last recorded sighting of



Photo: Nicky Treadwell

the now extinct huia occurred on the track to Mt Holdsworth in 1903; continued clearance of the forest margins has since seen the disappearance of the kiwi and the kakapo.

With most of the lowland forest in the Horowhenua district cleared by 1910 for "indiscriminate collecting for museum specimens" and the introduction of exotic pest species (which still continue to have an impact) many of the habitats of indigenous fauna have been affected.

However, the river flats provide habitat for the paradise shelduck, and other exotic species including the pipit, spur-winged plover and the welcome swallows have established in the valleys. Indigenous species within the park include piwakawaka (fantails), titipounamu (rifleman), popkatea (whiteheads), miromiro (tomtits), and riororo (grey warblers) which are found in the forest areas, and tui, kereru and korimako (bellbirds) in the kamahi/rimu forests.

The North Island kaka, the kakariki and the ruru (morepork) have also been recorded, although are less prevalent than those listed above, while the karerea (falcon) can be seen in the more elevated areas.

Pekapeka, the Māori name for both the long-tailed bat and the sub-species of the lesser short-tailed bat, are present in park, with the Tararua Range is the only North Island location recorded for the latter sub-species.

Aesthetic values

Because the Tararua Ranges run the length of the eastern side of the district and are relatively close to the coast, they are almost always visible from nearly all locations in the district. It is, therefore, part of the district's communities' everyday life; the sheer scale and permanency of the view results in its status being 'iconic' for most people.

In his book "Levin: the making of a town", Anthony Dreaver includes this excerpt from an April 1925 edition of the Chronicle, written by Ewart O'Donnell:

"The coating of the snow on the Tararua ranges during the week...draws attention to the magnificent asset these ranges are to Levin....Every climatic change brings out fresh details of the mountains' giant mass: the seaward face under which summer skies presents an almost unbroken outline is revealed by mist and low-hung cloud to be instead range after range of tumbled hills. Where seeming solidity of the rocky system; ascents which had seemed merely a gradual approach by long unbroken ridges are revealed a scrambling from unsuspected difficulties, and one realises that these are more than mere hills for any child to climb on a summer's day – they are mountains to be approached with due reverence and awe."

O'Donnell's piece captures both the transient and more permanent values of the range that contribute to their high level of aesthetic value – which have been documented in many writings and are the subject matter of works by a variety of professional and amateur artists.

These include some of the country's most significant artists of recent times, including John Bevan Ford (Rangitane and a descendant of Morgan Carkeek) and Jack Register, whose work investigates and celebrates the geology. The range's sublime imagery was captured also by the early surveyors, scientists and artists.

As a result of the current District Plan provisions (1999) controlling activities over the 100m contour line, the overall impression gained from this landscape is one of 'naturalness'; in that there is little or no modification visible from the district in general. This is further enhanced by the areas of reverting farmland and the unmodified topography of parallel ranges and deep river valleys.

Expressiveness

Again, the sheer scale and extent of the ranges illustrates the age and intensive nature of their formation. The range is composed of greywacke, which is thought to be mainly of Triassic age. Together with the Rimutaka and Ruahine Ranges, the Tararua Range has been pushed up along major faults; the Wellington Fault evidenced by the scarps, saddles, and valleys that make up the topography.

The adjacent sedimentary basins have been covered by material from erosion – the western basin cover beginning in the Miocene and still continuing, with the large river systems draining the ranges, with mud, sand, and shingle extending the coastline seawards.

Adkin's theory (disputed by others at the time) was that the ranges were subjected to a frost climate with freeze and thaw as active erosion agents during the Pleistocene glacial episodes. Valley glaciers formed in the high parts of the Tararua Range and the entire landscape was smoothed by frost action.

The resulting familiar form of the district, with the contrasting expansive open plains, terraced foothills and steep-sided slopes rising to a peak of 1570msl, clearly portrays the massive and extended geological processes that created it.



Photo: David McCorkindale

Transient values

The geomorphological properties of the ranges also provide a range of atmospheric states which have high scenic value. In winter, the tops of the ranges are regularly cloaked in snow, often there one day and gone the next – depending on the weather patterns.

Light and aspect also provide a range of moods – particularly in the early morning and evening when the hues can be anywhere on the spectrum from gold to purple. The high rainfall often results in the tops and sometimes the lower levels being shrouded in misty rain and cloud, while on a fine day the silhouette of the skyline is distinctly clear with the vegetation texture of the slopes enhanced.

Atmospheric conditions can also affect the perception of how close the ranges are to the plains and coastal parts of the district; and while the ranges have many guises, they remain a strongly defining characteristic of the district.

Shared and recognized values

Anthony Dreaver captures that which residents not just of Levin, but of the entire district, know:

“Every Levin resident knows those crisp mornings when sleepy eyes are caught by fresh snow on the Tataraua Range and you stop, breathless, wondering what fortune has set you at their feet.”

Dreaver, A. 2006.

The scenic and recreational values are the main components of this category, although these are clearly related to the ecological and natural values discussed above. The river valleys offer recreational values in the form of white water rafting, boating, swimming, fishing and other water-based activities.

The lure of adventure in a relatively unknown, physically challenging environment led to the creation of one of the country's earliest recreational tramping clubs in 1919. The Tataraua Tramping Club was formed by Willie Field and Fred Vosseler, who played an important role in promoting the ranges as a recreational location; they and their successors – on both sides of the ranges - put in the hard work to create tracks and shelters.

The difficult terrain, unreliable, often atrocious weather and river crossings bred tough trampers, but improvements to accessibility, maintenance of tracks, well built huts and the ongoing protection from DoC and enthusiasts has opened the experience of the Tataraua Ranges to a wider range of people.

Value to tāngata whenua

Iwi whose rohe and ancestry are linked to the ranges are Muaūpoko (Horowhenua) and Rangitāne O Manawatu; Ngāti Kahungunu/Rangitāne O Wairarapa share ancestry with both tribes through tipuna who arrived on the Kurahaupo waka, they are more closely linked to the Wairarapa side of the range where they migrated some time later.

Rangitāne O Manawatu/Muaūpoko

The range for both iwi is a place where many spiritual and ritualistic practices occurred. Nga Pae Maunga is considered the resting place of their ancestors and the source of Mauri for land and the below.

The Tataraua Range was created or “fished up” by Maui and carved into its current shape by his brothers. It was then considered to be the exposed backbone (Tua ara) of the fish of Maui (Te Ika A Maui). Muaūpoko and Rangitāne tradition is that the name “Tataraua” refers to the two wives of their ancestor explorer, Whatonga, one of three chiefs on the Kurahaupo. Hau, the son of another chief, Popoto, and a tohunga himself, named many of the rivers whose beginnings are in the ranges, including the Manawatu, Ohāū and Ōtaki.

Many of the names associated with the peaks and areas of the Tataraua refer to hapu, whanau and ancestors of both iwi and provide a constant reminder of the whakapapa connections the iwi have the land. The Maori name for the central peak in the northern region of the ranges is Hanga-o-hia-tangata: “the place that caused surprise to man” but is more commonly known as Arete. The highest of the southern peaks is Pukemoumou (“hill of desolation”), also known as Mount Hector. Other areas such as Hopuakorari were scared lakes, visited by Kaitiaki and used for ritualistic practise, provide a spiritual connection to the Ranges.

The name of the range, the tracks located within it, the sources of many rivers which begin there, the great abundant sources of mahinga kai located within it, and the various names bestowed on areas within the ranges, reinforce the tribal identity of both iwi.

It is known that centuries ago, Māori regularly travelled through the range - the earliest being moa hunters, archaeological evidence of which was found by Leslie Adkin near the summit of Waiopēhu, then later botanist and author Geoff Park unearthed an ancient umu. It is possible these artefacts were items of the earlier tāngata whenua of the district; Ngāti Mamoe, who were displaced by those from the Kurahaupo landing, and fled into the mountains where they became known as patupaiarehe (fairy folk).

Much later, activity increased in the ranges during the period of inter-tribal warfare during the 1820s and '30s, when Te Rauparaha and his Ngāti Toa tribe (and their Waikato and Taranaki allies) invaded the district – it is said that, like Ngāti Mamoe, many Muatūpoko fled into the range after their kin were massacred by Te Rauparaha and his allies.

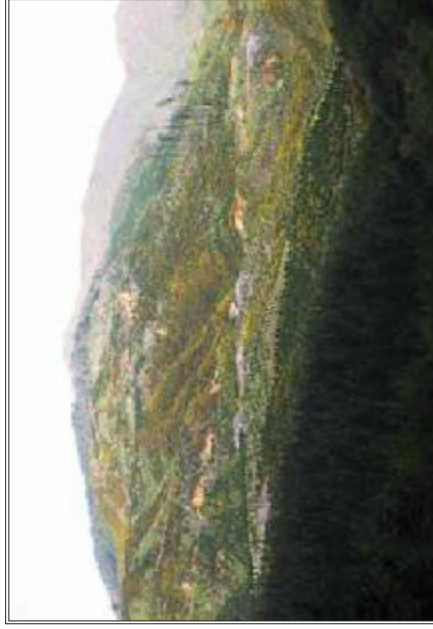


Photo: David McCarindale

Major Kemp secured from the Crown 20,000 acres within the district, which included Lake Horowhenua and extended inland to the mountain. G.L. Adkin notes that the eastern boundary was called "Nga Puke-turua (two peaks standing together)" and was the skyline ridge (now known as Dundas Ridge) of the Tairāraua Range as viewed from the Horowhenua Plain.

And, although the more recently-arrived tribes did not bestow any names or change those already given by Muatūpoko, all iwi have lodged claims with the Waitangi Tribunal for areas that include some or all of the ranges.

Historical associations

Apart from the huge significance of the range to iwi through the events and associations that underpin the naming of sites and areas, some of which are the subject of Treaty claims today (as discussed above), the range has strong historical associations for most past and present residents of the Horowhenua.

One of the earliest and most significant occurrences in the development of the Horowhenua post-colonisation is the work of surveyors in the early days of European settlement. The ranges provided the location and the necessary height to survey both the eastern and western plains' areas. Best known of these was Morgan Carkeek who produced the first map of the ranges in 1875, after beginning his explorations in the early 1860s.

Use of the range for recreation started with the hunting of pigs, then later wild cattle. In the 1920s, deer were deliberately introduced, spread from an Acclimatisation Society station in the hills above Paraparaumu. The devastation wrought by the deer infestation and by continued logging was deplored by many and attempts to have the range protected by legislation began.

Various adventurers, naturalists and advocates for protection of the range followed; many of whom have had an influence on the importance of the ranges ecologically and contributed to its current status as a park, finally achieved in 1954.

The earliest attempt, in the late 1930s, to turn the ranges into a national park was unsuccessful, and again an attempt in 1940 did not succeed. However, in 1954, the New Zealand Forest Service proposed that the ranges be given 'forest park' status which allowed recreational activities, as well as measures to protect the bush, water and soils.

Tararua Ranges – Summary Analysis

This action, along with the ranges' notoriety as difficult terrain that could not be utilized easily for farming, is probably the main reason the park has been so popular with trampers as well as those interested in the natural sciences. As a result, the ranges have maintained a very low level of modification and increasing protection, but still provide a high level of recreation for people throughout the country and overseas visitors.

The lower foothills, however, were not only converted to farm land by the early 1900s, but were also deforested through significant saw milling activity that began in the earliest days of Pakeha settlement. Saw mills extended from the foothills to the coast, systematically clearing the land for subsequent farming, while preparing timber for buildings and shipping.

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Ancient range formation	Dominant landscape feature of entire district	High level of ecological diversity; habitats of indigenous flora and fauna, inc endangered species;	Headwaters of most rivers and streams	No

AESTHETIC VALUES

Natural Character	Rural Character	Memorability	Other Visual Qualities
High	Low	Distinctive, iconic	Described in art and literature

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/ area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Rangitaane/Muaupoko & Raukawa	Tararua ancestral maunga; historical sites and peaks	Location of many ritualistic and spiritual practices; Some flora and fauna species were taonga, rongoa and natural resources	Yes	Signaling sites, access to east coast, navigational aids, places of refuge, seasonal campsites, areas of ritualistic practice.

EXPRESSIVENESS	Clear expression of volcanic uplift
TRANSIENT VALUES	Many different effects from climatic and light influences
SHARED & RECOGNISED VALUES	Large portion has Conservation Park status – DoC; popular site for outdoor recreation, nationally
HISTORICAL ASSOCIATIONS	Site of some of the earliest surveying of both the Horowhenua and Wairarapa districts; Earliest tramping club in country



Moutere Hill (Coastal Lakes Domain)

"From Moutere the whole run could be surveyed – not the run to be seen now, sand for a mile or more inland from the beach, but grassed hills and flats inside the one long littoral dune. Now even Moutere is breaking – Moutere of a hundred traditions, which the Maoris used to say, would move out to sea at times - and if not stopped will irretrievably spoil the appearance of that country".

Rod McDonald "Early Days in Horowhenua" p. 74

Natural science features

The Plan states that this dune is the largest in the southern hemisphere, standing at approximately 87.7m above sea level. Moutere Hill, as it is known, is located between Lake Horowhenua and the coast and towers some 30+ meters above the surrounding dunes. Writing in 1948, G. L. Adkin notes:

"Physiographically, the origin of the reversed form of this dune is something of an enigma; it's great relative height and the fact it faces west whereas all the other dunes of the ocolian belt face east, are features that have not yet received satisfactory explanation".



Photo: HDC

Transient values

Rod McDonald notes that the Maori lore that Moutere Hill moved to and from the sea probably came from the illusion created by certain atmospheric conditions where the dune, viewed from the north or south, appears to rise from the sea, due to the low-lying nature of the surrounding land.

Shared and recognized values

This landscape feature is a well-known landmark today and often used to orientate the observer's position or as a marker for the location of other nearby places, such as the Horowhenua golf course.



Photo: Nicky Treadwell

Value to tāngata whenua

In Legends of the Māori (Volume 2), author Maui Pomare recounts the effect on Heta, a member of Muaupoko when early pakeha settlers placed a trig station on the top of Moutere Hill. He begins with this statement:

I take it whakamomori means not only the straight-out suicide, but also the faculty natives appear to possess of giving themselves up to death in despair and dying accordingly. Horowhenua has been much before the public of Maoriland, and the history of that land and its claimants, truthfully written, would make entertaining reading. Here I shall give one incident which touches upon the curious phase of whakamomori mentioned, in connection with Moutere, the sentinel hill which rises solitary from the plain on the ocean side of Horowhenua lake and it is not fiction.

The legend tells of how Heta, whose despair at the erection of a trig on the top of the dune, is of a depth that results in his death.

Historical associations

Due to its isolated nature and height, Moutere Hill was utilised for a trig station early on in the settlement of the district by pakeha, as noted above. Adkin notes that the station gave its name to the surrounding district, and that, at the time of his writing, a wooden pyramid was placed at the summit and inscribed with the words “Moutere nga (sic) Muaupoko tenei” (Moutere: this belongs to Muaupoko).

Moutere Hill – Summary Analysis

NATURAL SCIENCE FEATURES			
Geological	Topographical	Ecological	High class soils
Ancient range formation	Distinctive height; isolated feature	Low level of indigenous flora and fauna	No
			Dynamic components
			-

AESTHETIC VALUES

Natural Character	Rural Character	Memorability	Other Visual Qualities
Low	Some	Distinctive landmark	Described in art and literature

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Muaupoko	Yes	Yes		

EXPRESSIVENESS

Clear expression of volcanic uplift

TRANSIENT VALUES

Known for impression that hill moves out sea through atmospheric influences

SHARED & RECOGNISED VALUES

Local and district-wide landmark

HISTORICAL ASSOCIATIONS

Site of one of the earliest trig stations in district

Manakau Downlands (Manakau Downlands Domain)

Currently identified in the District Plan as an outstanding landscape area included within the landscape domain of the same name, Manakau Downlands was assessed as to its landscape character in the Rural Environment assessment. That assessment found that the extent of the area required adjustment and was reduced in size from that identified originally.

This assessment found the area has a distinct character of its own which requires consideration as to the extent, type and location of development.

Natural Science Factors

Located in the narrowest part of the catchment in the district, the landform is a mix of types with discrete areas of more varied topography, particularly on the eastern side of the domain. The proximity of the foothills results in the presence of small enclosed areas, similar to those in the southern part of the Tatarua Terrace domain, and within the Kuku landscape domain.

All three domains are within the geomorphological domain of the 'Nikau Belt', which due to the shelter from the prevailing winds and the proximity to the high rainfall of the ranges, tend to have a lushness and rate of growth not present in the other geomorphological domains of the area.

This landscape includes remnant bush and wetland areas, as well as regenerating bush on the foothills. Otherwise, the vegetation is mainly pine forest or pastoral grass and exotic trees, including shelter belts.

Pastoral farming (ranging from small to large scale farms) and horticultural activities reflect the presence of fringe areas of high class soil from the adjoining domain. Deforestation and modification of the waterways has occurred as a result of the dominant landuse.

Aesthetic Values

The Manakau Downlands has a high level of rural amenity, which has probably contributed to its identification of an outstanding landscape area in the current Plan. While the areas of remnant and regenerating indigenous vegetation provide a level of natural character values, these are less apparent than the rural character.

Expressiveness

As discussed above, this landscape expresses the particular geomorphological factors resulting from the proximity to the ranges, and shelter from the prevailing winds through its vegetation and landform.



Photo: David McCorkindale

Regenerating species are dominated by vigorous, high nutrient-cycling species including kohekohe, and the landforms are softened by loess mantling and weathering.

Value to Tangata Whenua

Muaūpoko

The Manakau area was traditionally occupied by Muaūpoko and settled in much the same way as the coastal stretch of Horowhenua. Of significance in this area are the numerous bush areas and clearings that once existed providing a abundant source of natural resources (timber, berries, birds etc) used in variety of ways. The resources in this area were managed and maintained in a sustainable manner under traditional practices.

Other important features of this area were the rivers and streams that flowed from the ranges supplying mauri to these managed areas. The rivers also acted as track into and across the ranges as important lines of travel and communication.

Raukawa

Ngāti Wehiwehi (a hapu of Raukawa iwi) are located in the Manakau area. The hapu has a marae within the Manukau village area, and an urupa is located within the cemetery. Their ancestral lands extend from the Tararua Range to the coast at Waikawa Beach, and include the Waikawa and Manakau Stream as significant resources for both physical and spiritual sustenance.

Historical Associations

The Manakau area reflects its long history through the preservation of historic buildings within the village itself. Similarly, the Manakau Cemetery, where the first interment took place in 1892, is still used by descendants of the original colonial families and by tāngata whenua as an urupa.

Manakau Village and the surrounding area were settled through slightly different processes than other areas in the Horowhenua, and its current 'village' character is the result of quite deliberate planning.

The area was utilised for sawmilling then farming, as with much of the district, but it was the formation of the road, and more importantly the railway line that influenced the settlement most strongly. Dreaver notes:

"In this favoured county, the stretch from Ōtaki to Manakau rated as difficult. Tongues of sandstone terrace reach out from the base of Pukehou (Hunia te Hakeke's 'Hill of dedication'), separated by swampy gullies".

Land owned by the Railway Company was offered for sale with stringent conditions set by the Government in the Land Act of 1885. William Rolleston, Minister of Lands 1879-84, according to Dreaver, "wished to avoid the land aggregation which he knew so well in Canterbury" and, being "less concerned with the sins of the big landlord than with the potential of land as a social control" the outcome was a range of options for land purchase that allowed a broader range of people to settle.

The planning for the settlement included provision for a railway station, reserves for schools and public buildings, suburban blocks between 5 and 20 acres – all amenities that would serve the Railway Company's interests, as well as the future residents.

Hence, Manakau is still a small settlement of quite a high density, with community amenities and public buildings, surrounded by farms of a range of scale. The now heritage buildings have protection under the Plan, and the design of new buildings and developments are controlled.



Photo: David McCorkindale

Manakau Downlands – Summary Analysis

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Complex arrangement of foothills	Varied, with distinct sheltered areas between lower foothill/ old dune ridges	Some remnant and regenerating bush areas	Waikawa stream a distinct feature	Yes

AESTHETIC VALUES

Natural Character	Rural Character	Memorability	Other Visual Qualities
Remnant and regenerating bush areas	High	Distinctive landmark	Scenic values

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/ area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Muaūpoko, Ngāti Wehiwehi & Ngāti Tūkorehe	Forested areas and clearing on lowland hills and gravel collium and flood plains – from ranges to coast; Waikawa Stream	Natural resources	Urupa	Other areas such as sites of seasonal occupation, mahinga kai and kainga & Marae

HISTORICAL ASSOCIATIONS

Planned settlement strategy has contributed to distinct 'village' character

Manawatū River (Coastal Environment, Foxton Dunefields & Moutoa Opiki Plains Domains)

“Away in the dim past a huge totara tree growing on the slopes of the Puketoi Range in Hawke’s Bay became possessed of a supernatural being called Okatia. Under the influence of the spirit the tree began to move, gouging out a deep channel towards the north-west. In time the moving tree encountered the mountain barrier of Taranua and Ruahine, but this obstacle counted for nothing as the totara turned to the west and simply forced its way right through the mountains, thus creating the gorge. The tree then meandered across the plains until it entered the sea. This provided a convenient bed for the Manawatū River.”

McEwan, J.M. 1986.

The portion of the Manawatū River within the Horowhenua District runs in a complex meandering route between the district boundary at Ōpiki and the estuary at Foxton Beach. The north-eastern margin of the river forms the northern boundary of the district.

The course of the river through the district is predominantly through pastoral land. Between Foxton and Shannon, the immediate surrounds of the river are river flats, which are bounded on three sides by the dunefields - to the west, north and south.

The estuary and the section of the river within the District maintain high levels of all the factors associated with outstanding and high amenity landscapes and natural features, although the river has been polluted and degraded through farm runoff, industrial and stormwater discharge.

Natural Science Factors

The Manawatū River drains the central east coast of the North Island, rising in the eastern Ruahine Range. The unique feature of the river's east to west route through the central ranges is most probably caused by the uplift of the central ranges at the same time as the gorge was eroded by the river, suggesting that the river must have existed before the Ruahine and Taranua Ranges and therefore is of huge antiquity.

The total length of the river is 180 km, with an average flow of 102 m³/s, amongst the highest flows of any rivers in New Zealand. The Makakahi, Mangahao, Pohangina and Ōroua Rivers are major tributaries of the Manawatū.

The terraces and alluvial plains on the lower Ōroua and Manawatū Rivers were formed from sediment that gathered at the base of the mountains that was then shaped by wind, ocean and river action over hundreds and thousands of years. The plains are well-drained to the north, but were swampy in the south around Ōpiki, Makerua and Moutoa, east of the extended estuary at Foxton.

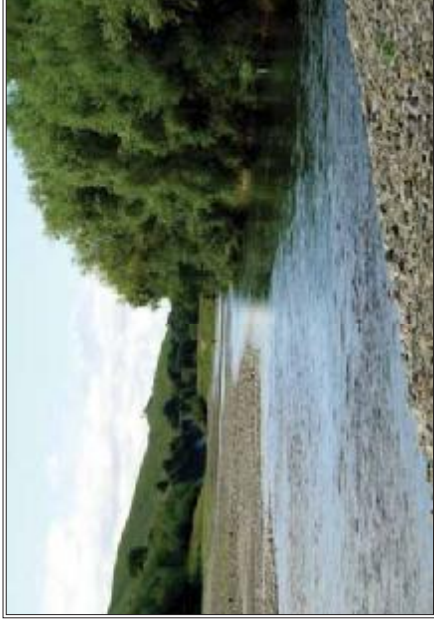


Photo: Tamzin Mackley

Drainage of the swamp areas was initiated by early pakeha settlers, for farming and flax harvesting. Further drainage occurred when the flax industry declined and more of the land was utilised for pastoral farming instead. Forest clearance of the area occurred simultaneously and since 1880, the river system has flooded many times. In 1962 the Moutoa channel and sluice gates were built, allowing some 2,450 cubic metres per second of water to be diverted, with the existing river channel still running at 1,274 cubic metres per second.

Despite the construction of stopbanks in Ōpiki and Makerua in the early 1920s, flooding still occurs as evidenced by the significant 2004 floods, and the stopbanks can result in flooding occurring in other areas of the district and its neighbours.

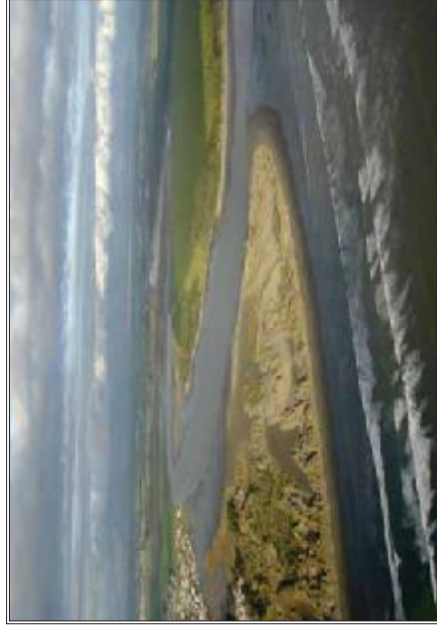


Photo: Horowhenua District Council

Value to Tāngata Whenua

The Manawatu Estuary was a heavily occupied area where all three iwi of the district settled.

Rangitane O Manawatū/Muaūpoko

The Manawatū River provides the mauri for Rangitāne o Manawatū; it is an integral part of the iwi's history and traditions and contributes spiritually and culturally to everyday life. Named by ancestor Haunui – a tohunga from the Kurahaupo waka, “Manawa-tu” translates as manawa (heart, spirit) and tū (stand still, depressed). Haunui was searching for his wife and when he arrived at the river he clutched his chest in apprehension and despair over the obstacle it created in his journey down the coast.

The primary occupation areas of Rangitāne O Manawatū and Muaūpoko control where Te Wharangi (fishing station and waka mooring), Te Waka Puni (kainga and waka mooring) Whirokino (waka crossing and Pa) and Mikihī (resource gathering area) are located.

Along the length of the river are numerous wāhi tapu, urupa, pa, mahainga kai, and nohonga. The river also played an important role for travel and access between the coast and the ranges. Prior to its current level of pollution, the river was an important food and water resource, with important pa, many kainga and seasonal settlements locations along its banks. Adkin notes:

“Along that portion of its course, contiguous to the present Horowhenua County, these river-settlements numbered no less than 83”.

One hundred years later, when Adkin wrote his book, only three remained.

Historical Associations

Adkin notes that by the 1840s, the river was already the “scene of considerable commercial and other activity”. Such activities included dockyards for whaling vessels, sawmills, a flour mill and ship builders. C.H. Kettle, assistant surveyor to the New Zealand Company was one of the earliest Europeans to make the complete journey up the river; his data was incorporated in the Map of the First Settlement of the New Zealand Company in 1842.

The river flats were utilised for flax production to serve the growing demand for the fibre, with 50 mills operating in the area at one time. Other areas of swamp were drained for dairy, beef and sheep farming, which ultimately took over the majority of the land when the flax trade waned.

Aesthetic value, Expressiveness and Transient Values

Despite causing the degradation of the natural values of the river's margins, the productive landscape through which the river runs is high in rural character. Some small remnant areas of bush remain, often where an old oxbow has become a wetland, which maintain a level of natural character.

On the larger scale, the landform created by the river is varied and fairly dramatic in some areas. The contrast between the swampy flats, the undulating sandstone terraces and the steep, dissected terracing towards the ranges illustrates the variations in landform that results from the river's convoluted course.

Where visible, the river body maintains the particular aesthetic unique to moving water; the 'mood' being dependant on the water level and flow, but constantly interesting in the changing scenes it reveals.

The estuary has a much higher level of natural character and as such has quite a specific aesthetic that is less reliant on the picturesque model. The sheer expanse of the mouth and the contrast with dominating forms of the nearby dunes is spatially interesting, while the vegetation and the presence of birdlife visually convey the special ecological values of the area.

Manawatū River – Summary Analysis

All industries along and near its banks required the accessibility to the coast the river provided with its generous estuary area. A major port was established in Foxton, allowing goods to be transported into and out of the area as required as the area surrounding the river became more populated, but less vegetated.

Saw milling was an early significant industry, successfully deforesting the area between the coast and the foothills within the century, and allowing the growth of the primary production that still dominates the district. The kahikatea and totara forests provided a vast amount of timber of huge value to both the domestic building trade throughout the lower North Island but also the ship building industry nationally.

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Unique east-to-west route through ranges	Complex, meandering route with many oxbows	Low-degraded through pollutants, deforestation, modification	Major river of district and adjoining districts	Yes – on plains

AESTHETIC VALUES			
Natural Character	Rural Character	Memorability	Other Visual Qualities
Low – some areas of remnant bush and wetlands	High	Distinctive landscape element	Large-scale waterbody Rural Character Contrasting landforms

VALUE TO TĀNGATA WHENUA				
Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Rangitāne	Integral to history, traditions, spiritual and cultural wellbeing Supply of resources	Main supply of mauri	Wāhi tapu, urupa, pa, mahinga kai, nohoanga	Old pa sites

TRANSIENT VALUES	Changing effects from water flow and level
SHARED & RECOGNISED VALUES	Recreational, commercial
HISTORICAL ASSOCIATIONS	Very important commercial and trading location important to district development



Manawatū River Estuary (Coastal Environment Domain)

The estuary is considered one of the most important estuarine ecosystems in the country, supporting a wide range of indigenous fauna, and habitat for migratory birds. In 2005 it achieved international status as a RAMSAR world heritage site.

Natural Science Factors

The Manawatū River Estuary covers about 250 hectares of salt marsh, mud flats and sand dunes and has a high level of natural character. The salt marsh-ribbonwood community is the largest in the ecological district. The dune environment is recognised as having national, regional, district and local importance and the estuary is identified as part of an Outstanding Natural Feature and Significant Landscape by Horizons Regional Council.

The estuary is still, despite some modification through human activities, a feeding habitat for a large number of birds. It is recognised as having one of the most diverse ranges of species (93 species), including migratory birds and those using the estuary on a more transient basis. The permanent resident bird population however, is comprised of 13 indigenous species, and contains its southernmost and biggest population of fernbirds (*Bowdleria punctata*).

The estuary is also habitat to over twenty threatened species of indigenous fish and threatened plant species and a migratory path for native fish in the Manawatū River Catchment.



Photo: Google Earth

Aesthetic Values, Expressiveness and Transient Values

The estuary has a high level of both scenic and natural values. The large, dynamic water body provides a high level of transient values through constantly changing water levels, water movement, light and reflectivity. That it is a habitat for a number of bird species also contributes to the constant state of change within this environment.

Shared and Recognised Values

Other than the high level of natural and aesthetic values, the estuarine area is known for its high fisheries values.

Value for Tāngata Whenua

The estuary and its surrounds include significant sites for all three iwi of the district and the estuary has long been valued for its range and level of resources for tāngata whenua, which are considered as taonga.



Photo: Nicky Treadwell

It was known throughout Rangitāne O Manawatū that the first travellers to New Zealand followed the migratory paths of the birds that occupy this estuary. The salt marsh and freshwater lagoons and rivers provided numerous resources and kai as well as a variety of plants used for weaving and construction. The sand dunes and ridges forming the estuary provide strategic advantage and view points along the coast and out to sea. Many were used as navigational aids and settled. Sand dune pa such as Te Papa Ngaio play an important part in the history of all three iwi.

Artifacts have been discovered that provide archaeological signs of the semi-nomadic Moa hunter culture, dating from A.D. 1400-1650.

The RAMSAR designation is supported by the Rangitāne, Muatūpoko, and Ngāti Raukawa iwi, and all three are concerned for the protection of the high natural values as well as ancestral sites and areas.

Historic Associations

As discussed in the previous section, the estuary and the Manawatū River were crucial to not only the development of Foxton, but to the commercial progress of the entire district through the accessibility the broad estuary provided for ships transporting timber, flax and other locally produced commodities.

Both the river and the estuary feature strongly in the various books, early photographs and paintings of the Horowhenua district.

Summary Analysis

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Dunes and estuarine features unique to district	Expansive and distinctive waterbody	A very distinctive coastal feature	Estuary of major river of district.	

AESTHETIC VALUES

Natural Character	Rural Character	Memorability	Other Visual Qualities
Very high	High	Contains many significant sites and areas for all iwi	Large-scale waterbody Rural Character Contrasting landforms

VALUE TO TĀNGATA WHENUA

Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Rangitāne Muatūpoko & Raukawa	Important source of kai moana and other resources crucial to physical, spiritual and cultural wellbeing	Main supply of mauri	Wāhi tapu, urupa, pa, mahinga kai, nohoanga	Pa, marae and kainga sites included in area

TRANSIENT VALUES

Changing effects from tidal movement, water flow and level

SHARED & RECOGNISED VALUES

Recreational, conservation

HISTORICAL ASSOCIATIONS

Very important commercial and trading location to district development

Ōhau River (Coastal Environment, Coastal Lakes, Levin-Ōhau, Kuku & Hill Country Domains)

“Waterways were living entities in the sense that they were revered and respected. They had their guardians (Taniwha) and the appropriate karakia and rituals always preceded any undertaking that involved it. The lower reaches of a creek, for example, would be designated for Noa (common) activities, like bathing and swimming while the upper reaches and headwaters were preserved for tapu (sacred or spiritual) activities.”

Horowhenua District Plan.

Natural Science Factors

Next in size to the Manawatu River, the Ōhau River traverses the lowland plains in a meandering fashion from the headwaters in the Tararua Range, taking a sharp southward turn (known locally as the ‘Loop’) just before the coast and exiting north of Waikawa Beach.

The river has several tributaries, including the Makahika and the Makaretu Streams which are close to the range, with the Makorokio, Kuku and Te Waimarua Streams occurring progressively westward.

The Ōhau has carved its own distinct terraced trench in an incision through the associated gravel fan which has formed alluvial flats. The river margins were originally densely forested, as a result of the rich alluvial soils. The river and its coastal tributaries are associated with a contiguous dune wetland system that extends to the Waikawa River.



Photo: Google Earth

The original vegetation in the lowland forest area of the river’s course consisted of totara, titoki, and groves of kohekohe and matai, interspersed with manuka, poataniwha, makomako, kaikomako, mapou, kowhai, kawakawa, mahoe, wharangi and kohuhu.

In the older dune area towards the coastal band, the species would have included manuka, koromiko, karamu, hukihihi, toetoe, ti kouka and harakeke. The species on the damper flats and inter-dunal areas included kowhai, ngaio, maukoro, tree tutu and toe toe. The newer dune areas on the coast were vegetated in shrub and grass species.

Early deforestation of the plains area has resulted in very little of the original vegetation remaining, apart from remnant areas and the important Kimberley and Gladstone reserves. Willow and other exotic species are found in some sections of the riparian areas, but much of the riparian margins are degraded – often through the actions of cattle and other livestock.

Aesthetic Values and Expressiveness

The river’s meandering course and steep-sided high terraces result in a particular and distinctive appearance; through the plains area the river widens out, with large shingle ‘islands’ that provide good viewing locations in some areas.

Back towards the foothills, where the vegetation increases, there are locations, including Kimberley Scenic Reserve, where the natural character increases significantly. In a markedly different manner, the estuary area is also high natural character, with the now-shallow expanse of water gliding through and alongside high dunes and alongside the large wetland area of the Loop.

In between these two environments, the river runs through pastoral country; while the natural values are considerably lower in this part of the district due to deforestation and agricultural modification, rural character is high, and the terracing provides an interesting contrast to the flat paddocks.

Shared and Recognised Values

The Ōhau River is frequently used for recreational purposes; in Chapter Four of the Plan it is noted:

“The Ōhau River and its tributaries are also highly valued for recreation including fishing. Recreation reserves of district significance are located at Kimberley and Gladstone Road. Access to the River is generally good except for at the mouth of the River”.

Value for Tangata Whenua

In her research report, Dr Smith discusses the value of river ecosystems (with a particular focus on the Ōhau and its tributaries) in contributing to wellbeing and defining tribal identity for iwi, hāpu and whānau:

“These land, sea and water based taonga signified both value and relationships, where natural or cultural ‘taonga’ in landscape were treasured because of the associations they accumulated.”

And:

“In relation to this, hāpu inherited their mana for lands through their close associations with the intrinsic power that the land produced.

This sustained their lives and contributed to their wellbeing and security. Important Māori expressions of belonging or turangawaewae continue to emphasise ancestral connections and intergenerational responsibilities for lands, rivers, streams, wetlands, healing springs and freshwater springs within Kuku”.

Ōhau River – Summary Analysis

NATURAL SCIENCE FEATURES				
Geological	Topographical	Ecological	Dynamic components	High class soils
Trench incised through gravel fan	Distinctive terracing	Some remnant riparian margins	Second largest river in the District	

AESTHETIC VALUES			
Natural Character	Rural Character	Memorability	Other Visual Qualities
High, but some margin areas degraded	Strong in some areas		Scenic values

VALUE TO TĀNGATA WHENUA				
Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites	Marae/pa/kainga or other use
Ngāti Wehiwehi, Ngāti Tūkorere	Yes	High	Yes	Yes

TRANSIENT VALUES	Water levels in constant state of change
SHARED & RECOGNISED VALUES	Strong recreational associations
HISTORICAL ASSOCIATIONS	Important resource for early settlement

Hokio Stream (Coastal Environment & Coastal Lakes Domains)

Natural Science Factors

The Hokio Stream is approximately 6km in length and discharges surplus water from Lake Horowhenua out to the Tasman Sea. The stream forms the only outlet, and a weir, constructed as a requirement of the Reserves and Other Land Disposal Act 1956, controls the flow in to the stream and maintains a minimum lake level.

The advanced state of eutrophication of Lake Horowhenua has also affected the health of Hokio Stream. The stream and its margins are, in places, heavily infested with weeds which have, in the past, affected the lake level. In 2004, HDC cleared willows from a 500m section of the streambed to alleviate some of the blockage caused by sedimentation; however while some areas have improved through the planting of indigenous species, infestation still remains a problem.

Drainage of most of the swamp and wetland areas around the lake margin has accelerated the rate of water flow and increased the amount of contaminants feeding into the stream. This is further exacerbated by the loss of the filtration function those wetland and swamp areas provided.

The course of the stream, however, is largely unmodified, except for the construction of the weir. In general, it is narrow, with quite deeply incised banks, however the water level of the stream varies due to the weir and the stream's natural function as an outlet to the lake.

In places it flows through pastoral land; and where no fencing is provided, stock effluent and fertilizer run-off is adding to the pollution problems.

Value to Tāngata Whenua

Muaūpoko iwi have long and important connections to the stream, which once provided them with both spiritual and physical resources. As such, the stream and its produce were, and still are taonga for the iwi. The stream provided abundant food, particularly tuna (eel) which was caught with pa-tuna (eel weirs), hinaki (eel pots) and poha (leading net).

According to Adkin, these weirs were of such importance, each had its own name, and the sheer number of weirs was "an indication of the magnitude of the old-time eel-supply of Lake Horowhenua".

Although the stream is no longer as healthy or as abundant in resources, it remains very significant to Muaūpoko, who are actively involved in the restoration of some of its length, in conjunction with HDC, Horizons and DoC.



Photo: Google Earth

Hokio Stream – Summary Analysis

NATURAL SCIENCE FEATURES			
Geological	Topographical	Ecological	Dynamic components
Natural drain for Lake Horowhenua		Some remnant and rehabilitated margins	Coastal hydrological feature
			High class soils

AESTHETIC VALUES			
Natural Character	Rural Character	Memorability	Other Visual Qualities
Mostly unmodified	N/A	N/A	Scenic values

VALUE TO TĀNGATA WHENUA			
Iwi/hapu	Ancestral landscape feature/area	Cultural/Spiritual significance	Wāhi tapu sites
Muatipoko	Yes	High	Yes
			Marae/pa/kainga or other use

TRANSIENT VALUES	Changing water levels
HISTORICAL ASSOCIATIONS	Renowned for eel and other fish resources from early settlement



Waikawa Stream (Coastal Environment, Coastal Lakes, Kuku & Hill Country Domains)

Natural Science Factors

The Waikawa Stream is one of the larger watercourses of the Horowhenua District. On par with the Ōhau River in terms of size, it flows between the area bound by Kuku Beach Road and Waikawa Beach Road and a meandering fashion typical of the watercourses in the district.

The name Wai-kawa translates as “Bitter Water” which is said to refer to the water’s taste that was affected by a large slip (called the Blue Slip) comprised of argillite and greywacke, and veined with quartz. The part of the stream above the Blue Slip has another name entirely – Kaitawa, meaning “purest water”.

A strong characteristic of the river is its dynamism, which has resulted in series of changes in its route across the coastal plains area. Adkin notes that until the early 1870s neither the Ōhau nor the Waikawa rivers flowed directly to the sea. Instead “each pursued a final course, nearly parallel to the coast, towards each other and joined at an intermediate point to make a common mouth”.

The residual lagoon that existed where the two rivers became conjoined now contains a series of wetlands, including the Te Hākari wetland which is currently being restored.

Aesthetic Values

Through natural processes of the mobile dunes, but also modification through drainage, much of the vegetation cover has changed. However, the river and its mouth have a aesthetic value in that natural character is still present in the high coastal character and the dynamic dune formations.

The loss of wetlands and lagoons has also changed the aesthetic of the past, but current restoration projects by hapu have already increased the particular character wetlands contribute.

Shared & Recognised Values

In their book Bitter Water, Deb and Laraine Shepherd note the ongoing importance the stream has had to families who have either lived or holidayed in the area:

“Over the last two hundred years, diverse settlements have relied on the river for water, food, transportation, livelihood, recreation and communication with the wider world.”

Value for tāngata whenua

High in resources, the river has a long history of settlement by tangata whenua. Artefacts retrieved from the river bank and surrounding area suggest occupation by the Waitaha, or ‘Moa Hunters’, and by Ngāti Mamoe before Muauāpoko and Raukawa, who still maintain affiliation through mana whenua.

Te Rauparaha utilised Waikawa as a base during the battles with Muauapoko and allies; afterwards Ngāti Kua then Ngāti Awa settled there. Once the issues of occupation were settled, the Waikawa area was divided among the various hapu of Ngāti Ruakawa – the Huiritini section occupied by Ngāti Wehiwehi and the north bank of the river by Ngāti Rangitawhia and Tamataia.

Adkin notes that Ngāti Raukawa initially lived at Pa Te Rauparaha, on the bank of the stream/river. This site and others along the banks of the Waikawa River have particular significance to the entire iwi and the Ngāti Wehiwehi hapu. Dr Huhana Smith notes:

“While there has been some archaeological site investigation between the Waiwiri Stream and the Waikawa River, the total area has not been comprehensively assessed for iwi and hapū values of its original occupants or for later mana whenua settlements and resource use”.

Historical Associations

As discussed in the section referring to shared and recognised values, the stream and the beach settlement has a long history of both Maori and Pakeha settlement; the result being that there is a wealth of historical associations for both.

Of importance to both Maori and Pakeha descendants and residents, was the historic occasion when Te Rauparaha selected totara trees for the construction of Rangiatea Church in Ōtaki that he had jointly initiated with Otavius Hadfield. The trees were floated down the Ōhau and Waikawa rivers, dragged along the coastline to Ōtaki, and hauled overland to Mātikitiko, where the church was to be built. The timber included the piece for the 86 foot long tāhuhu (ridge piece) of the church.

Tokomaru River

(Moutoa Opiki Plains, Tararua Terraces & Hill Country Domains)

Natural Science Factors

The Tokomaru River is located in the upper north-eastern corner of the Horowhenua District. The river travels northwards through the foothills from its headwaters in the Tararua Ranges, before turning sharply to the west and running just south of Tokomaru township. The river then joins the Manawatu River at a point north of Shannon.

Where it runs through steep sided gullies before reaching the plains, the immediate surrounds of the river contain habitats for indigenous birds, including tui, the bellbird, kekeru, tomittis and riflemen.

Value to tāngata whenua

The river originally traversed, via a network of channels, the large Makurerua Swamp (now drained). Many eel weirs were established on the stream by tāngata whenua, according to Adkins, who also notes the river was said to have been named by Ngāti-Raukawa for the Tokomaru canoe, with which they were ancestrally connected.

Recreational, amenity & historic value

The stream is a well-known recreational fishing location, and as such, restrictions have been placed on fishing methods, and the size of catch. Horseshoe Bend has long been known as a scenic area that provides picnic and swimming opportunities.

The Department of Conservation manages Burtton's Track, a section of which runs alongside and crosses the river at two points. The track includes historic sites and remains of bridges and other structures, and joins the historic trail built by settler Jim Burtton nearly 100 years ago. The track now forms part of Te Araroa - The Long Pathway – the continuous 3,000 km walking track from Cape Reinga to Bluff.

Mangaore Stream

(Moutoa Opiki Plains, Tararua Terraces & Hill Country Domains)

Natural Science Factors

The Mangaore Stream connects the waters of the Mangahao River to the Manawatu River, after the waters of the Mangahao have travelled down the steeply dropping pipelines to the Mangahao Power Station. Flowing nor-west, the large stream's route travels north the township of Shannon before meeting with the Manawatu River.

Historic Associations

Adkin notes the stream's original course led to bifurcating channels into the south-eastern corner of the Makurerua Swamp, terminating at the Otaruru Stream and the water was diverted through a race (named the Pohatu) to operate a flour mill near Shannon. After the mill and race were abandoned, a later heavy flood diverted the Mangaore into the Otaruru via the former Pohatu race.

Recreational value

Because of its size and the fast gravity-fed flow, the Mangaore is still prone to sudden flooding. However, the same conditions have encouraged national kayak and canoe championships to be held on the stream.

Section D

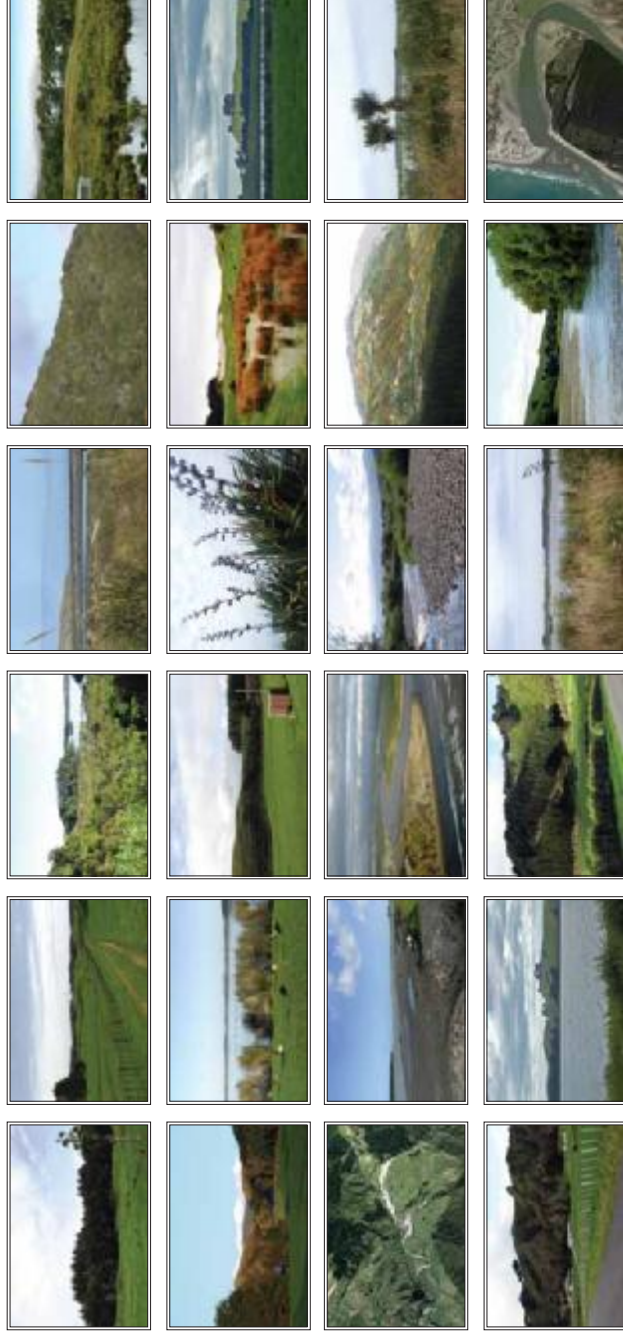
Conclusion & Recommendations

This section reviews the analysis of the landscape and features contained in Section C. As per the Amended Pigeon Bay/Wakatipu Environment Court. Case notes, the most important of criteria set down by the Court, as detailed in the Methodology. Section A, are the natural science factors, the aesthetic values, the level of expressiveness and the shared and recognized values. Also considered to be of high importance for this district are the values for tāngata whenua.

These values are further discussed below, using information primarily from Doc and Horizons regarding the regional and national values of the landscape areas, for further analysis.

The maps provided by Doc and Horizons have been used on the basis that the mapping processes using GIS are accurate and detailed, and the information they provide acts as further rationale for the assessment of landscape values at a district level. These maps are appended to this report in Section E.

Similarly, as tangata whenua rohe areas do not respond to cadastral or district boundaries (as defined in the District Plan and elsewhere) and are generally larger than the domains and in some cases extend beyond the district boundary, it can be assumed that the tangata whenua landscape values of an area or feature within an individual domain can be assessed as being at least at the district level.



SECTION D

Coastal Landscape

As noted, the coastal landscape incorporates distinct dune formations that are unique to the district and clearly express the formative processes within it. The environment is a dynamic one; the ecological processes in a constant state of flux while achieving equilibrium between those of the hydrology, geology, ecology and coastal processes. The balance is tenuous and fragile and is affected by past and present human modification and activity and requires protection at all levels.

Rare and endangered species of flora and fauna within the coastal environment have been identified in the maps in Section E prepared by DoC for this report. These illustrate the few small remnant areas of indigenous vegetation, the current geo-preservation sites and ecosystems and habitats in most need of protection as identified in the Statement of National Priorities for Protecting Rare and Threatened Biodiversity on Private Land and those sites identified as Recommended for Protection.

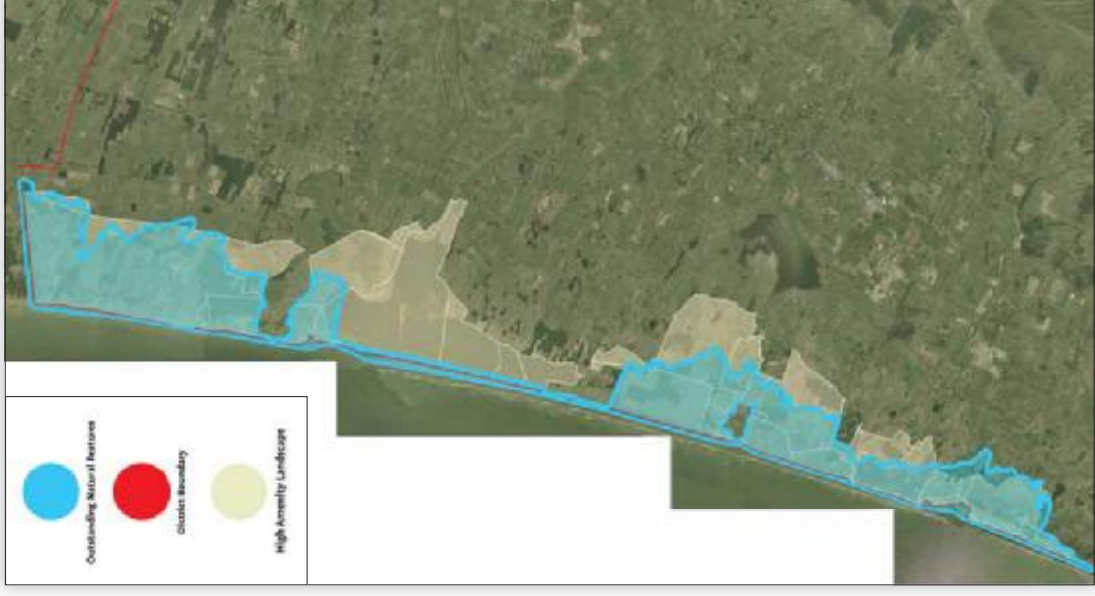
The stretch of coast between Waikawa Beach and the Manawatū River Estuary (Map F1, Section E) is included in the Coastal Marine Area managed by Horizons Regional Council Coastal Marine Area (Horizons' Map H1); the key objective of which is "to ensure that the natural character and ecosystem processes of the coast are retained while still allowing activities and development to progress" while giving affect to the National Coastal Policy Statement.

There are a range of other agencies, including voluntary environmental groups, whose objectives include the protection and preservation of landscape values of the coastal environment. These include Fish & Game New Zealand, Forest & Bird Inc, regional council care groups and various preservation societies and iwi based environmental agencies.

Contributing to the level of aesthetic values is the high level of natural character but also the memorable features of the district's coastline – the expansive beaches, elevated dunes, and the distinctive energy level of the west coast's tidal movement and wave action.

The coastal environment includes many sites and areas of significance to all three iwi located within the district; this is evidenced by the number of archaeological sites and artefacts that have been identified and recorded with the Historic Places Trust, as well as those discussed in historic writings and anecdotal evidence. Iwi management authorities are currently involved in mapping these sites and areas for management and protection measures to be applied through the appropriate agencies, including HDC.

The recommended status for the Coastal Landscape is:
High Amenity Landscape containing Outstanding Natural Features



Coastal Lakes

The important natural hydrological factors of this domain are evident in the DoC maps that identify the many lakes, lagoons and wetlands contained within this particular environment (DoC Map 1: Wetlands, lakes and ponds)

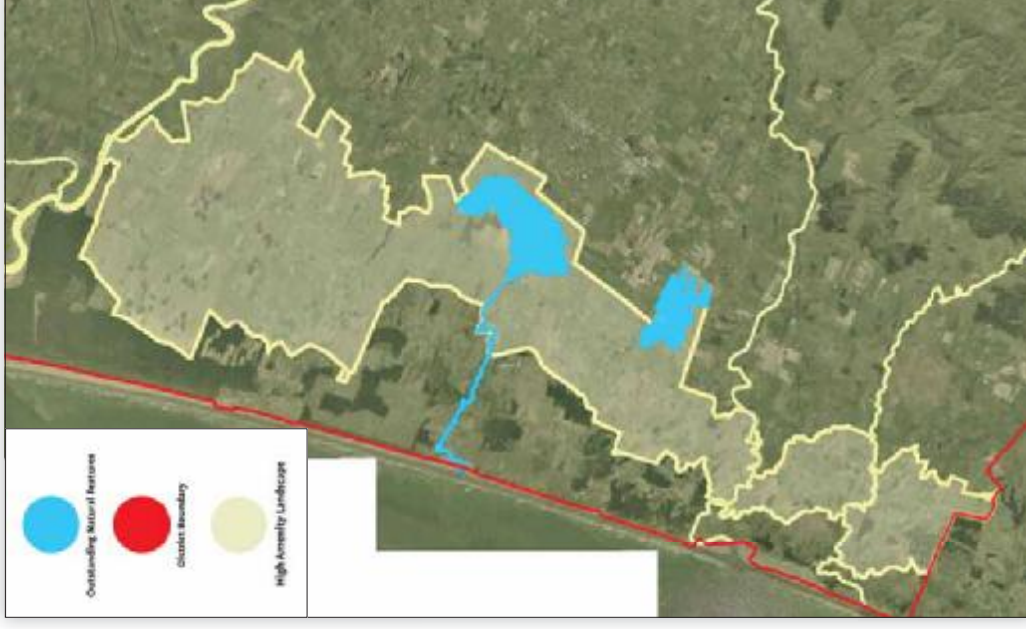
While Lakes Papatonga and Lake Horowhenua are discussed and analysed as landscape features separate to this domain, their location within the domain indicates the dominant character that gives this domain its title.

The DoC maps also indicate the presence of geo-preservation sites, sites of endangered wildlife and plants, National Priority sites and Recommended Areas for Protection within the Coastal Lakes domain.

Forest & Bird and Fish and Game are both concerned with the protection of the particular values of the wetlands, lakes and lagoons in the area. Fish and Game have instigated protection of Lake Omanu as a Wildlife Management area, while Forest & Bird have established an inventory of significant wetlands etc, which has been utilised in this report.

Sites and areas located within this domain of importance to tangata whenua are many, and are a linked with battles, journeys and other significant activities that involve more than one iwi. While the domain boundaries cross the rohe of both Muatūpoko and Raukawa, physical and cultural landscape elements extend beyond to link with others, forming contiguous areas. Many sites are wāhi tapu, important food resource areas, and sites of healing and great mana.

The recommended status for the Coastal Lakes Domain is: *High Amenity Landscape* containing *Outstanding Natural Features*



Lake Papaitonga

The lake and its surrounds feature in several of the DoC maps for the important natural science factors present. The lake is habitat to freshwater fish, listed as a geo-preservation site, its surrounds has National Priority status for preservation of the biodiversity and is noted for the presence of significant indigenous wildlife.

The lake and surrounding area's status as a scenic reserve confirms its high level of aesthetic values and that these are shared and recognised.

For tangata whenua, the lake and surrounds include some of the most important sites and areas in the district; their value to iwi has been comprehensively discussed in Section 3.

The recommended status for Lake Papaitonga and its surrounds is:
Outstanding Natural Feature



Lake Horowhenua

Despite its somewhat degraded state, the surrounds of Lake Horowhenua are included in the National Priority for Preservation of Biodiversity. Endangered plants have been identified in its surrounding area and the lake is clearly identified as an important habitat for wildlife in the district.

This lake also has a high level of aesthetic value, in this case more because of its amenity value provided by the park areas around its margins.

The ongoing efforts of iwi, council and DoC to rehabilitate the lake's margins are indicative of a high level of shared and recognised values. Similarly, its high usage for recreation and leisure activities by people from and beyond the district, indicates a strong level of public preference for this area that has existed since colonial settlement.

For tangata whenua, this lake is as important as Lake Papaitonga; its significance has also been fully discussed in Section C.

The recommended status for Lake Horowhenua and its surrounds is:
Outstanding Natural Feature



Foxton Dunefields

This landscape forms part of the 'Foxtangi' Dune area, which has been recognised as a Recommended Area for Protection in the DoC Foxton Ecological District Survey Report for the Protected Natural Areas Programme, DoC Map 2: Recommended Areas for Protection.

The area is the only known site for a species of naturally occurring plants listed as "acutely threatened: nationally critical", with a further 32 threatened and uncommon species occurring on the sand country of the Foxton Ecological District north of the Manawatu River.

As noted in Section C, stabilisation of the dunes is one of the major threats additional to afforestation, modification by earthworks to allow the location and functioning of pivot irrigation machinery also threatens the unique topography that is characteristic of this landscape domain.

The topography also makes a major contribution to the natural character, and therefore the aesthetic values of this domain.

Major factors in the landscape values of the dunefields are the uniqueness and rarity of this type of dunes at regional and national levels, as well as at a district level.

The recommended status for the Foxton Dunefields is: *Outstanding Natural Landscape*



Tararua Ranges & Foothills

DoC Map 3 indicates the range as having Class VIII soils, which is described as best serving a protection function. The soil classification identifies sites of high risk for particular activities; in this case the high risk of erosion demands the need for catchment protection.

DoC Map 4 shows the extent of seral communities growing from short shrubland to mature native forest and indicates that they are increasing carbon stored in the biomass.

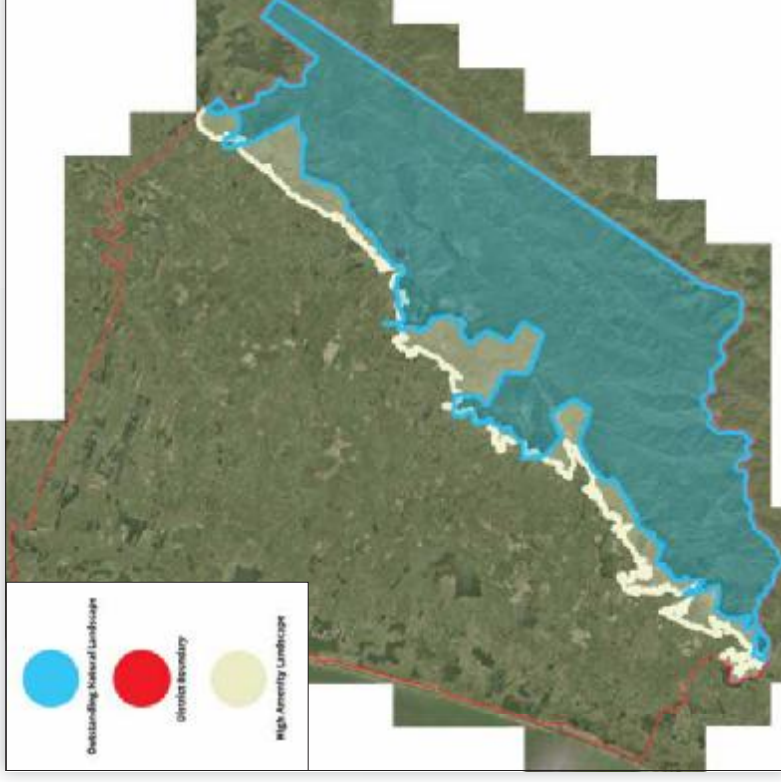
Other maps indicate the streams of the ranges are important habitat for freshwater fish and where rare plants have been located in parts of the ranges within the district.

In its One Plan, Horizons identifies the skyline of the Tararua Ranges in its list of Outstanding Landscapes and Natural Features in Schedule F: Regionally Important Landscapes for its visual and scenic characteristics, “particularly its prominence throughout much of the Region and its backdrop vista in contrast to the Region’s plains”. See Horizons Map Figure F:9 Tararua Ranges

The status of Forest Park is indicative of the ecological values of this part of the ranges, but also the high recreation values that are shared and recognised on a national basis.

The level of aesthetic values is discussed in Section C; the analysis illustrates these are also of a high level; the ranges are considered iconic throughout the district and beyond.

The recommended status for the Tararua Foothills is: *High Amenity Landscape*
The recommended status for the Tararua Range is: *Outstanding Natural Landscape*



Moutere Hill

As noted by Adkin, Moutere Hill's distinctive height and orientation is unusual and unique in the district-wide sense – no other similar dune formation exists as an individual landscape element within the Horowhenua District.

Its role as a distinctive landmark provides historical as well as shared and recognised values, but is also similar to the value for early Miuapoko people who used the hill as an observation point over their rohe. Additionally, with its near-coastal location, iwi also used the hill as a hub for a complex series of engineered hydrological management and fish storage ponds which were important to their existence in the wider area.

Recommended status for Moutere Hill is: *Outstanding Natural Feature*



Manakau Downlands

This landscape domain has particular aesthetic values and natural science factors that make it distinct in the district. The process of uplift and the effects of the hydrological processes in the area have resulted in an area of complex and interesting topography, with the foothills oriented in such a way as to create sheltered pockets - providing the only area where elevated landform sits between the river terrace geology and the plains.

The resulting climate is humid and warmer than other areas located as close to the ranges, which is reflected in the type and growth of the vegetation. The settlement of the area is a direct reflection of a approach by surveyors and town planners of the time that was very different from that which underlay the settlement of the rest of the district. The settlement responds to the particular landscape characteristics of the area, which differ from the broad coast-plains-range patterning of other landscape domains.

The recommended status for the Manakau Downlands is: *High Amenity Landscape*



Manawatū River & Margins

As the largest river in the district, the Manawatū River influences landform and geomorphological processes far beyond its margins. The Doc maps indicate the presence of rare flora (Map 6) and fauna (lizards, Map 8) close to, or on its margins, and that the river is an important habitat for fresh water fish (Map 9).

Despite its current ecological degradation from years of industrial and agricultural pollutants, the river's unique east-west route, its complex meandering route and the presence of oxbows and contrasting terracing provides high natural character values.

Shared and recognised values stem from the river's scale and position in relation to district boundaries; that it has high amenity and recreational values also contributes to these factors.

Of most importance is the value to tangata whenua. For Rāngitane iwi, the river is integral to their history, traditions, spiritual and cultural wellbeing and is the main supply of mauri. Along its banks are past and present sites and areas of significance, as detailed in Section C.

The recommended status for the Manawatū River is: *High Amenity Landscape*



Manawatū Estuary

The estuary's RAMSAR status provides clear evidence of the high level of natural science factors of this landscape and that these values are shared and recognised. The Manawatū Estuary and the section of the river running inland for about 4km is identified in the One Plan as a Protection Zone in Schedule H, where it is noted that the estuary is:

- Nationally important as a nursery for freshwater and estuarine species
- Internationally important strategic site for migratory bird species
- Provides habitat for rare and threatened bird species
- Important roosting and feeding area for wading birds
- Contains regionally important plant species
- Internationally recognised as a wetland of international importance under the RAMSAR Convention.
- Regionally important for its high degree of naturalness and diversity

The One Plan Map Figure H 13 illustrates the boundaries of the Coastal Protection Zone of the estuary and river.

The DoC maps show that the estuary is an RAP (Recommended Area for Protection), a geo-preservation site (DoC Map 5), and that the area is habitat for rare plants (DoC Map 6). Surrounding areas have been identified as including National Priority 1 sites (DoC Map 7) and that the presence of indigenous cover within the visible coastal environment (DoC Map 8) in this area contributes to a high level of natural character.

The recommended status for the Manawatū Estuary is: Outstanding Natural Landscape



SECTION D

Ōhau River

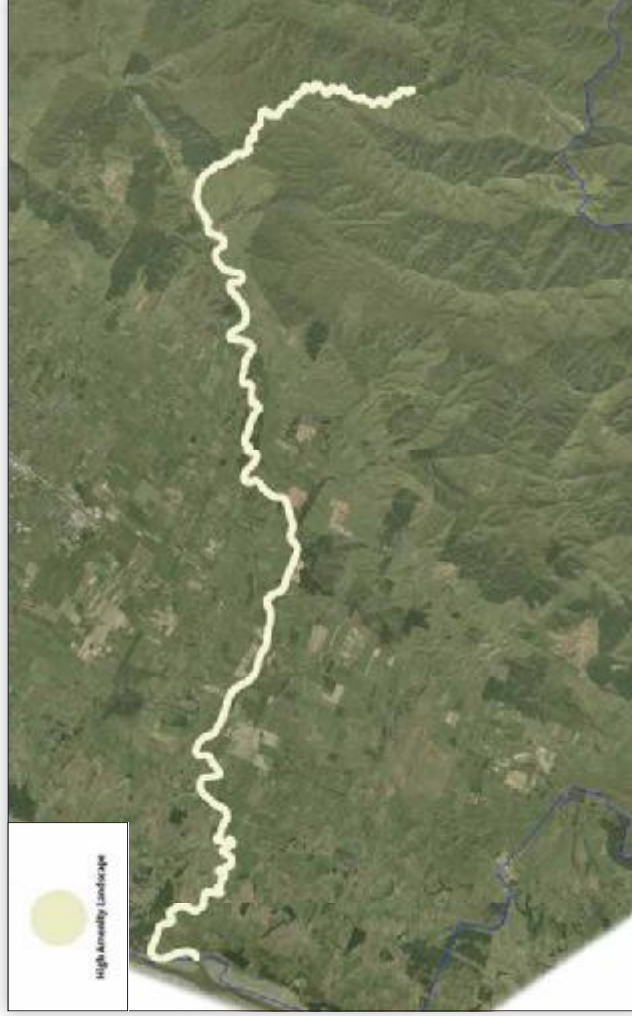
In Schedule D the Proposed One Plan notes the Ōhau River has amenity value, mauri, sites of significance for aquatic and riparian diversity, native fish spawning and fisheries.

DoC maps illustrate the estuary area has high levels of natural character, and gravels and sands (DoC Map 12) of National Priority standard. The riparian margins are indicated as Recommended Areas of Protection (DoC Map 2) and significant wetland areas (DoC Map 1) are located at the Loop area (including Te Hākari wetland).

Section C discusses the aesthetic values of the river itself, including its dominant character and influence on the topography of the district from the foothills to the coast.

Also discussed in Section C, the river and estuary are very significant to Ngāti Tukorehe by contributing to their and defining tribal identity for the hapū.

The recommended status the Ōhau River is: High Amenity Landscape



Hokio Stream

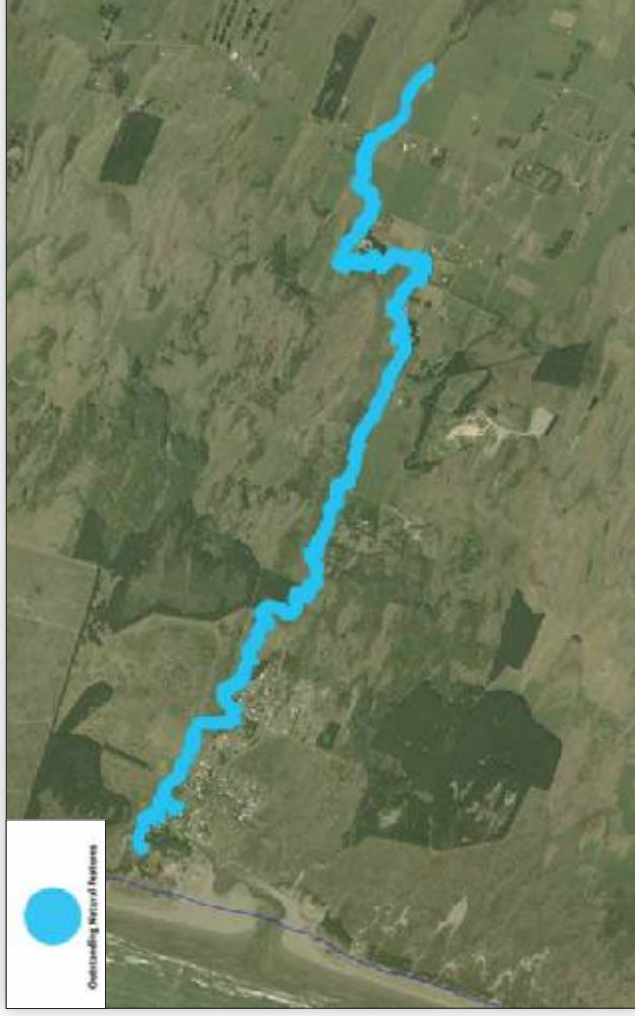
The Proposed One Plan notes the amenity values and mauri of this stream have improved or been maintained, and that the stream sustains populations of native fish that can be harvested in a sustainable manner.

Further values are indicated on the DoC maps, including the presence of wild life (Map 10), rare plants (Map 6) and significant wetland areas (Map 1) within the immediate surrounds. It is identified as a geo-preservation site (Map 5), with a National Priority 1 rating (Map 7).

The stream is long renowned for its tuna (eel) resource, which has both historical associations and value to tangata whenua. In general, the stream is significant to Muatūpoko and Raukawa, as part of the ancestral landscape and as a continuing spiritual and physical resource.

The stream's function and association with Lake Papatonga, its location within the Coastal Landscape and Coastal Lakes Domain and value to tangata whenua result in it having a high value.

Recommended status for Hokio Stream is: Outstanding Natural Feature



Waikawa Stream/River

As part of the same geomorphic make-up as the other watercourse discussed above, and as part of the rohe for tangata whenua, the Waikawa Stream shares many of the same landscape and cultural values as the Ohau River and Hokio Stream. The contiguous wetland systems that run down the coast where these waterways enter the sea are indicative of the need to consider these not as separate entities or features, but as parts of a district length landscape process.

In the DoC maps, it is illustrated that there are high natural science factors in the area of the Waikawa Stream, including geo-preservation sites, recommended areas for protection, riparian protection and the identified habitat of freshwater fish (Maps 5, 2, 9 and 11).

Similarly, the Horizons maps include the Waikawa Stream and surrounds as part of the coastal area as a significant landscape (F1), the river as having amenity values (D14), and is identified as being an riparian site of significance (D12).

For tangata whenua, the river and surrounds is of huge significance, as a source of resources, wahi tapu sites and as an ancestral and cultural landscape for those who have occupied it over hundreds of years. The river has equally high shared and recognised values for early pākehā settlers and their ancestors, as well as those who reside there on a seasonal or holiday basis. For Maori and pākehā, this river is one of the district's landscape features where those values are inextricably and historically intertwined.

Recommended status for Waikawa Stream is: High Amenity Landscape



Tokomaru River, Mangaore Stream & margins

These rivers form part of a complex hydrological network in the north-eastern area of the district, feeding the lower reaches of the Manawatu from the headwaters in the Ranges. Both also fed the Makerua Swamp (now drained) and included sites for eel weirs and other resources for tangata whenua.

The values of both waterbodies are identified in the One Plan maps as Riparian Sites of Significance, having amenity value and aesthetic river value. The DOC maps include the rivers as being a significant riparian sites and containing indigenous freshwater fish species.

The recommended status for the Tokomaru River and the Mangaore Stream and their margins is: *High Amenity Landscape*



Section D

Summary

LANDSCAPE/FEATURE	STATUS
Coastal Landscape	High Amenity Landscape
Coastal Landscape Features	Outstanding Natural Features
Coastal Lakes Domain	High Amenity Landscape
Coastal Lakes Landscape Features (Lakes Papaitonga & Horowhenua, Moutere Hill & Hokio Stream)	Outstanding Natural Features
Foxton Dunefields Domain	Outstanding Natural Landscape
Tararua Range	Outstanding Natural Landscape
Tararua Foothills	High Amenity Landscape
Manakau Downlands	High Amenity Landscape
Manawatū Estuary	Outstanding Natural Landscape
Manawatū River & margins	High Amenity Landscape
Ōhau River, valley & margins	High Amenity Landscape
Waikawa Stream, valley & margins	High Amenity Landscape
Tokomaru River, valley & margins	High Amenity Landscape
Managore Stream, valley & margins	High Amenity Landscape

SECTION D

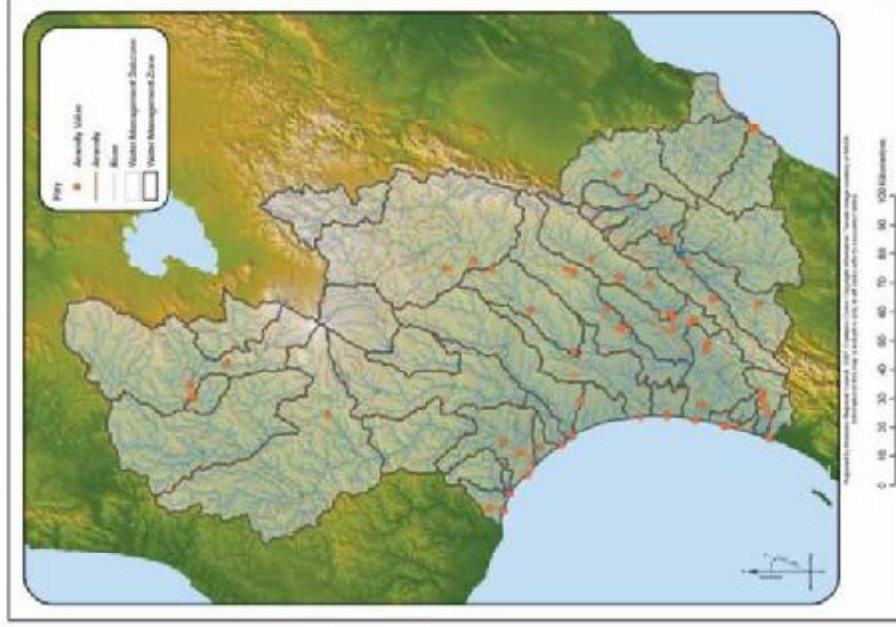
Section E

One Plan Maps

D 12 Riparian Sites of Significance in the Area



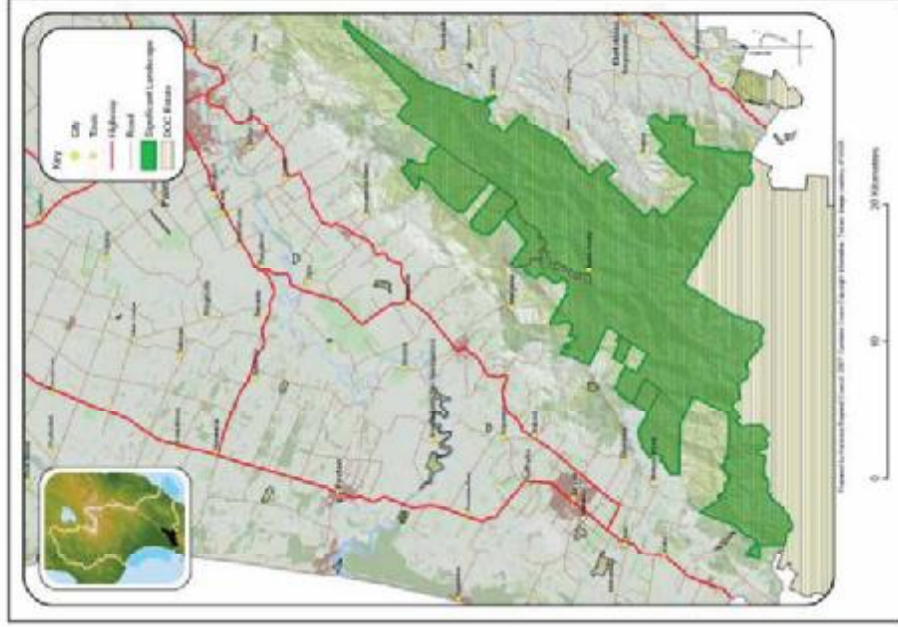
D 14 Amenity Value



D 18 Aesthetic River Value



F 9 Significant Landscape / DoC Estate



F 11 Significant Landscape



H 6

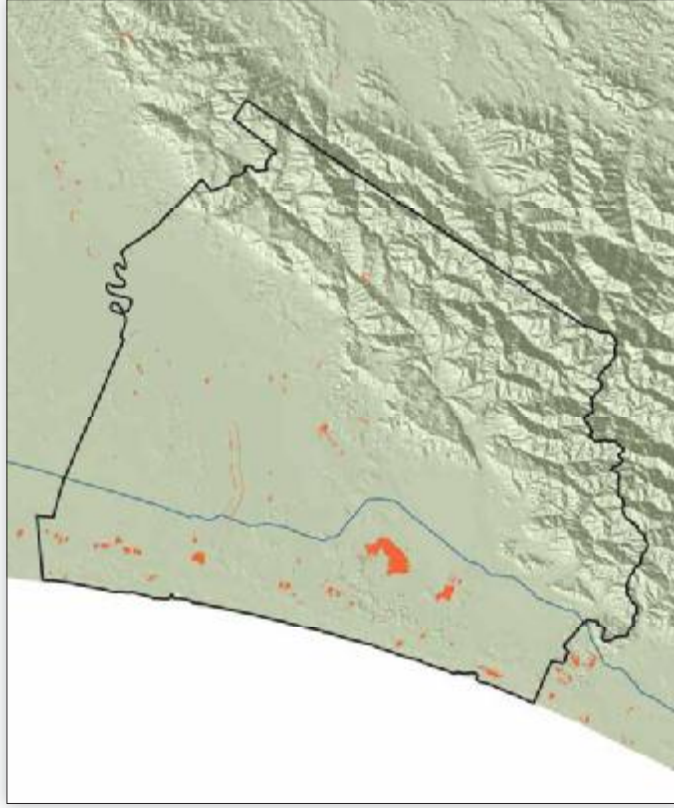


H7

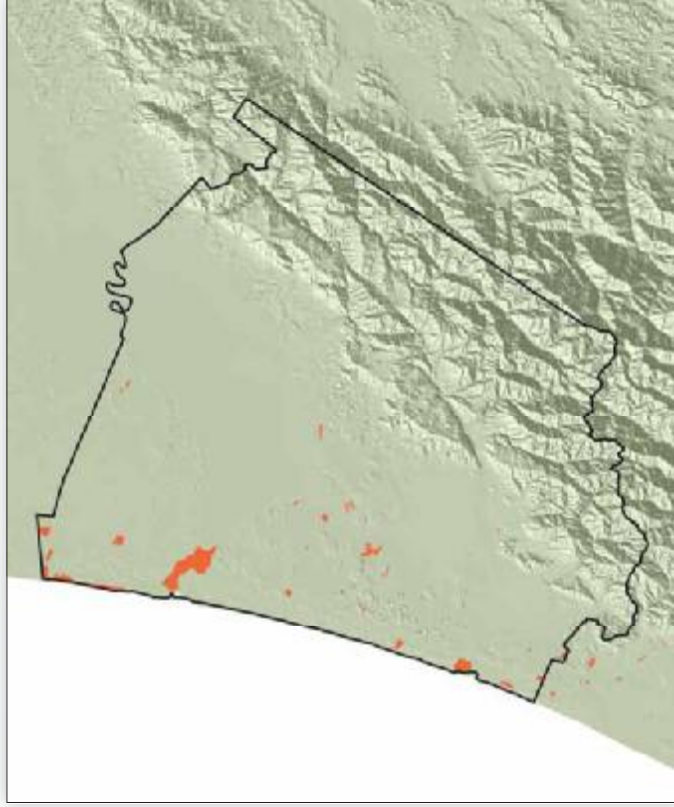


Department of Conservation Maps

DoC Map 1: Wetlands lakes & ponds

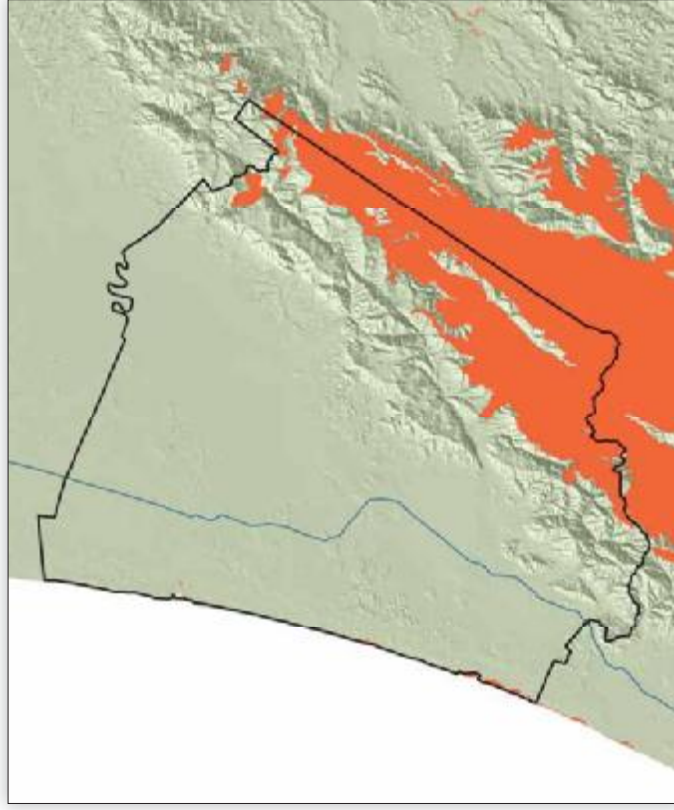


DoC Map 2: Recommended Areas for Protection

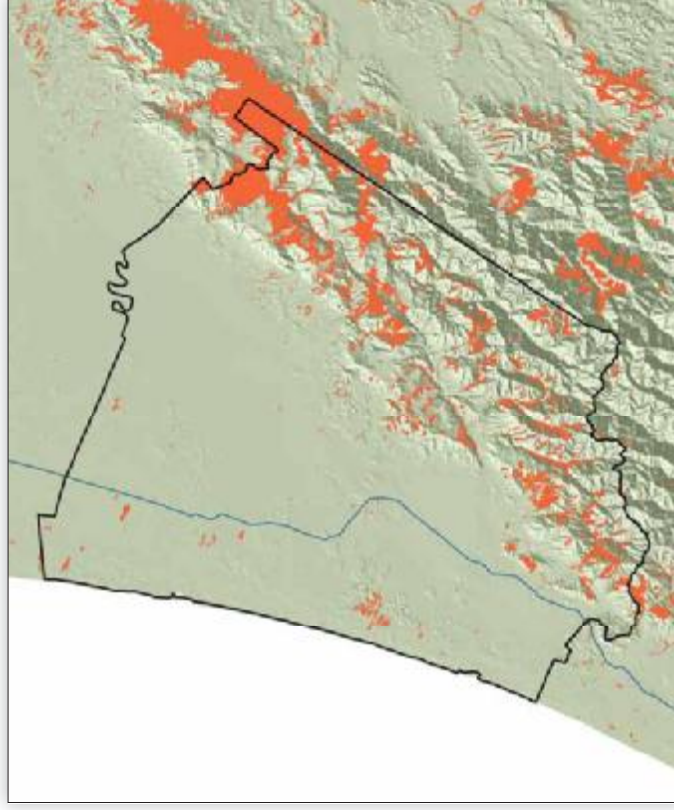


E
SECTION E

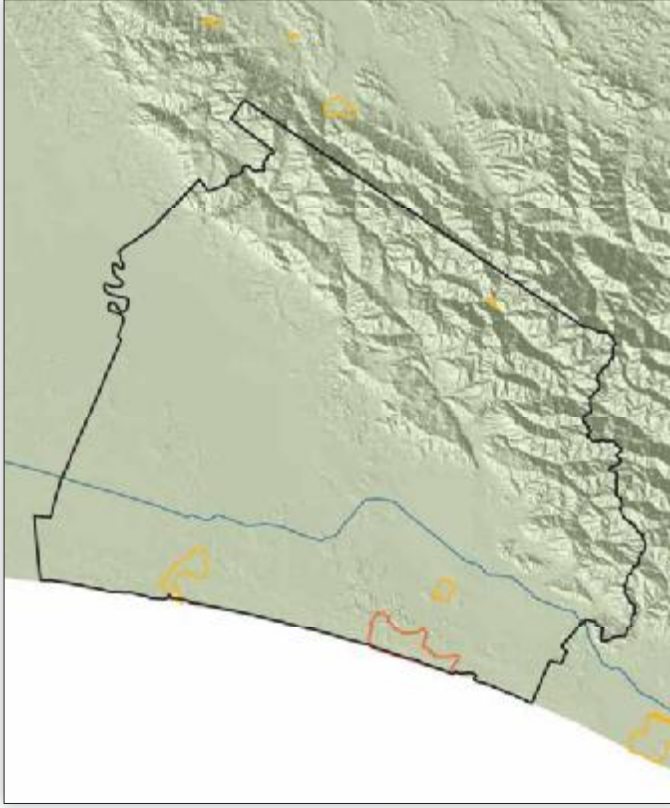
DoC map 3: Land Resources Inventory Class VIII land



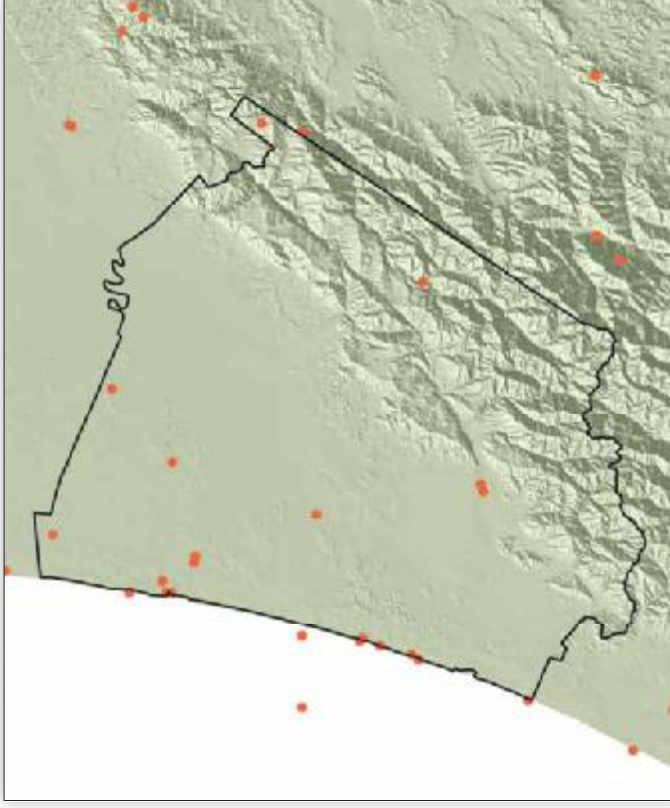
DoC Map 4: Seral shrub communities



DoC Map 5: Geopreservation sites



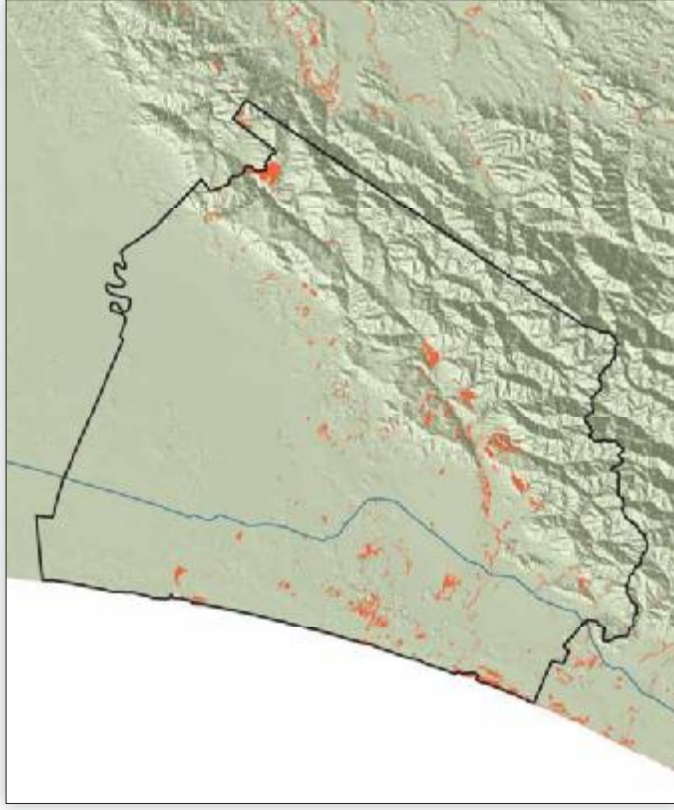
DoC Map 6: Rare plants



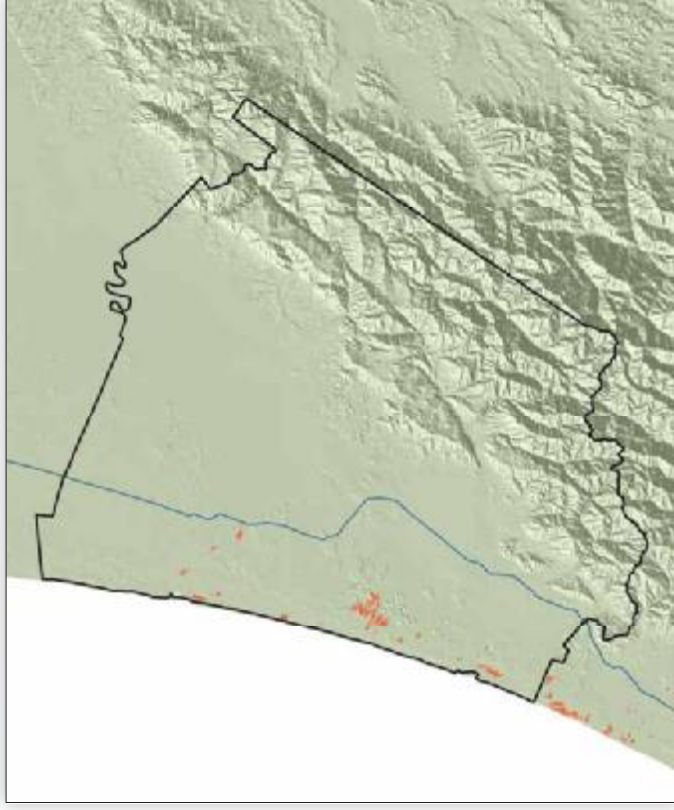
SECTION E

E

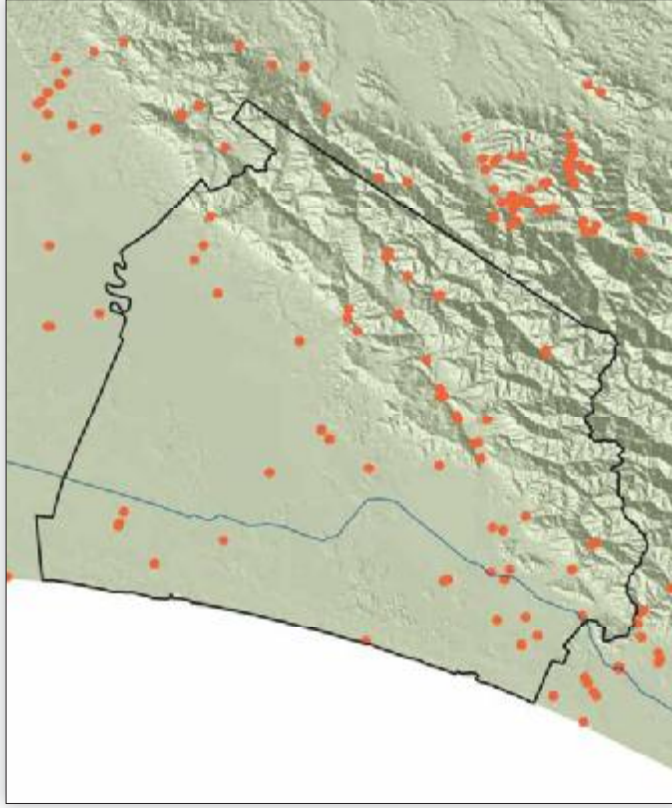
DoC Map 7: NPI LENZ IV



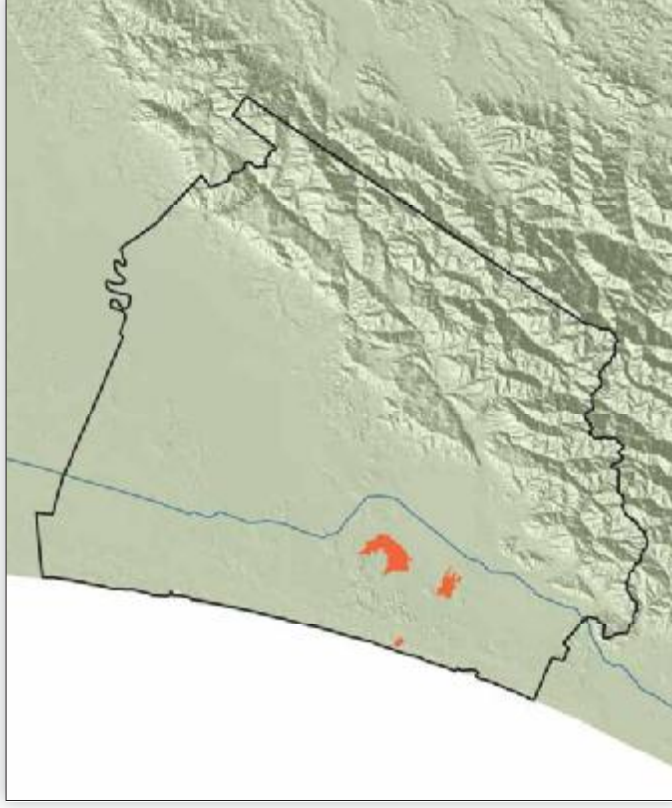
DoC Map 8: Indigenous cover within the visible coastal environment



DoC Map 9: Freshwater fish records

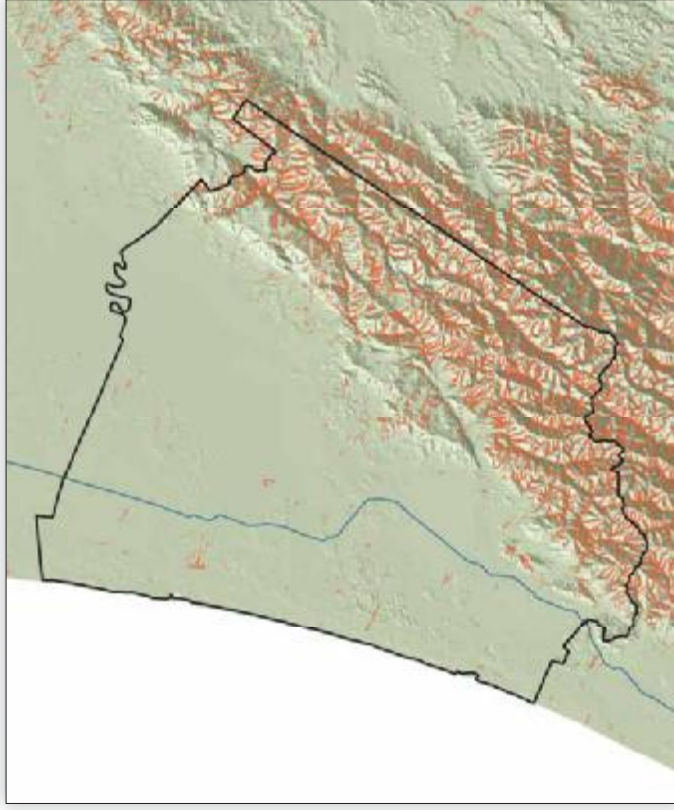


DoC 10: Wildlife



SECTION E
E

DoC Map 11: Significant riparian sites



DoC Map 12: Gravel and sand



Section F

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- <http://www.tkm.govt.nz/>
- www.waitangi-tribunal.govt.nz

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Tony Thomas Horowhenua District Council



Photo: Lisa Sarsfield



HOROWHENUA DISTRICT PLAN

PROPOSED PLAN CHANGE 22 Outstanding Natural Features and Landscapes

PLAN TEXT AMENDMENTS

September 2009

Proposed Plan Change 22

Outstanding Natural Features and Landscapes

Plan Text Amendments

The following text identifies the amendments proposed. Each of these amendments is listed in the format as follows:

Example

The diagram illustrates the format of a proposed amendment. It features a central text block with three callout boxes pointing to specific parts of the text:

- Proposed amendment reference:** Points to the heading "AMENDMENT 2 (Rule 27.4(a))".
- District Plan provision affected by proposed amendment:** Points to the text "Amend text to remove reference to subdivision in Rule 27.4(a) as follows:".
- Brief commentary on proposed amendment:** Points to the text "(a) Buildings and structures ~~and the subdivision of land~~ in the Town Centre Area (refer to the Planning Maps).".

Below the main text, a separate box explains the formatting: "Any new text that is proposed to be added is bold underlined, while any text proposed to be deleted has been ~~struck through~~."

AMENDMENT 1 (3.2 Significant Resource Management Issues for the Natural Environment)

Delete Issue 4.3 in 3.2 Significant Resource Management Issues for the Natural Environment:

~~**Issue 4.3** — **The degradation of outstanding landscapes and natural features.**~~

AMENDMENT 2 (3.2 Significant Resource Management Issues for the Natural Environment)

Add new Issue 4.3 to 3.2 Significant Resource Management Issues for the Natural Environment as follows:

Issue 4.3 **The risk that development will cause adverse effects to the outstanding natural landscapes, features and high amenity landscapes of the District**

AMENDMENT 3 (Issue 4.3)

Delete the text in Issue 4.3 as follows:

~~**Issue 4.3:** — **The degradation of outstanding landscapes and natural features**~~

AMENDMENT 4 (Issue 4.3)

Add new text in Issue 4.3 as follows:

Issue 4.3: **The risk that development will cause adverse effects to the outstanding natural landscapes, features and high amenity landscapes of the District**

AMENDMENT 5 (Issue 4.3 Discussion)

Delete discussion of Issue 4.3 as follows:

~~The degradation of outstanding landscapes and natural features by inappropriate development or subdivision can detract from community value.~~

~~Landscapes and natural features represent and reinforce not only geographic and ecological diversity, but also the change in values of people in the district. Although dynamic, the outstanding landscapes and natural features that are valued by the community need to be protected from inappropriate subdivision, use and development. Outstanding landscapes are not only a product of natural science, but also the aesthetic values ascribed to those landscapes, their identity and legibility. The community connects with the physical natural forces, to create a sense of place and the environment in which the community lives. Tangata whenua have a strong relationship with the natural and physical resources, particularly those tangata whenua who are spiritually, culturally and historically associated with the resources. Transient values, such as the occasional presence of wildlife or its values at certain times of the day or year may also be important.~~

AMENDMENT 6 (Issue 4.3 Discussion)

Add replacement text to discussion of Issue 4.3 as follows:

The Horowhenua District is framed by the Tararua Ranges to the east and the open expansive duneland coast to the west. Within this are important estuaries, lakes and dune features. Rivers and streams flow from mountain to sea across the District.

The District Plan is required, as a matter of national importance, to provide for the protection of outstanding natural landscapes and features from inappropriate subdivision, use and development.

The landscapes of the District have been assessed to bring the Plan in line with case law and to apply a consistent landscape evaluation methodology. The aim of this has been to identify robustly the outstanding natural landscapes and features of the district and also other landscapes that are of high amenity to the community.

The assessment has taken into account.

- Natural science features.
- Aesthetic values.
- Expressiveness.
- Transient values.
- Shared and recognised values.
- Value to tangata whenua, and
- Historical associations.

The assessment has concluded that:

1. The Coastal Landscape is a High Amenity Landscape within which are a number of Outstanding Natural Features including the foredunes and estuaries.
2. The Coastal Lakes domain is a High Amenity Landscape within which are Outstanding Natural Features including Lake Papaitonga, Lake Horowhenua and the Hokio Stream, and Moutere Hill.
3. The Foxton Dunefields domain is an Outstanding Natural Landscape based around the dune landforms.
4. The Tararua Ranges above the native bush line is an Outstanding Natural Landscape.
5. The Tararua foothills and the Manakau Downlands are High Amenity Landscapes.
6. The Manawatu, Ohau and Tokomaru Rivers and the Mangaore and Waikawa Streams and their respective margins are all High Amenity Landscapes.

The principal threats to these values are from the effects of:

- Development facilitated by subdivision
- Large buildings or inappropriately designed and sited buildings in each landscape type.
- Structures such as transmission pylons, telecommunication towers and wind farm turbines.
- Earthworks for developments and access.
- Removal of native vegetation

Policies and methods for the coastal environment will be reviewed as part of the overall review of this Plan. This will focus on achieving integration of policy relating to the natural character of the coast and the outstanding landscape values. In the interim a conservative approach has been adopted to define the coastal foredunes outstanding natural feature. This focuses on the steeper coastal dune areas with dune vegetation and largely excludes areas of forestry and pasture which form part of the coastal high amenity landscape.

AMENDMENT 7 (Objective 4.3)

Delete Objective 4.3 as follows:

OBJECTIVE 4.3: ~~Recognise and provide for the protection of outstanding natural features and landscapes.~~

AMENDMENT 8 (Objective 4.3)

Add new Objective 4.3 as follows:

OBJECTIVE 4.3: Ensure that subdivision, use and development does not adversely affect outstanding natural landscapes and features and also has regard to high amenity landscapes.

AMENDMENT 9 (Policies 4.12-4.14)

Delete Policies 4.12-4.14 as follows:

~~**POLICY 4.12:** Identify the district's outstanding landscapes and natural features.~~

~~**POLICY 4.13:** Protect the values for which landscapes and natural features are considered outstanding.~~

~~**POLICY 4.14:** Raise community appreciation of the value of outstanding landscapes and natural features.~~

AMENDMENT 10 (Policies)

Add new Policies 4.12-4.14E as follows:

POLICY 4.12: Ensure that specified outstanding natural landscapes and features are protected from inappropriate subdivision, use and development.

POLICY 4.13: Ensure that subdivision, use and development in high amenity landscapes does not detract from the amenity values of that landscape.

POLICY 4.14: Avoid the development of large buildings on outstanding natural landscapes and outstanding natural features.

POLICY 4.14A Ensure that dwellings on high amenity landscapes achieve low impact by having particular regard to the Horowhenua Rural Subdivision Design Guide.

POLICY 4.14B Have regard to any positive effects associated with landscape and biodiversity restoration.

POLICY 4.14.C Have regard to the ability of existing land uses within landscape areas to accommodate subdivision, use and development without adverse landscape effects.

POLICY 4.14D Have regard to the potential adverse effects on the landscape values of an outstanding natural landscape or feature from development on a nearby high amenity landscape.

POLICY 4.14E Have regard to the needs of primary production activities within the Foxton Dunefields Outstanding Natural Landscape.

AMENDMENT 11 (Explanation and Principal Reasons)

Delete text in Explanation and Principal Reasons as follows:

~~People will always initiate change. Over generations, the landscape has been developed, reflecting cultural, economic and technological trends. Inappropriate development and subdivision can have adverse effects on the landscapes and natural features.~~

~~The management of the outstanding landscapes and natural features must be seen in a holistic sense. The interactive and interlocked nature of the natural environment assumes that what occurs in one area will affect something else.~~

~~In an effort to retain a sense of place and protect the values significant to tangata whenua and the community as a whole it is imperative that the outstanding landscapes and natural features are identified and protected for all to appreciate.~~

AMENDMENT 12 (Explanation and Principal Reasons)

Add new text to Explanation and Principal Reasons as follows:

The above policies seek to ensure the protection of outstanding natural landscapes and features and whilst enabling high quality development within high amenity landscapes. The policies recognise that there is potential for rehabilitation of landscapes and improvements to biodiversity as part of any proposal or as part of mitigation of effects. Similarly, the character of the landscapes vary in terms of their ability to absorb change without adverse effects. For example some existing coastal forestry areas close to existing settlements may have potential for other more sensitive land uses.

Further policy review will be undertaken on the coastal landscapes as part of the District Plan review.

AMENDMENT 13 (Methods for Issue/Objective 4.3)

Delete Methods for Issue/Objective 4.3 as follows:

District Plan

- ~~Identify the outstanding landscapes and natural features through the District Plan and on planning maps.~~
- ~~Adopt the following criteria for the identification of outstanding landscapes:~~

COMPONENT	CRITERION
AESTHETICS	Coherence
	Complexity
	Balance
PSYCHOPHYSICAL	Identity
	Focality
	Legibility
HERITAGE	Significance to Iwi
	Historic/cultural value
	Ecological significance
EXPOSURE and VISIBILITY	Proximity to transport route
	Relation to residential area
	Spatial qualities

VULNERABILITY TO CHANGE	Land cover
	Land use
	Current trends/threats

NB: A detailed methodology has been produced and successfully adopted. Details are held at Council. (File T28-0077).

The landscape will be assessed based on a continuum of one to five (five being superior). A maximum score of 5 for each criterion gives a maximum component score of 15. The score of each component will then be totalled for that landscape, giving a maximum of 75 points. A score of 50 or more identifies a landscape as outstanding.

- ~~Maintain consistency with the NZ Geopreservation Inventory and horizon.mw's Regional Policy Statement for the identification of outstanding natural features based on scientific or geological significance.~~
- ~~Consider the value of outstanding landscapes and natural features when applications for resource consents are received and attach conditions on resource consents to avoid, reduce or mitigate any actual or potential adverse effects.~~

Other Council Initiatives

- ~~Council will consult with tangata whenua on resource consent applications at the proposal stage of new developments when it is known that tangata whenua values are affected (through memorandum of understanding, agreed protocols or district plan identification of affected values)~~
- ~~Develop Landscape Design Guidelines to illustrate possible design solutions for avoiding, mitigating or reducing any adverse effect arising from subdivision, land use or development.~~
- ~~Where a Land or Project Information Memorandum is requested, information will be provided on the values which deemed the landscape or natural feature outstanding and the prospective or existing owner will be provided with the Landscape Design Guidelines.~~
- ~~Provide information for the promotion and marketing of the Horowhenua's outstanding natural features and landscapes.~~

AMENDMENT 14 (Methods for Issue/Objective 4.3)

Add new Methods for Issue/Objective 4.3 as follows:

District Plan

- Control subdivision, use and development in outstanding natural landscapes and features, and high amenity landscapes and implement the District Plan policies through consent processes.
- Promote high quality design and development through the application of the Rural Subdivision Design Guide.
- Further review policy on the coastal foredune Outstanding Natural Features to integrate with coastal management policy as part of the District Plan review.

AMENDMENT 15 (Rule 19.1 Permitted Activities)

Add "non-complying" to list of activities as follows:

Any of the following activities is a permitted activity in the Rural Zone provided:

- It is not a non-complying, discretionary, limited discretionary, or controlled activity; and
- It complies with all relevant conditions in Clause 19.2 below and Sections 20, 21, 22 and 23 and the definitions in Section 25 where applicable.

AMENDMENT 16 (Rule 19.1 Permitted Activities)

Delete Note to Rule 19.1 as follows:

~~NOTE: Refer to 19.6 for rules relating to the coastal buffer area, earthworks and community.~~

AMENDMENT 17 (Rule 19.2.28)

Add new Rule 19.2.28 as follows:

19.2.28 Foxton Dunefields

No buildings shall be located on, or earthworks undertaken on, land that is a dune within the Foxton Dunefields Outstanding Natural Landscape.

AMENDMENT 18 (Rule 19.5(a))

Amend Rule 19.5(a) as follows:

- (a) Any permitted or controlled activity which fails to comply with any condition in Clauses 19.2 and 19.4 and Sections 20-24 of this Plan shall be a limited discretionary activity except for activities that are specified as discretionary activities or non-complying activities in rules 19.6 and 19.9.

The matters over which the Council will exercise its discretion in granting or refusing any application shall be limited to the effect of the particular non-compliance on the environment.

All other aspects of the activity shall comply with any other applicable performance conditions or standards.

AMENDMENT 19 (Rule 19.5(b))

Delete Rule 19.5(b) as follows:

- (b) ~~Consents for network utilities on outstanding landscapes and natural features shall be in accordance with Clause 22.1.10. The exercise of Council's discretion shall be restricted to the visual impact of the structures, the location of the structures, and the effect on the values for which the landscapes or features are regarded as outstanding.~~

AMENDMENT 20 (Rule 19.5(b))

Add new Rule 19.5(b) as follows:

- ~~(b) Buildings on land shown as High Amenity Landscape on Planning Maps 32 and 33, except for primary production buildings that comply with the permitted activity conditions. The exercise of Council's discretion shall be restricted to design, siting, external appearance and landscaping.~~

AMENDMENT 21 (Rule 19.5(c))

Add new Rule 19.5(c) as follows:

- (c) Earthworks on land shown as High Amenity Landscape on Planning Maps 32 and 33. The exercise of Council's discretion shall be restricted to the effects of the earthworks.

AMENDMENT 22 (Rule 19.5(d))

Add new Rule 19.5(d) as follows:

- (d) Earthworks and buildings, except for primary production buildings that comply with the permitted activity conditions not on a dune within the Foxton Dunefields Outstanding Natural Landscape. The exercise of Council's discretion shall be restricted to design, siting, external appearance, associated landscaping, and the effects of earthworks.

AMENDMENT 23 (Rule 19.6)

Add "non-complying" to Rule 19.6 as follows:

19.6 DISCRETIONARY ACTIVITIES

Any activity that is not a permitted, controlled, or limited discretionary, or non-complying activity is a discretionary activity. In addition the following are discretionary activities:

AMENDMENT 24 (Rule 19.6(a))

Delete Rule 19.6(a) as follows:

- ~~(a) Buildings, structures and the subdivision of land in the Coastal Buffer Area (refer to the Planning Maps).~~

AMENDMENT 25 (Rule 19.6(b))

Delete Rule 19.6(b) as follows:

- ~~(b) All earthworks and new roading within outstanding landscapes and on natural features scheduled in this District Plan and identified on Maps 32 and 33.~~

AMENDMENT 26 (Rule 19.6(c))

Renumber Rule 19.6(c) as follows:

- (a)(e) Community Signs on State Highways 1 and 57.

AMENDMENT 27 (Rule 19.6(b))

Add new Rule 19.6(b) as follows:

(b) Network utilities with a height of more than 8 metres located on a High Amenity Landscape.

AMENDMENT 28 (Rule 19.6(c))

Add new Rule 19.6(c) as follows:

(c) Network utilities with a height of more than 8 metres located within the Foxton Dunefields Outstanding Natural Landscape on land that is not a dune.

AMENDMENT 29 (Rule 19.9)

Add new Rule to 19.9 as follows:

19.9 NON-COMPLYING ACTIVITIES

19.9.3 Outstanding Natural Landscapes and Features

Any building or network utility with a height of more than 3 metres, or earthworks on any land shown or specified as an Outstanding Natural Landscape or Outstanding Natural Feature on Planning Maps 32 and 33, except for land within the Foxton Dunefields Outstanding Natural Landscape that is not a dune.

AMENDMENT 30 (Rule 22.1.5)

Amend Rule 22.1.5 as follows:

22.1.5 Undergrounding of Services

In urban zoned areas, where practicable, new electricity and telecommunication supply lines shall be reticulated underground.

In areas of Outstanding Natural Landscapes, and Outstanding Natural Features and High Amenity Landscapes specified or identified on Planning Maps 32 and 33 and any Significant Natural Area as identified in Schedule 4 of this Plan, new electricity and telecommunications and cable television supply lines shall be reticulated underground where this will not adversely affect effect the values of the natural area.

AMENDMENT 31 (Rule 22.1.7)

Amend Rule 22.1.7 as follows:

22.1.7 Size of Network Utilities

A network utility building shall not have a floor area in excess of 50m² and a height in excess of the following (excluding pole-mounted street lights):

- 15 metres in the Rural Zone
 - 8 metres in a High Amenity Landscape
 - 3 metres in an Outstanding Natural Landscape or Outstanding Natural Feature
- 8.5 metres in the Residential 1,2,3,4 and Commercial 2 Zones
- 15 metres in the Commercial 1
- 15 metres in the Industrial Zone

AMENDMENT 31 (Rule 22.1.8)

Amend Rule 22.1.8 as follows:

22.1.8 Height of Masts, other support Structures and Aerials

Apart from 22.1.10 below, all masts, support structures and antennas associated with the network utilities shall not exceed the following maximum height requirements:

- 20 metres in the Rural Zone, other than Outstanding Natural Landscape and Features and High Amenity Landscapes
- 13.5 metres in the Residential Zones
- 13.5 metres in the Commercial 2 Zone
- 20.0 metres in the Commercial 1 Zone
- 20.0 metres in the Industrial Zone

AMENDMENT 32 (Rule 22.1.10)

Amend Rule 22.1.10 as follows:

22.1.10 Outstanding Natural Landscapes and Features and High Amenity Landscapes

No masts, pylons or power poles shall be located on the outstanding natural features as identified on Maps 32 and 33. No masts, pylons, towers, aerials, or other structures associated with network utilities with a height of more than 3 metres shall be located on land shown or specified as an Outstanding Natural Landscape, or an Outstanding Natural Feature or have a height of more than 8 metres on a High Amenity Landscape shown on Planning Maps 32 and 33.

Except on the Foxton Dunefields Outstanding Natural Landscape where no masts, pylons, towers, aerials, or other structures associated with network utilities of more than 3 metres in height shall be located on land that is a dune or more than 8 metres in height on land that is not a dune.

AMENDMENT 33 (24A Assessment Criteria)

Add Assessment Criteria 24A.2 as follows:

24A ASSESSMENT CRITERIA**24A.2 Assessment Criteria For Land Use Consent Applications**

The following criteria will be used in assessing land use applications relating to High Amenity Landscapes, Outstanding Natural Landscapes and Outstanding Natural Features

- (a) The extent to which the proposal is in accordance with the Rural Subdivision Design Guide.
- (b) The extent to which the proposal adversely affects the landscape values of the landscape in which it is located
- (c) The extent to which there are cumulative effects on landscape values.
- (d) The extent to which landscape effects are able to be effectively mitigated.

- (e) The extent to which the proposal provides for rehabilitation and restoration of landscape and associated values.
- (f) The extent to which the proposal leads to buildings, structures and earthworks being highly visible.
- (g) The extent to which a proposal on a Outstanding Natural Landscape, Outstanding Natural Feature or High Amenity Landscape affects the back drop of the Tararua Ranges.
- (h) The extent to which the proposal is visible from the coast.
- (i) The extent to which the proposal is consistent with any relevant provisions in National Policy Statements, Regional Policy Statements and objectives and policies of the District Plan.
- (j) Any relevant criteria in Section 24A relating to the effects of subdivision and development.

AMENDMENT 34 (25 General Provisions: Definitions)

Add new definition for Coastal Foredune Outstanding Natural Feature as follows:

Coastal Foredune Outstanding Natural Feature is a shore-parallel dune ridge formed on the top of the backshore of a beach by wind and sand transportation and deposition and where any vegetation consists of sand colonising flora such as pikao or pingao (*Desmoschenus spiralis*); spinifex (*Spinifex sericeus*); sand tussock (*Austrofestuca littoralis*) or marram grass (*Ammophila arenaria*).

AMENDMENT 35 (25 General Provisions: Definitions)

Add definition for Dune as follows:

Dune means a mound or ridge consisting predominantly of sand and originally formed by the wind.

AMENDMENT 36 (25 General Provisions: Definitions)

Delete definition of Landscape as follows:

~~**Landscape** is the outcome of the interaction of the three key components: Geomorphological processes, ecological processes and cultural/human change. Landscapes are dynamic entities that represent the diversity and changing values of the district.~~

AMENDMENT 37 (25 General Provisions: Definitions)

Delete definition of Natural Character as follows:

~~**Natural Character** is the qualities and attributes of an area that exhibit a largely unmodified environment.~~

AMENDMENT 38 (25 General Provisions: Definitions)

Delete definition of Natural Feature as follows:

~~**Natural Feature** is the result of the action or interaction of geomorphological processes: geological (land), aeolian (wind) and fluvial (water).~~

AMENDMENT 39 (25 General Provisions: Definitions)

Amend definition of Network Utility as follows:

Network Utility includes any:

- Aerial or mast or antennae or dish antennae;
- Tower or pole, including any wind turbine;
- Pole-mounted street light;
- Line for telecommunication, cable television, transmission, sub-transmission, or any distribution line for conveying electricity - including associated pole- or ground-mounted switch gear;
- Transformer, substation, compressor station, or pumping station;
- Water supply or irrigation race, drain, or channel;
- Pipeline for the distribution or transmission of natural or manufactured gas and any necessary incidental equipment, including compressors and gate stations;
- Pipe, including any pipe for conveyance or drainage of water or sewage and other wastes or natural gas;
- Navigational aid, lighthouse, or beacon;
- Survey peg or survey monument;
- Meteorological installation;
- Telephone booth; and
- Equipment incidental to the household or commercial or industrial connections to such utilities;
- Roading and railway lines;

Whether these are for private or public purposes; and includes routine maintenance of these network utilities.

AMENDMENT 40 (25 General Provisions: Definitions)

Insert new definition for Primary Production Building as follows:

Primary Production Building means any building used solely to support primary production activities this shall include buildings used for storage and management of stock but shall exclude buildings used in total or in part for residential activities.

AMENDMENT 41 (Schedule 4)

Delete Schedule 4 Outstanding Landscapes and Natural Features as follows:

Outstanding Landscapes and Natural Features

Table 1: Outstanding Landscapes

Character Area	Description/values	Score
Tararua Ridgeline/Ranges	Aesthetic, psychophysical and ecological value	56
Tokomaru Foothills	Spatial, ecological value	54
Opiki Plains	Identity, spatial and aesthetic value	55
Shannon	Historic, aesthetic value	55
Mangahao/Mangaore	Heritage, aesthetic value	54
Foxton Loop	Historic, identity value	56
Foxton Beach	Recreational, ecological, identity value	59
Manawatu Estuary	Ecological, aesthetic and recreational value	54

Character Area	Description/values	Score
Waitarere farmland	Identity, spatial value	53
Waitarere Beach	Historic, identity, recreational value	57
Heatherlea/Kawiu	Aesthetic, spatial value	56
Roslyn/Queen St. East	Aesthetic, spatial value	53
Levin	Exposure, Heritage and aesthetic value	66
Lake Horowhenua	Recreational, ecological, heritage value	54
Semi-Intensive Levin	Identity, exposure value	51
Kohitere Foothills	Aesthetic, spatial and identity value	56
Lake Papaitonga	Heritage, aesthetic and ecological value.	55
Ohau	Exposure, aesthetic, identity value	51
Muhunoa East	Aesthetic, identity value	50
Manakau/kuku Foothills	Aesthetic, exposure and heritage value	56
Waikawa Hokio coastal buffer	Exposure, ecological and identity value	51
Waikawa Beach	Ecological, recreational, aesthetic value	55
Manakau Downlands	Historic, identity value	54

Table 2: Outstanding Natural Features.

Natural feature	Significance
The Coastline	100 km of wide expansive beaches, interrupted only by estuaries.
Coastal foredunes	Buffer zone in an increasingly dynamic environment.
Foxtangi dune Field	One of the most extensive areas of sand and related aeolian features in NZ
Himatangi dune dammed lakes	Largest Holocene dune area in NZ with several dune dammed lakes
Manawatu River and Estuary	Important habitat of many migratory birds, estuary once extended as far as Shannon.
Moutere Hill	Largest sandhill in Southern Hemisphere
Lake Horowhenua	Largest of 5 dune contact lakes in district
Tararua Ranges/Ridgeline	Zone of intense shearing and compression, ~½ million years old.

AMENDMENT 42 (Planning Maps 32 and 33)

Delete existing Planning Maps 32 and 33 Outstanding Landscape Areas, Electricity Transmission Lines & Gas Transmission Pipelines. (Refer to Attachment 1)

AMENDMENT 43 (Planning Maps 32 and 33)

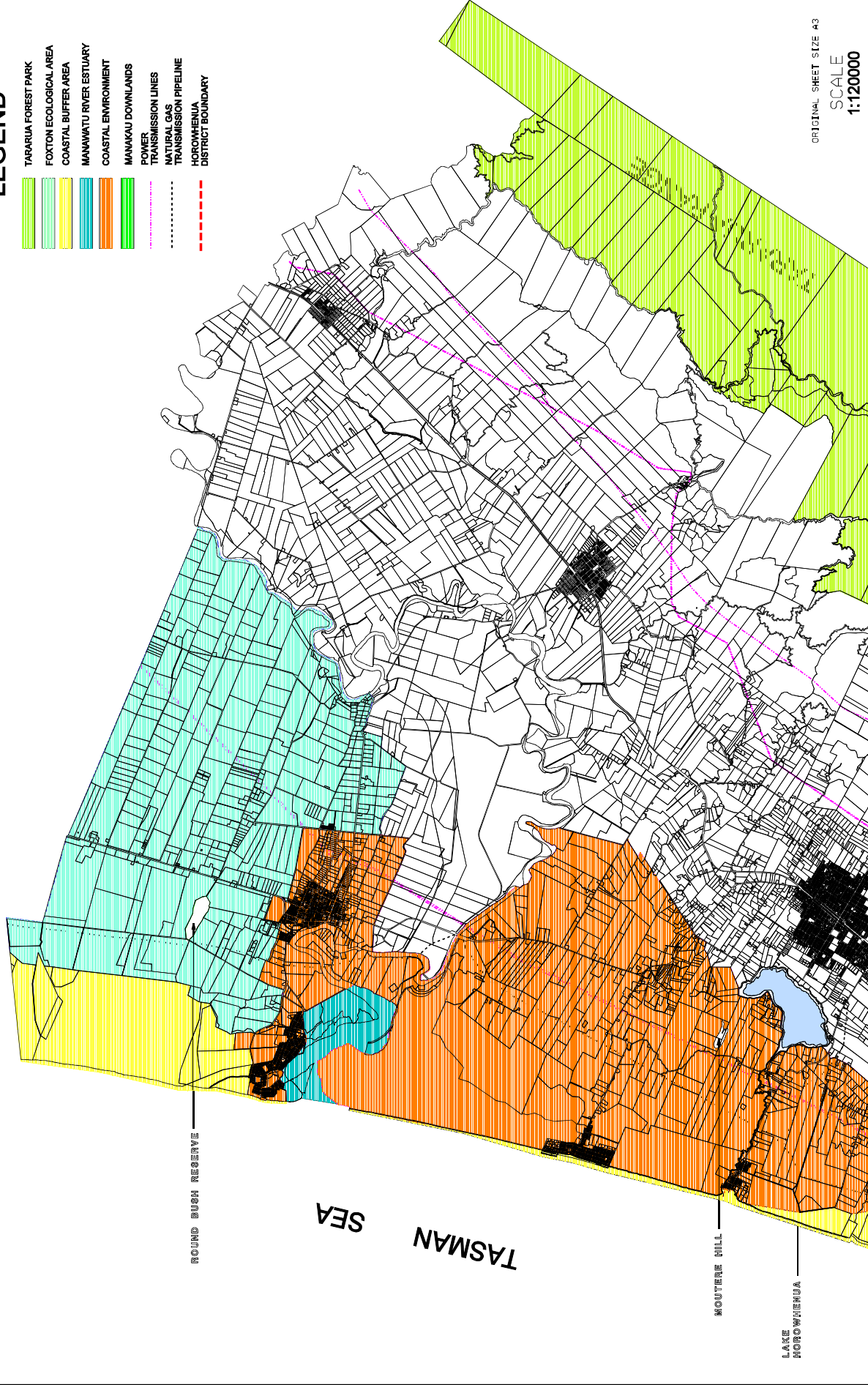
Add new replacement Planning Maps 32 and 33 Outstanding Natural Features, Outstanding Natural Landscapes and High Amenity Landscapes. (Refer to Attachment 2)

ATTACHMENT 1

Planning Maps 32 and 33 Outstanding Landscape Areas, Electricity Transmission Lines & Gas Transmission Pipelines. (**Amendment 42**)

LEGEND

- TARARUA FOREST PARK
- FOXTON ECOLOGICAL AREA
- COASTAL BUFFER AREA
- MANAWATU RIVER ESTUARY
- COASTAL ENVIRONMENT
- MANAKAU DOWNLANDS
- POWER TRANSMISSION LINES
- NATURAL GAS TRANSMISSION PIPELINE
- HOROWHENUA DISTRICT BOUNDARY

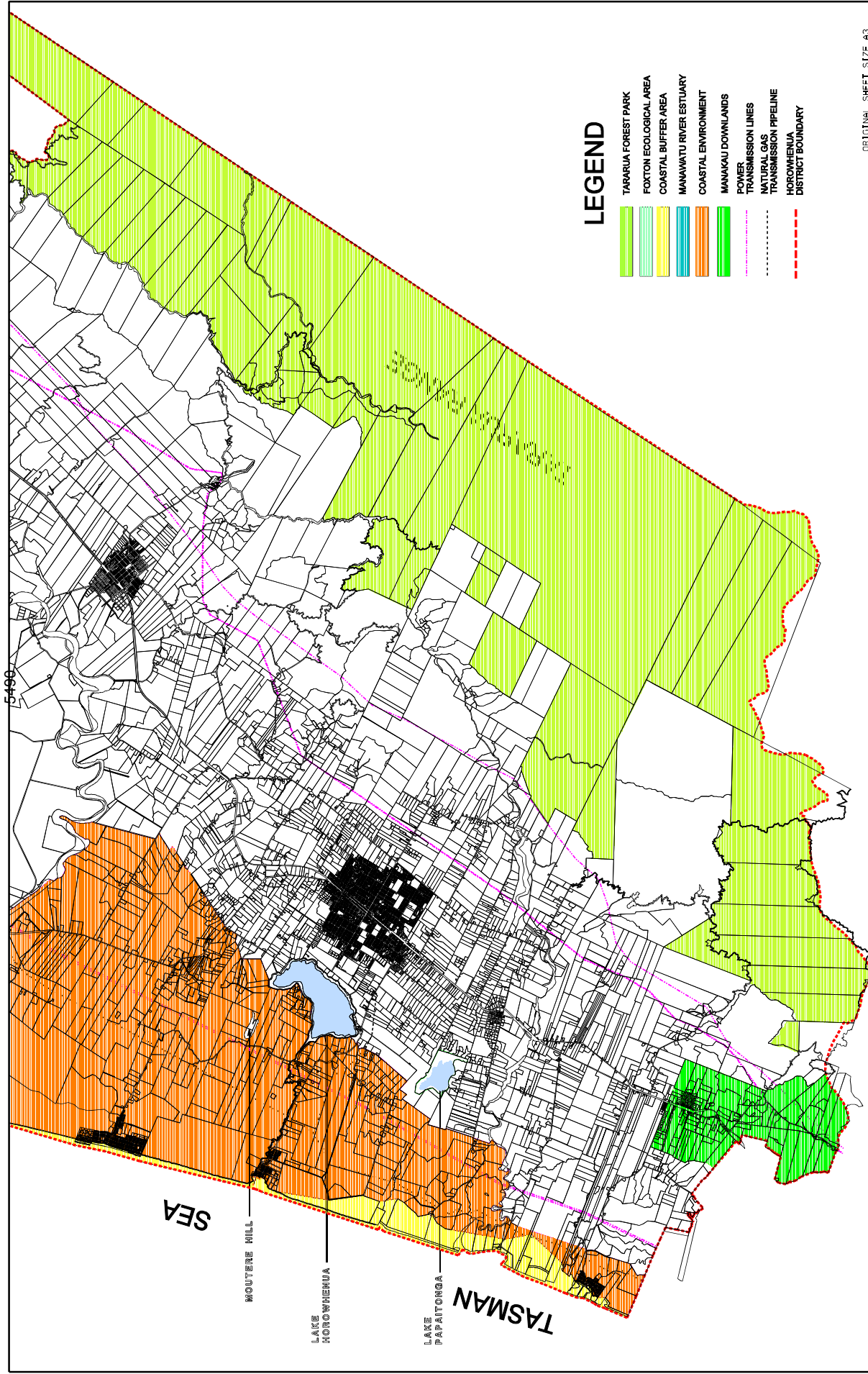


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SCALE
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DISTRICT PLAN

PLANNING MAP

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LEGEND

- TAPARUA FOREST PARK
- FOXTON ECOLOGICAL AREA
- COASTAL BUFFER AREA
- MANAWATU RIVER ESTUARY
- COASTAL ENVIRONMENT
- MANAKAU DOWNLANDS
- POWER TRANSMISSION LINES
- NATURAL GAS TRANSMISSION PIPELINE
- HOROWHENUA DISTRICT BOUNDARY

ORIGINAL SHEET SIZE A3
SCALE 1:120000

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ATTACHMENT 2

Replacement Planning Maps 32 and 33 Outstanding Natural Features, Outstanding Natural Landscapes and High Amenity Landscapes (**Amendment 43**)

PROPOSED

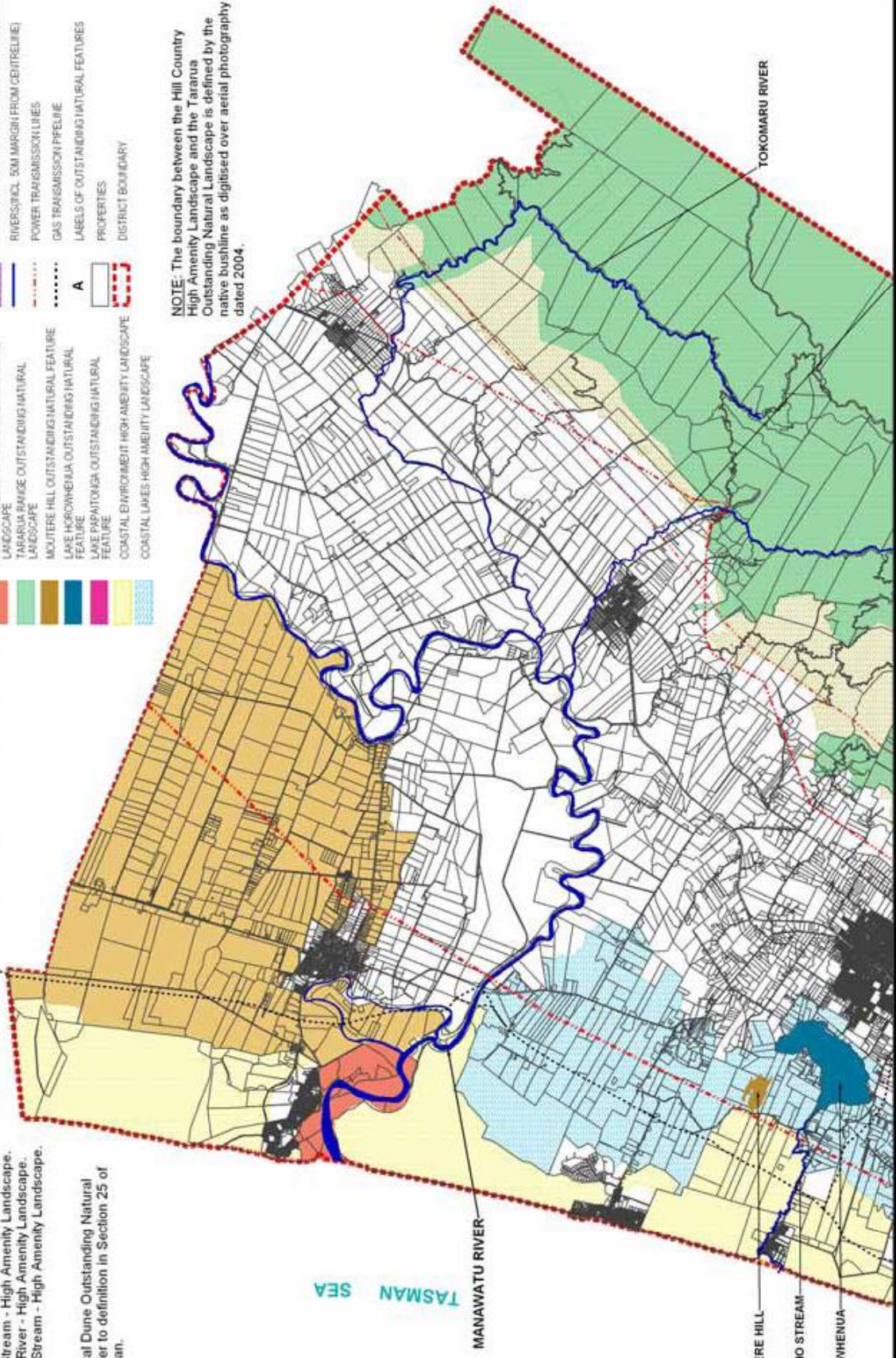
- NOTE:**
1. Hokio Stream - Outstanding Natural Feature.
 2. Manawatu River - High Amenity Landscape.
 3. Ohau River - High Amenity Landscape.
 4. Walkawa Stream - High Amenity Landscape.
 5. Tokomaru River - High Amenity Landscape.
 6. Mangaro Stream - High Amenity Landscape.

NOTE: Coastal Dune Outstanding Natural Feature - Refer to definition in Section 25 of the District Plan.

Legend

	FOXTON DUNE FIELDS OUTSTANDING NATURAL LANDSCAPE		HILL COUNTRY HIGH AMENITY LANDSCAPE
	MANAWATU ESTUARY OUTSTANDING NATURAL LANDSCAPE		MANAWAU DOWNLANDS HIGH AMENITY LANDSCAPE
	TARARUA RANGE OUTSTANDING NATURAL LANDSCAPE		RIVERS/STREAMS (50M MARGINS FROM CENTRELINE)
	MOUTERE HILL OUTSTANDING NATURAL FEATURE		POWER TRANSMISSION LINES
	LAKE HOROWHENUIA OUTSTANDING NATURAL FEATURE		GAS TRANSMISSION PIPELINE
	LAKE PAPATONGA OUTSTANDING NATURAL FEATURE		LABELS OF OUTSTANDING NATURAL FEATURES
	COASTAL ENVIRONMENT HIGH AMENITY LANDSCAPE		PROPERTIES
	COASTAL LAKES HIGH AMENITY LANDSCAPE		DISTRICT BOUNDARY

NOTE: The boundary between the Hill Country High Amenity Landscape and the Taranaki Outstanding Natural Landscape is defined by the native bushline as digitised over aerial photography dated 2004.



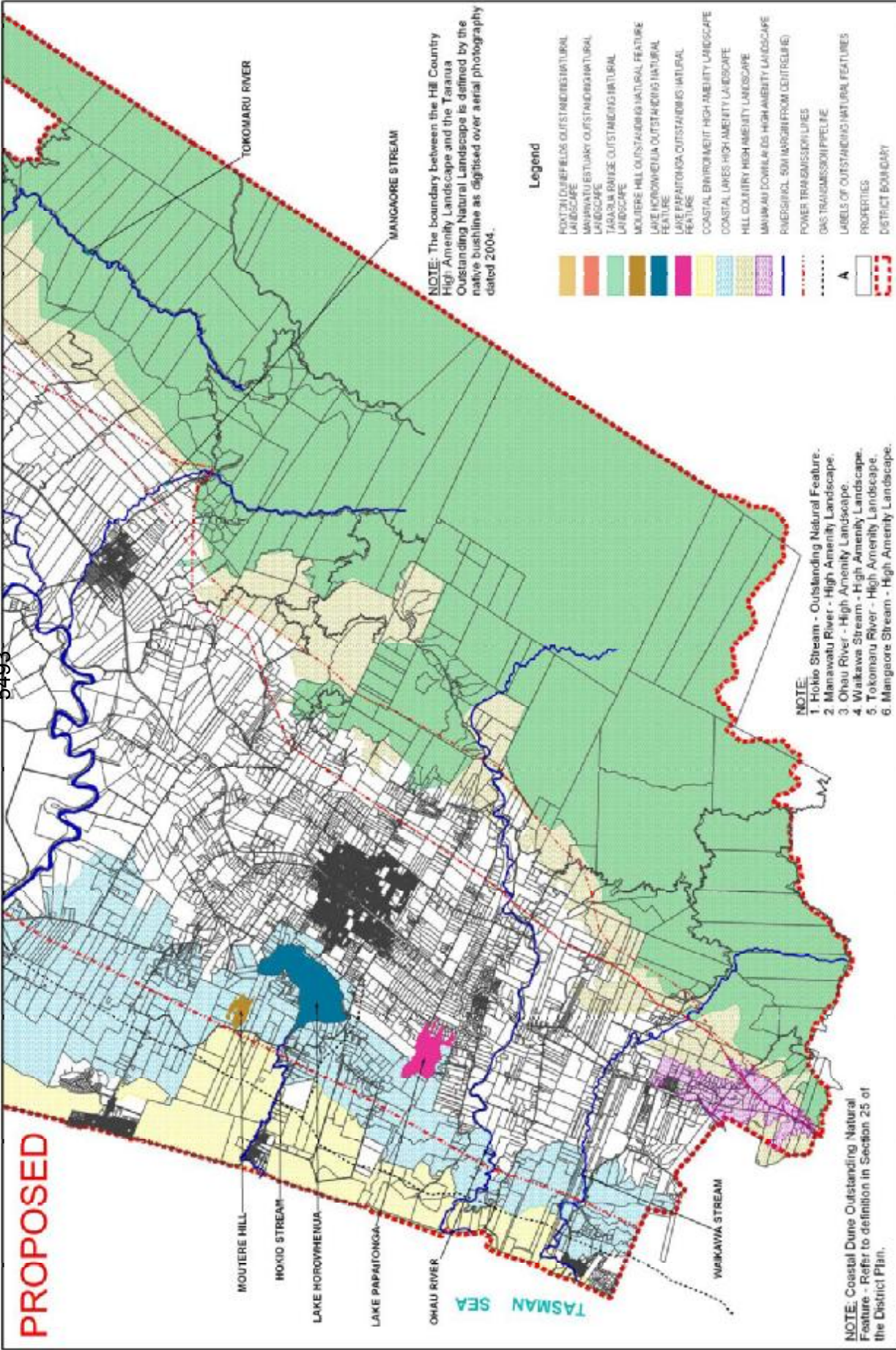
DISTRICT PLAN

OUTSTANDING NATURAL FEATURES, OUTSTANDING NATURAL LANDSCAPES AND HIGH AMENITY LANDSCAPES

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PROPOSED



NOTE: The boundary between the Hill Country High Amenity Landscape and the Tararua Outstanding Natural Landscape is defined by the native bushline as digitised over aerial photography dated 2004.

Legend

- FOXTON/DUNBELLS OUTSTANDING NATURAL LANDSCAPE
- MAHAWATU ESTUARY OUTSTANDING NATURAL LANDSCAPE
- TAIARUNA RIVER OUTSTANDING NATURAL LANDSCAPE
- MOUTERE HILL OUTSTANDING NATURAL FEATURE
- LAKE HOROWHENUA OUTSTANDING NATURAL FEATURE
- LAKE PAPANONGA OUTSTANDING NATURAL FEATURE
- COASTAL ENVIRONMENT HIGH AMENITY LANDSCAPE
- COASTAL LAKES HIGH AMENITY LANDSCAPE
- HILL COUNTRY HIGH AMENITY LANDSCAPE
- MAHAWATU COASTAL HIGH AMENITY LANDSCAPE
- RIVERS/INCL. SUBMARGINS FROM CENTRELINE
- POWER TRANSMISSION LINES
- ONS TRANSMISSION PIPELINE
- LABELS OF OUTSTANDING NATURAL FEATURES
- PROPERTIES
- DISTRICT BOUNDARY

- NOTE:**
1. Hokio Stream - Outstanding Natural Feature.
 2. Manawatu River - High Amenity Landscape.
 3. Ohau River - High Amenity Landscape.
 4. Waikawa Stream - High Amenity Landscape.
 5. Tokomaru River - High Amenity Landscape.
 6. Mangaro Stream - High Amenity Landscape.

**OUTSTANDING NATURAL FEATURES,
OUTSTANDING NATURAL LANDSCAPES
AND HIGH AMENITY LANDSCAPES**

DISTRICT PLAN

scale 1:120000
ORIGINAL SHEET SIZE - A3



**RANGITIKEI DISTRICT
LANDSCAPE ASSESSMENT**





**HUDSON ASSOCIATES
LANDSCAPE ARCHITECTS**
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For

RANGITIKEI DISTRICT COUNCIL

25 May 2010

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11.1	Effectiveness and Efficiency of Alternative Approaches
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13	Risk of Acting or Not Acting

PART II LANDSCAPE AREAS

- 1 Rangitikei Highlands
- 2 Ngamatea East Swamp
- 3 Ngamatea Plateau
- 4 Woolwash and Blowfly Tussock Plateau
- 5 Rangitikei River Open Valleys
- 6 Pokopoko Stream Catchment
- 7 Reporoa Bog & Makirikiri Tarns
- 8 Aorangi
- 9 Upper Moawhango River Gorge
- 10 Hihitahi Plateau
- 11 Mid Moawhango River
- 12 Lower Moawhango River
- 13 Lower Hautapu River
- 14 Pukeokahu
- 15 Rangitikei Narrows and Gorges
- 16 Kawhatau
- 17 Central Rangitikei River
- 18 Putorino
- 19 Parae Karetu (Mt Curl)
- 20 Rangitikei Coastal system
- 21 Rangitikei Foredunes

1 Executive Summary

The landscape assessment of Rangitikei District has been undertaken as an expert based approach, with 21 areas identified as having landscape significance. These fall into 8 areas of Outstanding Natural Landscape, 11 areas of Significant Amenity Landscape and 2 areas of Cultural amenity landscape. Within these general classifications are included Features, relating to both Outstanding and Amenity landscapes.

The landscapes have been assessed according to the Pigeon Bay Criteria, which is a list of landscape assessment criteria established by the Environment Court in its decision on an appeal for a series of mussel farms in Pigeon Bay, Banks Peninsula¹. These criteria, which were refined in the subsequent Wakatipu Environmental Society Inc (WESI) v Queenstown Lakes District Council appeal, are known from that case as the WESI criteria². However, the Pigeon Bay case has taken on a greater prominence in rhetoric, and is the commonly used method for assessing the significance of landscapes.

The assessment is expert based, with input from the public, landowners and community groups yet to come. Thus, there will be areas, sites and meanings associated with these that are not and cannot be known to the author without the input of others. The assessment is therefore limited in this sense, but such a limitation cannot be avoided until public input is obtained. This input is welcome and necessary, and will give the assessment a depth and breadth that is acknowledged as missing until wider consultation can take place.

The assessment process identifies three categories for assessment: Natural Science, Perceptual, Associational. These are each subdivided into further categories, being:

Natural Science	Geological/Geomorphological
	Biological/Ecological
	Hydrological
Perceptual	Memorability
	Legibility/Expressiveness
	Transient
	Aesthetic
	Naturalness
Associational	Historical
	Tangata Whenua
	Shared/Recognised

While efforts have been made to obtain information relating to 11 categories, inevitably greater information will be held in relation to each area and each category than is known to the author. However, the results of the assessment process has shown a consistency in terms of higher values occurring for specific areas over a range of criteria for landscapes of significance i.e. high values make occur for geomorphology, ecology, hydrology, memorability, expressiveness, aesthetic and naturalness in the same area. This reinforces the assessment that this particular area has landscape significance. It is then a value judgment as to whether that area if a significant amenity landscape or an outstanding natural landscape. As can be seen from the results, there was roughly a 40:50 split between the two, with more being classed as amenity landscapes. However, in terms of area on the ground, a greater number of hectare were found to be outstanding than amenity landscapes.

Those areas classed as outstanding natural landscapes (and/or features) are generally of higher value in terms of natural science and perceptual criteria, with less human modification and greater aesthetic appeal. Those areas classed as significant amenity landscapes may adjoin an outstanding landscape but have some modification and act as a buffer for it, or may stand alone and be a significant landscape (or feature) but with clear evidence of human modification, or reduced values in terms of natural science or perceptual values. Amenity landscapes are of lesser value than outstanding natural landscapes, but are of greater value than the extensive (typically rural) land that makes up the rest of the district.

¹ Pigeon Bay Aquaculture Ltd and others v Canterbury Regional Council [1999] C32/99

² Wakatipu Environmental Society v Queenstown Lakes District Council [2001] C075/2001. These have been further refined in subsequent appeals, but the underlying principles remain the same.

2 Background

An assessment of the District's landscapes was motivated by the position taken by Horizons Regional Council in their Proposed One Plan which chose not to define outstanding landscapes, but to leave that task to district councils within that region. Additionally, as Rangitikei District Council was embarking on a review of its District Plan, it was timely to initiate a landscape assessment and incorporate the results into the proposed District Plan. The request to prepare the landscape assessment was made in late 2009, and the fieldwork and draft report were completed by mid 2010. Consultation had yet to occur after that date.

3 Issue to be Managed

The issue to be addressed in the landscape assessment is the identification of outstanding and amenity landscapes so that these are known and can thus be protected or had regard to in terms of the requirements of the Resource Management Act.

The activation of the landscape assessment was through Council resolution 11 when planning the RDP 20:20.

Resolution 11

That the CEO engage a suitably qualified landscape architect to identify based on the methodology in POP the spatial extent at a cadastral level of the outstanding landscapes in POP that fall within RDC's territory and report to RDC accordingly included in that report shall be an analysis justifying the recommended boundaries

Part and parcel of the need to carry out a landscape assessment of the District was the fact that Horizons Regional Council has identified significant landscapes at a regional scale by way of written description. The landscape report for Rangitikei District Council was required to identify the outstanding and amenity landscapes spatially and at a cadastral level. To this, the assessment has gone about mapping their extent, describing them in terms of the Pigeon Bay criteria, and determining the landscape values that relate to each area. This is intended to form a basis for objectives, policies and rules that relate to the identified areas and for assessment criteria that may apply to activities within these areas.

4 Legislative Setting

The key provisions of the RMA that need to be considered when addressing the issue of landscape significance are:

Sn 6(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development.

Sn 6(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development.

Sn 6(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

Sn 7(c) The maintenance and enhancement of amenity values

Outstanding landscapes are considered to be a Sn 6 matter, while amenity landscapes are considered to be a Sn 7 matter.

5 Policy and Regulatory Setting

The Regional Policy Statement identifies significant landscapes throughout the Horizons Region. The Proposed One Plan repeats part of this list, and maps their extent. The Preliminary Decisions Version of the Proposed One Plan removes maps, and reverts to descriptions of the areas of landscape significance, noting that their spatial extent should be identified in more detail at a district wide scale in the review of individual district plans. (reference needed)

6 Existing Information

Existing information that was drawn on for the preparation of the landscape assessment included the following:

- District Plan Boundary and cadastral information from Quickmap
- Topographic and NZTopo50 mapping from Quickmap
- Aerial photography from Quickmap, RDC, Google
- Conservation significance information from DoC websites
- DoC Wanganui Conservancy CMS
- DoC Actively Managed Historic Places
- One Plan Chapter 5 and Schedules E and F
- Expert evidence of S Brown, D Lucas, S Bray, Mark Mabin and others for Meridian Central Wind Appeal
- Environment Court Central Wind Decision
- Sustainable Land Management Strategy for Waikou Military Training Area
- Operative Rangitikei District Plan
- Rangitikei.com
- Pigeon Bay Aquaculture Ltd and others v Canterbury Regional Council [1999] CZ2/99
- Ngāi Apa Statements of Association and Ngāti Apa (North Island) Deed of Settlement

7 Additional Information Required

To complete this assessment, additional information is needed from consultation to inform decision-makers on the views of land owners, the public, and cultural representatives. This information will be obtained during consultation with key stakeholders before notification or through submissions after notification.

8 Consultation to Date

Consultation that has occurred to date has been limited to Ngati Apa Iwi representatives. The key outcomes of that consultation were the identification of areas of cultural importance in the southern part of the District.

9 Existing Approach to Managing the Issue

Significant landscapes are not currently identified in the District Plan, but are managed through the responsibility of Districts to give effect to Regional Plans, where significant landscapes are identified.

10 Effectiveness and Efficiency of Existing Approach

The current approach does not identify the spatial extent of significant landscapes. Having completed the draft landscape assessment for the RDP review, it is apparent that there is considerable variance between the extent of areas described in the Proposed One Plan (maps now deleted by Decisions), and the areas identified in this landscape assessment for the District Plan. By identifying the extent of areas of landscape significance throughout the district and the values relating to them, policies can be put in place to ensure the relevant provisions of the RMA, RPS, One Plan and NZCPS are met.

The existing approach is not effective as there is no district based identification of areas of landscape significance, so there is difficulty in giving effect to the relevant statutory and planning provisions. The existing approach is also not efficient, as the significance of each landscape needs to be debated each time a relevant consent application is heard, such as for Central Winds wind farm. This causes repeat work, which causes high costs to applicants.

The current approach may not involve high costs for plan users such as land owners, as there is little that is identified in the way of significant landscapes. Therefore the cost of compliance may rise with the incorporation of the identified landscapes into the RDP, but the cost to date has been an environmental one where landscape effects may not have been assessed against the significant landscapes.

11 Alternative Approaches to Managing the Issue

The primary alternative approach is to describe the areas of landscape significance and not map these areas. This has disadvantages of introducing uncertainty when applications are considered and subsequent costs in identifying whether applications relate to areas of landscape significance or not. Alternatively, an approach is not to identify any areas and simply continue to give effect to those areas describes in the RPS and One Plan. This has issues relating to uncertainty and the subsequent costs this leads to.

12 Effectiveness and Efficiency of Alternative Approaches

The expected effectiveness of each of the alternative approaches outlined above is low, while the expected efficiency is also due to potential need for redefinition of areas of landscape significance each time a consent application is assessed.

13 Most Appropriate Approach

A cost evaluation has not been carried out. However, the assessment has listed the values relating to each area, and these can be incorporated into the policies that the plan write needs to incorporate when drafting the provisions of the proposed RDP.

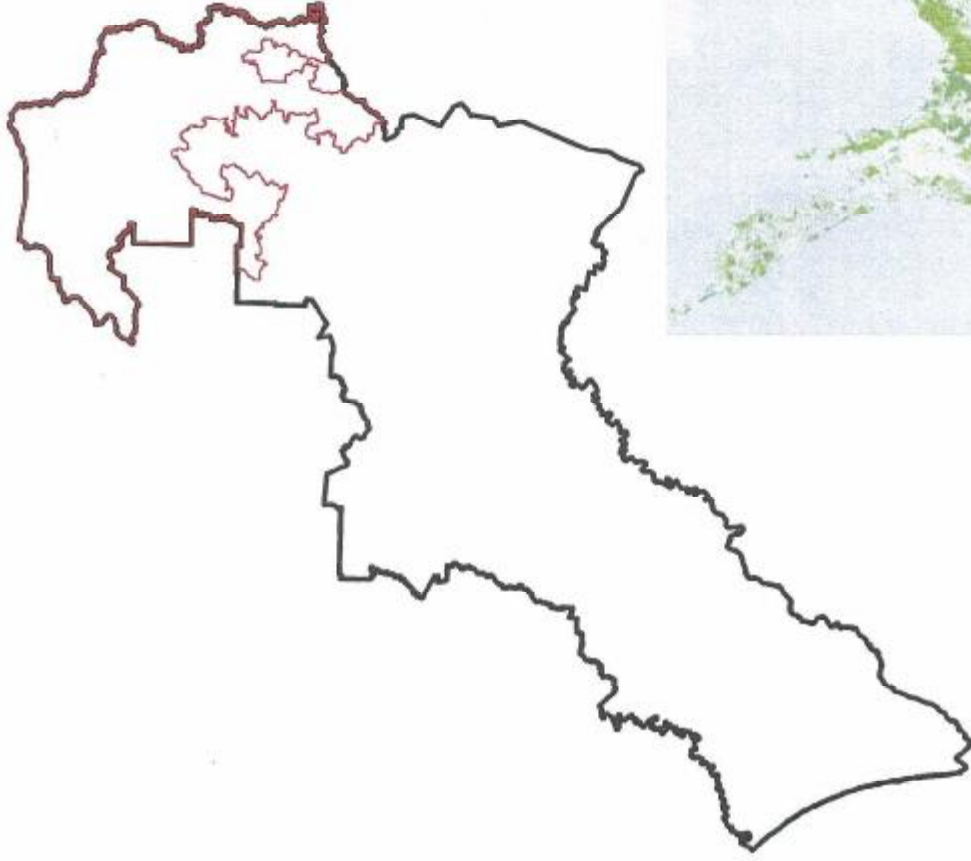
14 Risk of Acting or Not Acting

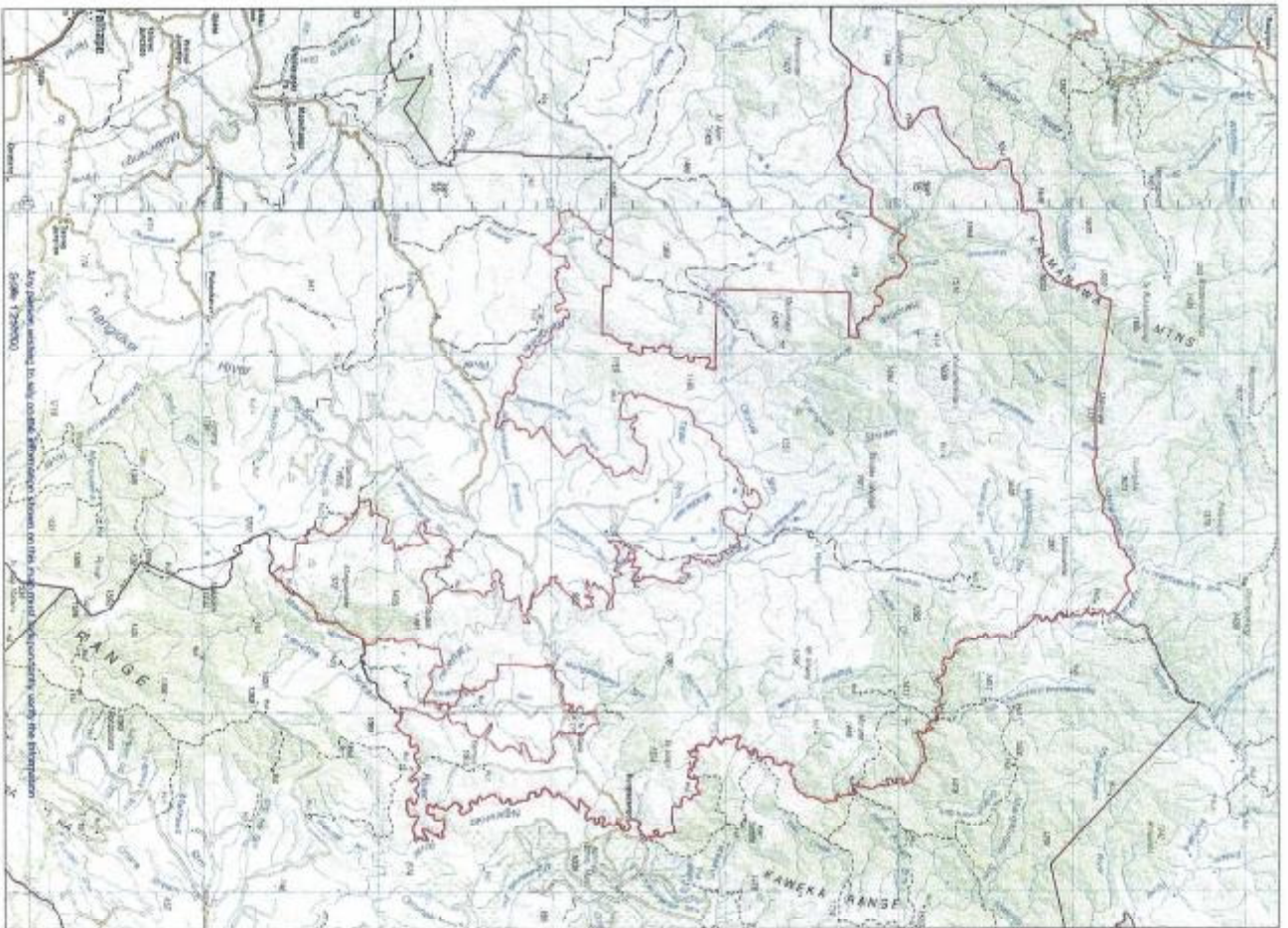
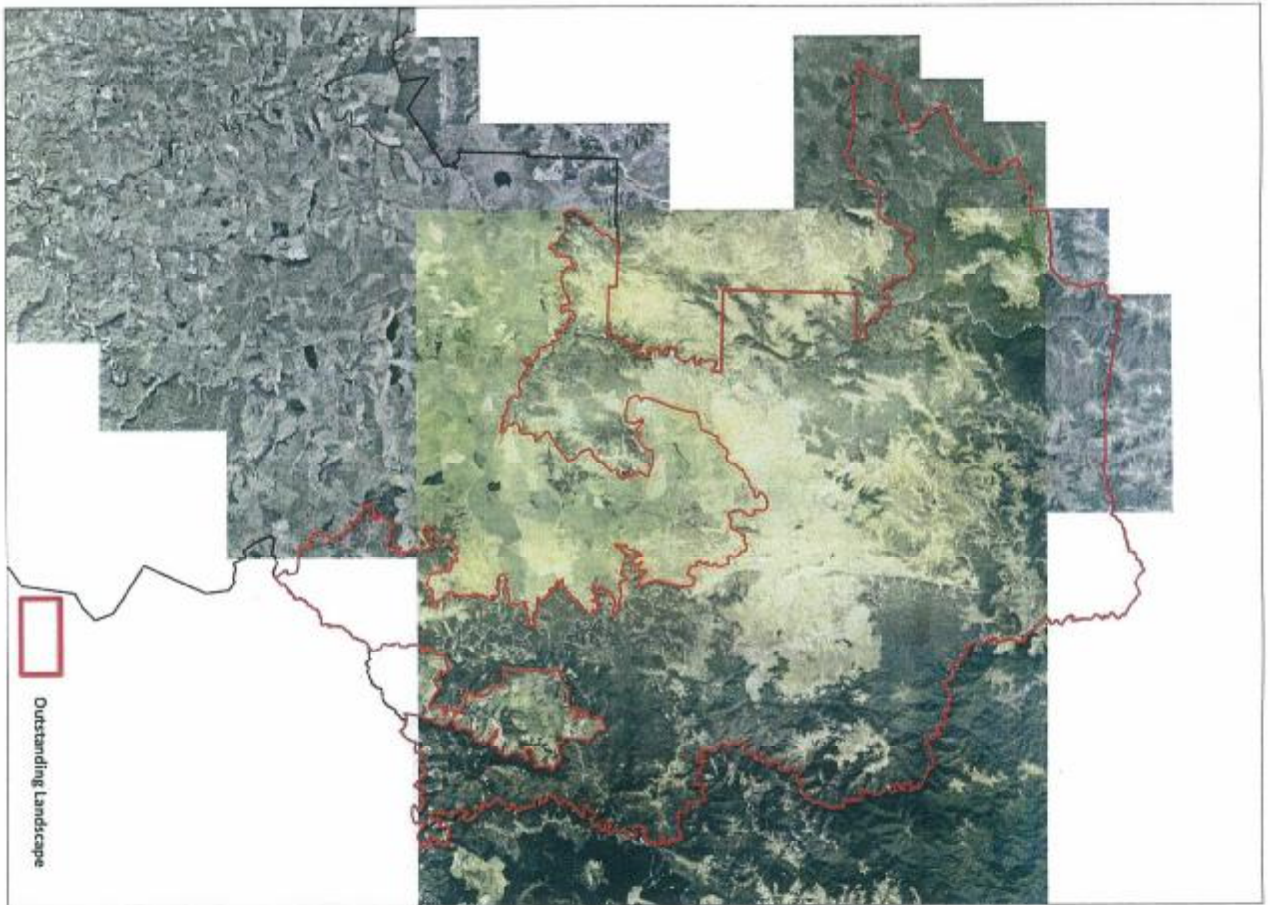
15 The risks of acting or not acting in relate to the need to meet the statutory requirements of the RMA, in which sections 6 and 7 deal with significant landscapes. If these are not identified in the District Plan, there is considerable difficulty in giving effect to the Act and the RPS/One Plan.

PART II LANDSCAPE AREAS

1	Rangitikei Highlands
2	Ngamatea East Swamp
3	Ngamatea Plateau
4	Woolwash and Blowfly Tussock Plateau
5	Rangitikei River Open Valleys
6	Pokopoko Stream Catchment
7	Reporoa Bog & Makirikiri Tarns
8	Aorangi
9	Upper Moawhango River Gorge
10	Hihitahi Plateau
11	Mid Moawhango River
12	Lower Moawhango River
13	Lower Hautapu River
14	Pukeokahu
15	Rangitikei Narrows and Gorges
16	Kawhatau
17	Central Rangitikei River
18	Putorino
19	Parae Karetu (Mt Curl)
20	Rangitikei Coastal system
21	Rangitikei Foredunes

Sheet 1 - Rangitikei Highlands

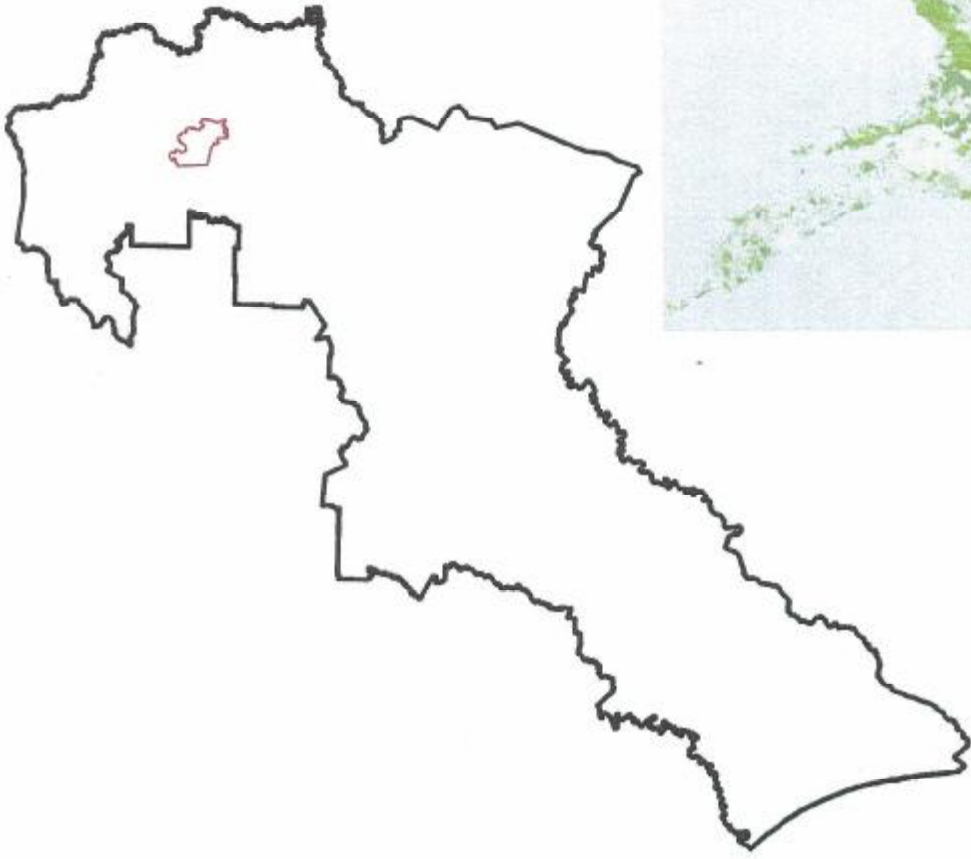


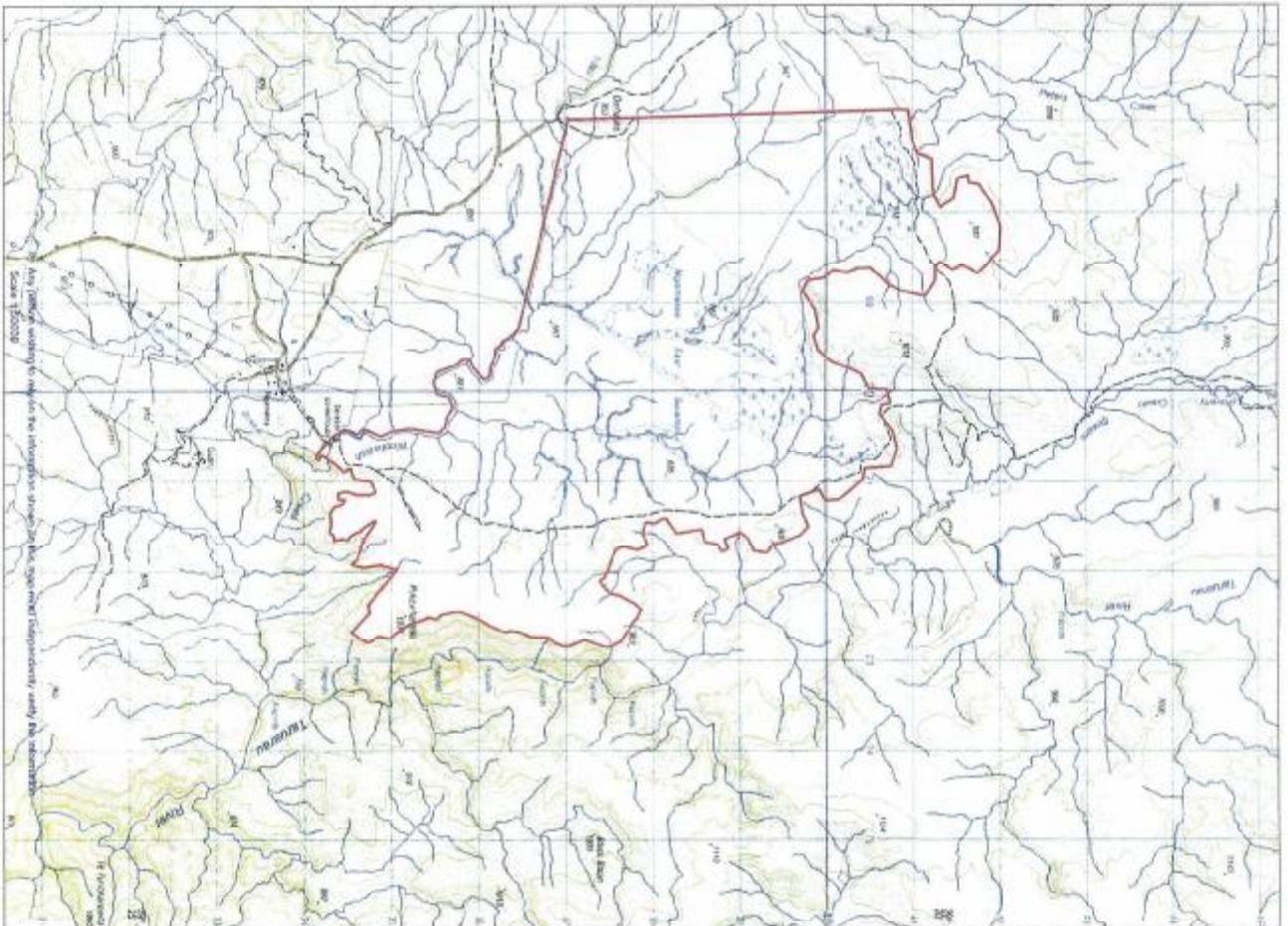


Name:	Rangitikei Highlands
Location:	NZ Topo 50 Map BJ36
Description:	The north and eastern part of the Rangitikei District, including the south-eastern forested Kaimanawa Mountains and foothills, plus the north-western part of the Ruahine Ranges as far south as the Makirikiri Tarns.
ONL/ONF/Amenity:	Outstanding Natural Landscape
Natural Science	<p>Geological/Geomorphological</p> <p>Part of the sequence of axial ranges that are a significant geological feature of the North Island, running from Wellington to East Cape. Composed of uplifted greywacke, with infilled valleys consisting of lignimbrite and andesitic layers from the Taupo volcanic eruption, as well as sedimentary marine deposits on lower slopes and plateaux. Oldest geological elements in the district, possibly in New Zealand. Some significant geological features such as 'The Hermitage' cuesta escarpment and open drainage channels of the upper Rangitikei River.</p> <p>Biological/Ecological</p> <p>Significant stretches of indigenous flora and fauna habitats, including alpine, subalpine and tussock vegetation. Beech and podocarp forests cover much of the mountainland and tussock grassland plus subalpine vegetation dominate valleys and highlands.</p> <p>Hydrological</p> <p>Important water catchment for major rivers, including the Rangitikei and Moawhango.</p>
Perceptual	<p>Memorability</p> <p>Highly memorable landscape that forms a key part of the identity of the North Island of New Zealand. Kaimanawa Mountains important as backdrop to the World Heritage Area. Hermitage feature a distinct and recognisable escarpment landform.</p> <p>Legibility/Expressiveness</p> <p>Very expressive of the tectonic uplift that has created the North Island, and of the erosion processes of river and drainage systems.</p> <p>Transient</p> <p>Higher mountains often covered by snow in winter months. Ranges have a defining effect on the weather of the North Island.</p> <p>Aesthetic</p> <p>High aesthetic values due to the complexity of landform, geological patterns, indigenous vegetation cover and unmodified landscape.</p> <p>Naturalness</p> <p>Significant tracts of unmodified natural vegetation cover, plus other areas of regenerating indigenous forest and tussock. Few building structures. Sense of wilderness and isolation.</p>
Associational	<p>Historical</p> <p>Several historical sites and trading/walking routes throughout. Pockets of early European migration and settlement throughout area. Traversed by William Colenso, and some flurry of activity when gold rumoured to be found in late 1860's.</p> <p>Tangata Whenua</p> <p>Several significant archaeological sites of importance to local iwi. Mountain Ranges and river headlands have high cultural significance as ancestral lands.</p> <p>Shared/Recognised</p> <p>North Island's central axial ranges are recognised by many New Zealanders as a defining landform. Kaimanawa Mountains widely known as backdrop to Central Plateau and as an important recreational destination. Identified and protected in the RPS and Conservation Management Strategy.</p> <p>Recreational</p> <p>Forest Parks used extensively by trampers, hunters and eco-tourists. A number of mapped trails and hubs.</p>
Summary of Key Values	Very high natural character due to the extensiveness of large scale natural landforms, covering of significant indigenous vegetation, feeling of isolation, wilderness, and lack of human occupation or modification. Important recreational area. Highly memorable for its naturalness, expressiveness and expansiveness. It contributes to the identity and sense of place of the District.
Potential Threats	Modification of indigenous vegetation for alternative land use; earthworks such as tracking or quarrying; damming of rivers for irrigation or hydro energy; reduction in wilderness values through wind turbines.
Potential Policies	Maintain high natural character values. Avoid earthworks, construction of large structures, and modifications to native land cover.



Sheet 2 - Ngamatea East Swamp

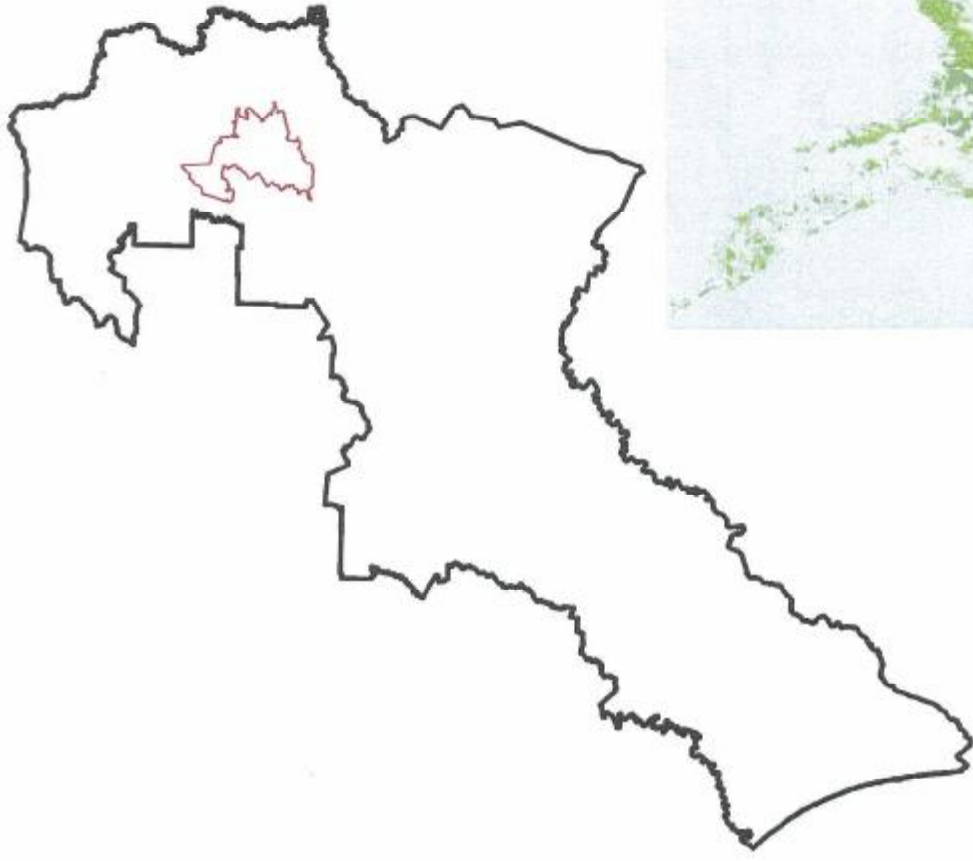


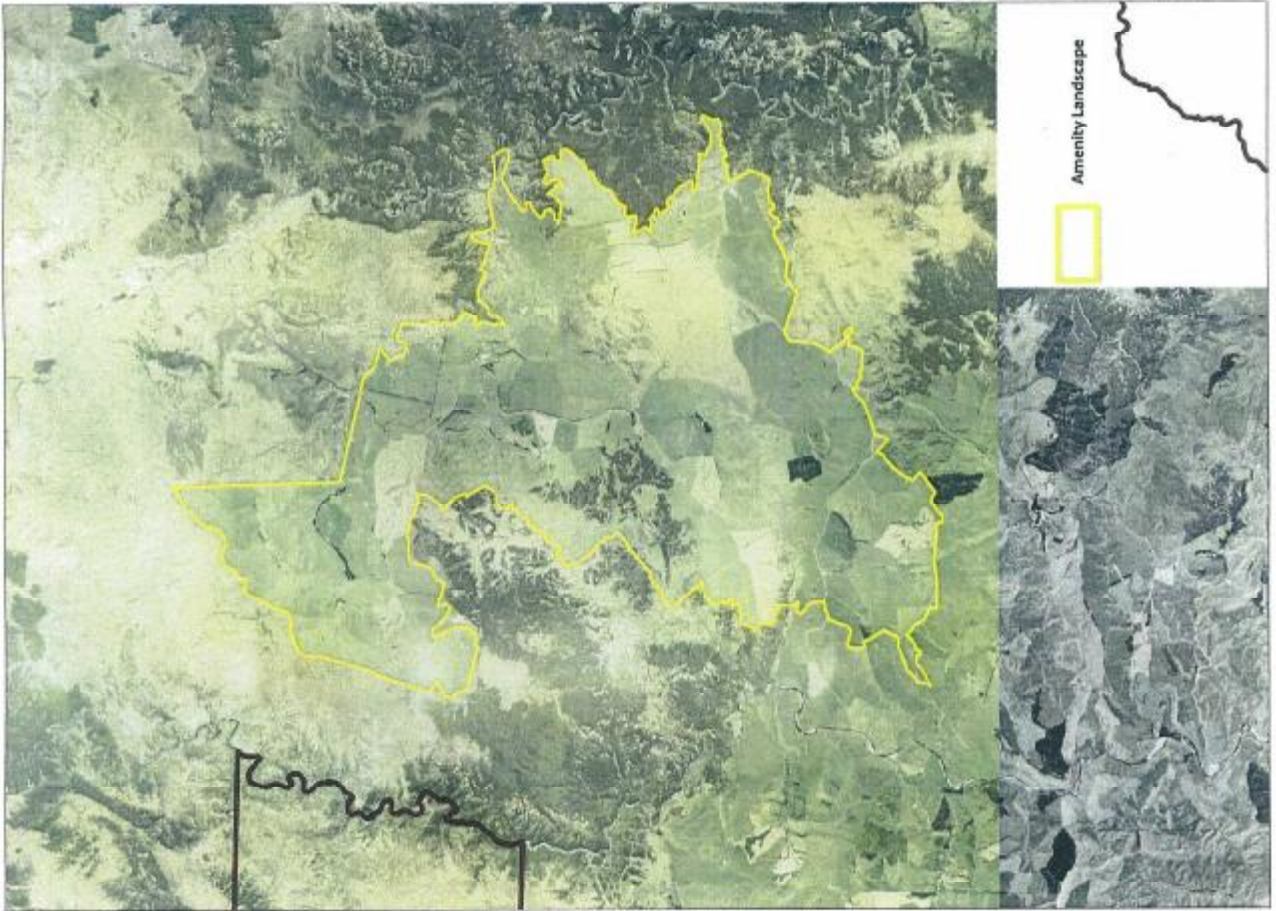
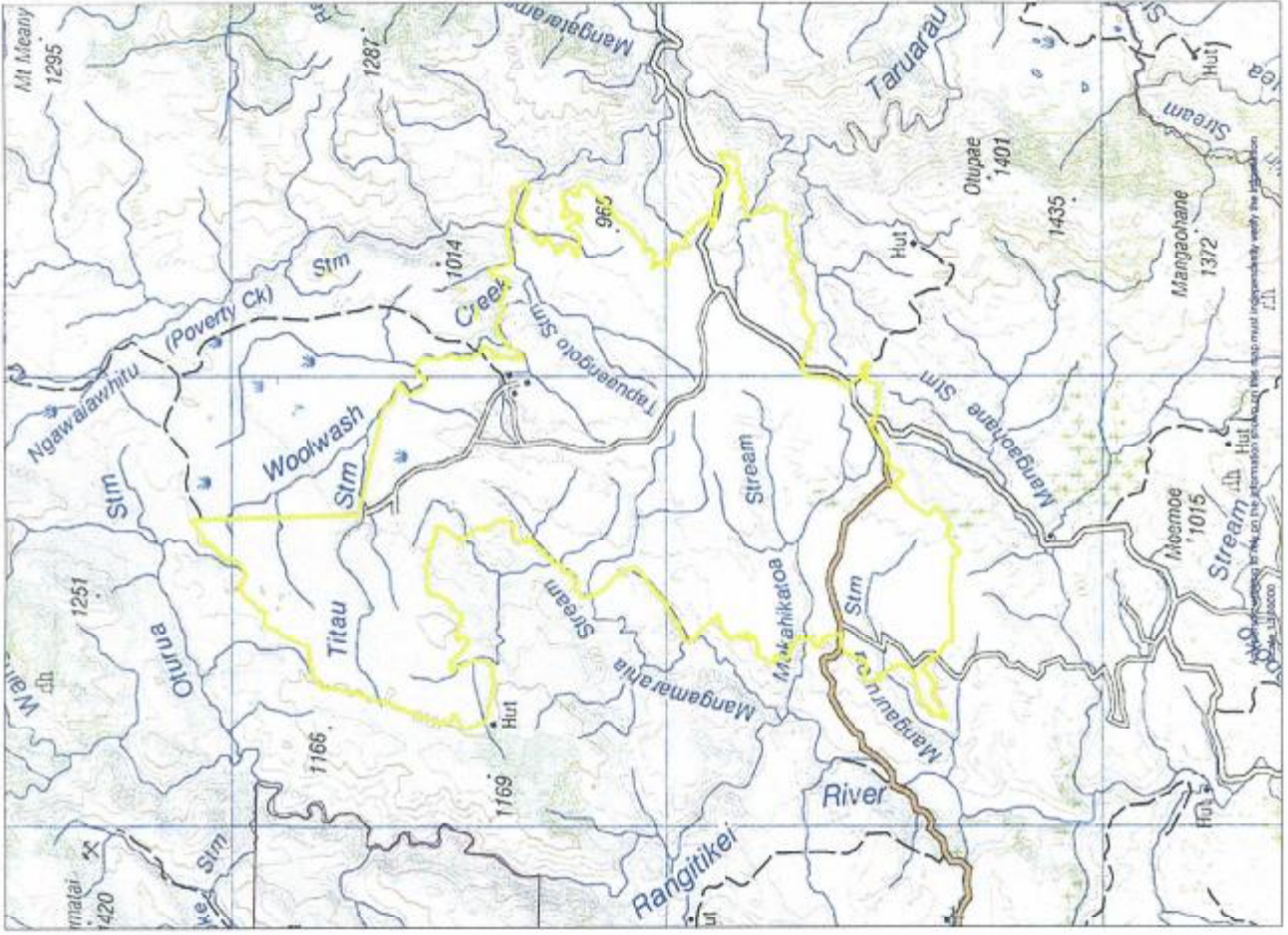


Name:	Ngamatea East Swamp	
Location:	NZ Topo 50 Map B136	
Description:	Ngamatea East Swamp is an extensive unmodified swamp with strong north-south drainage patterns. The extensive indigenous vegetation assists with the area's function as a water catchment feeding upper stream tributaries.	
CNI/ONE/Amenity:	Outstanding Natural Landscape	
Natural Science	Geological/Geomorphological	Extensive upland plateau which forms part of the oldest geological formations of the North Island.
	Biological/Ecological	Significant open country biodiversity of flora including several species recognised by DoC and unknown elsewhere in the North Island. Habitat for Banded Dotterel, Blue Duck and fernbird species.
	Hydrological	Unmodified wetland area with natural drainage patterns and waterways.
Perceptual	Memorability	Highly memorable landscape due to simplicity, extensiveness (scale), naturalness and openness.
	Legibility/Expressiveness	An expressive landscape demonstrating its origin as an upland plateau water catchment with drainage processes highly legible.
	Transient	Climatic values. Wind and snow in winter months.
	Aesthetic	Open vast wetland landscape with expansive sky, surrounded by majestic bold landforms of Ranges and Mountains.
	Naturalness	Largely unmodified natural wetland landscape resulting in high natural character.
Associational	Historical	Some historical activity in places, although largely unmodified landscape.
	Tangata Whenua	Highly valued by Maori for the cleansing provided by the water catchment, storage and drainage processes and as a possible food source. Spiritual essence derived from it being a headwater system to the Rangitikei River.
	Shared/Recognised	Natural character values recognised by Maori landowners and local iwi. DoC and RPS seek to protect clearance and promote eco-tourism.
	Recreational	Some hunting.
Summary of Key Values	Very high in natural character as a result of its significant ecological value, expansive open landscape, expressive wetland drainage and vegetation patterns. Highly valued by Maori.	
Potential Threats	Wandering stock and feral horses and deer; farming practices, including grazing, ploughing or drainage; commercial forestry; wilding pines; earthworks, drainage.	
Potential Policies	Maintain ecological and hydrological values; openness of landscape.	

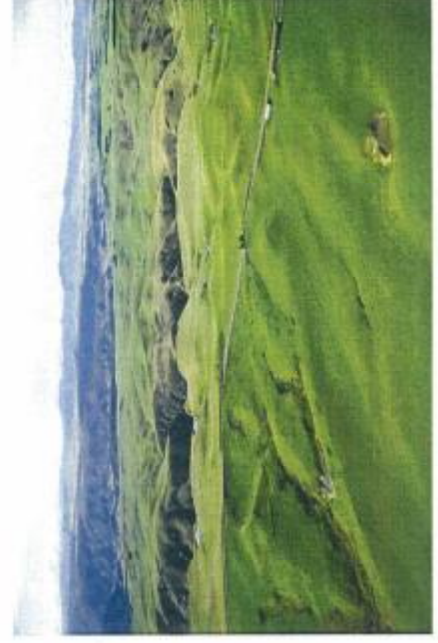


Sheet 3 - Ngamatea Plateau

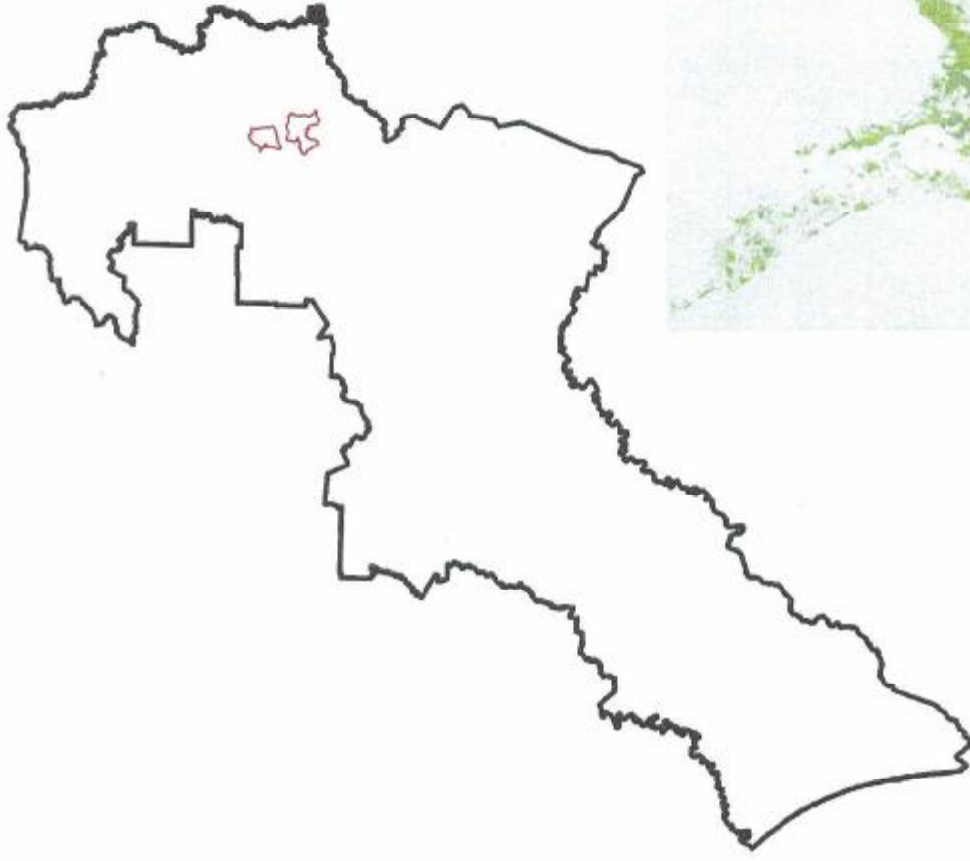


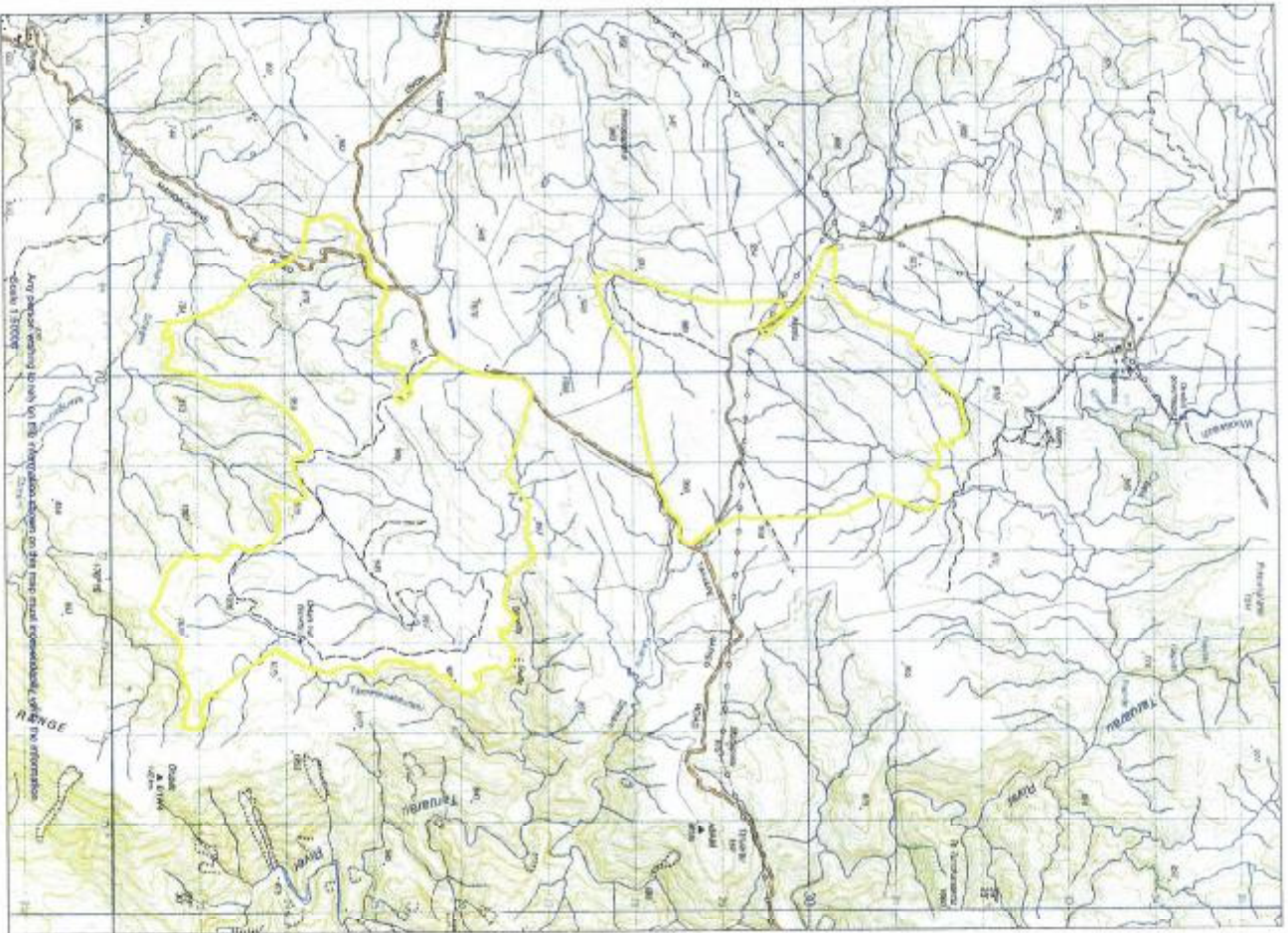
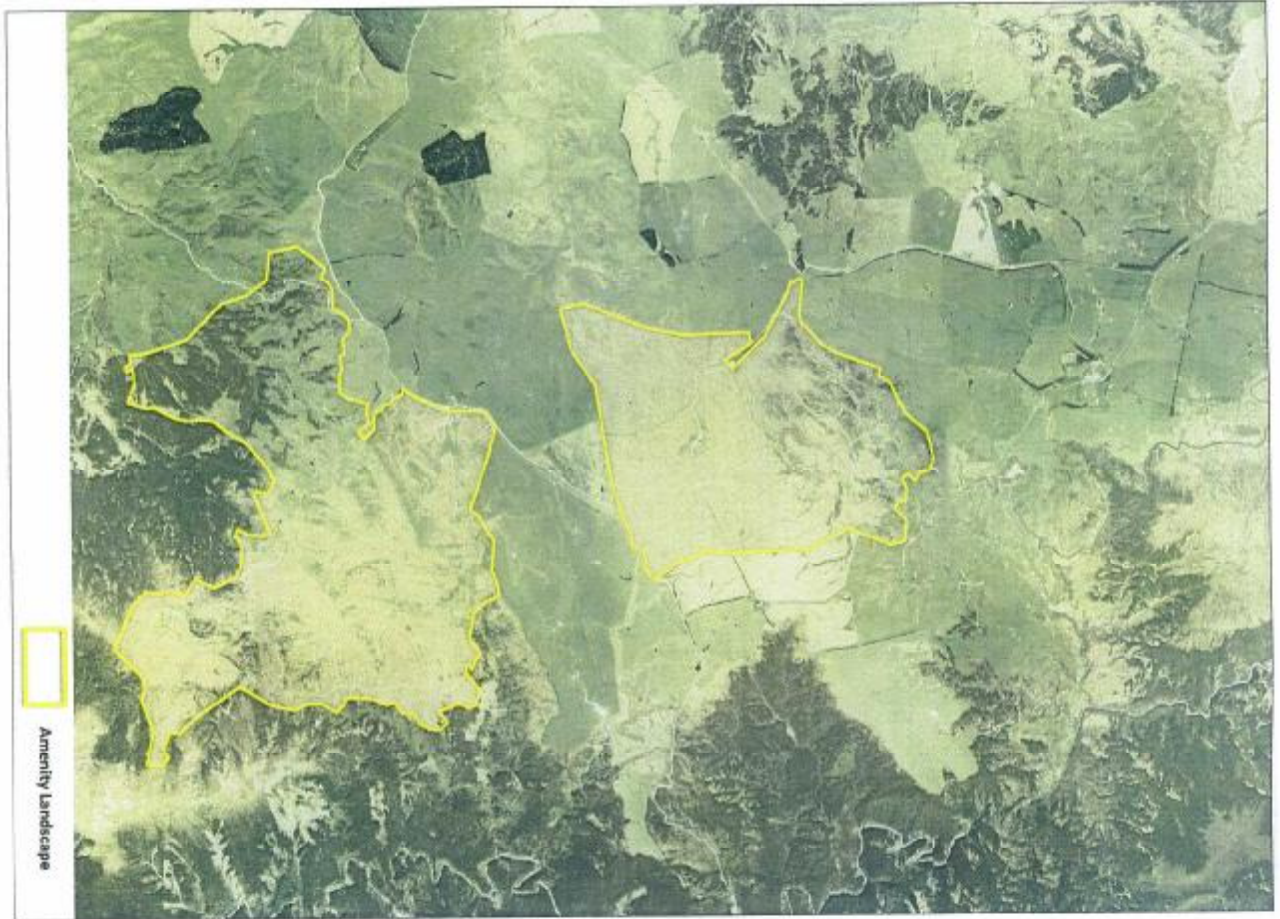


Name:	Ngamatea Plateau	
Location:	NZ Topo 50 Map 8136	
Description:	Heavily modified (through farming practices) areas of the wider Ngamatea Plateau landscape.	
DNL/ONF/Amenity:	Significant Amenity Landscape	
Natural Science	Geological/Geomorphological	An extensive upland plateau formed of soft marine sedimentary layering (visible in some valleys) with rocky outcrops. Contrast to the incised Rangitikei River valley at the south western fringe and the uplifted greywacke ranges to the north and west.
	Biological/Ecological	Modified through farming practices, including ploughing and grazing causing degradation to the tussock grassland ecology.
	Hydrological	Marbled pattern of drainage channels throughout, being degraded by ploughing and grazing practices.
Perceptual	Memorability	Highly memorable landscape due to the simplicity and extensiveness of the flat, unstructured plateau, openness and expansiveness surrounded by bold landforms of the Ranges and Mountains.
	Legibility/Expressiveness	Flatness in comparison to surrounding folded mountain ranges is very expressive of an uneroded higher altitude plateau. Lack of tall vegetation expressive of exposure to wind.
	Transient	Climatic transient values, wind, some snow/frost in colder months.
	Aesthetic	High aesthetic values from the large scale, open expansive unbuilt character and feeling of isolation.
	Naturalness	Retains some natural characteristics due to its isolation, lack of buildings, structures and simplicity of human patterns of development. Landform shapes relatively unmodified. Ploughing for pastoral farming has somewhat diminished natural character, but the Area is important as part of an overall wider open landscape (including Ngamatea East Swamp to the north and areas containing tracts of remnant tall red tussock to the southeast).
Associational	Historical	Location of many significant historical sites. Ngamatea Station farmhouse NZA award winning building by architect John Scott, and farming activity previously one of the largest sheep stations in the country.
	Tangata Whenua	Unknown
	Shared/Recognised	Significant milestones on the 'Gentle Annie' (Napier-Talhapoe) Road due to the notable topographical contrast to other sections of the road. Creates part of the identity of the Ngamatea Station farm operation.
	Recreational	Some recreational activity, predominantly hunting, Tourism.
Summary of Key Values	A highly memorable, expansive open upland plateau with isolated pastoral character and lack of structural or patterned elements. Expansiveness, simplicity, openness, unclutteredness and scale are all key values.	
Potential Threats	Continued intensification of farming activity, including irrigation; threats to openness and simplicity of landscape such as from forestry or shelterbelts, or from wind turbines, in locations where they threaten these values or values of adjacent Outstanding Natural Landscapes. Invasion of wilding pine (esp. Pinus contorta).	
Potential Policies	Maintain openness and simplicity of landscape. Maintain values or adjacent Outstanding Natural Landscapes	



Sheet 4 - Woolwash and Blowfly Tussock Plateau

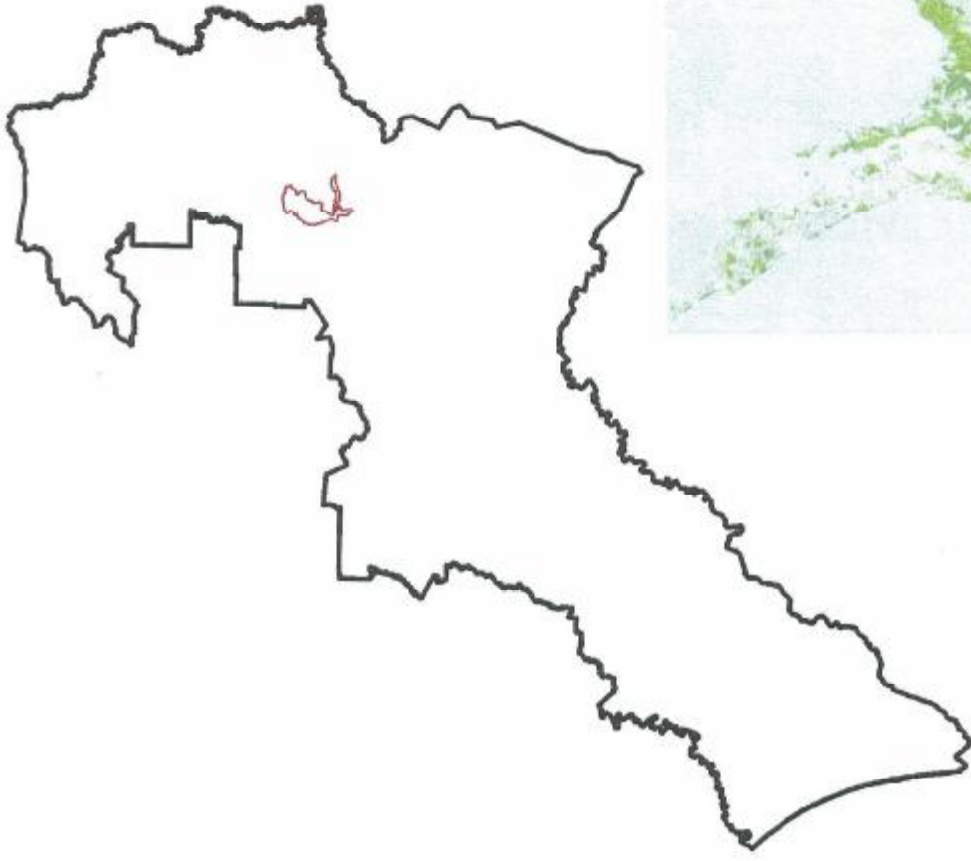


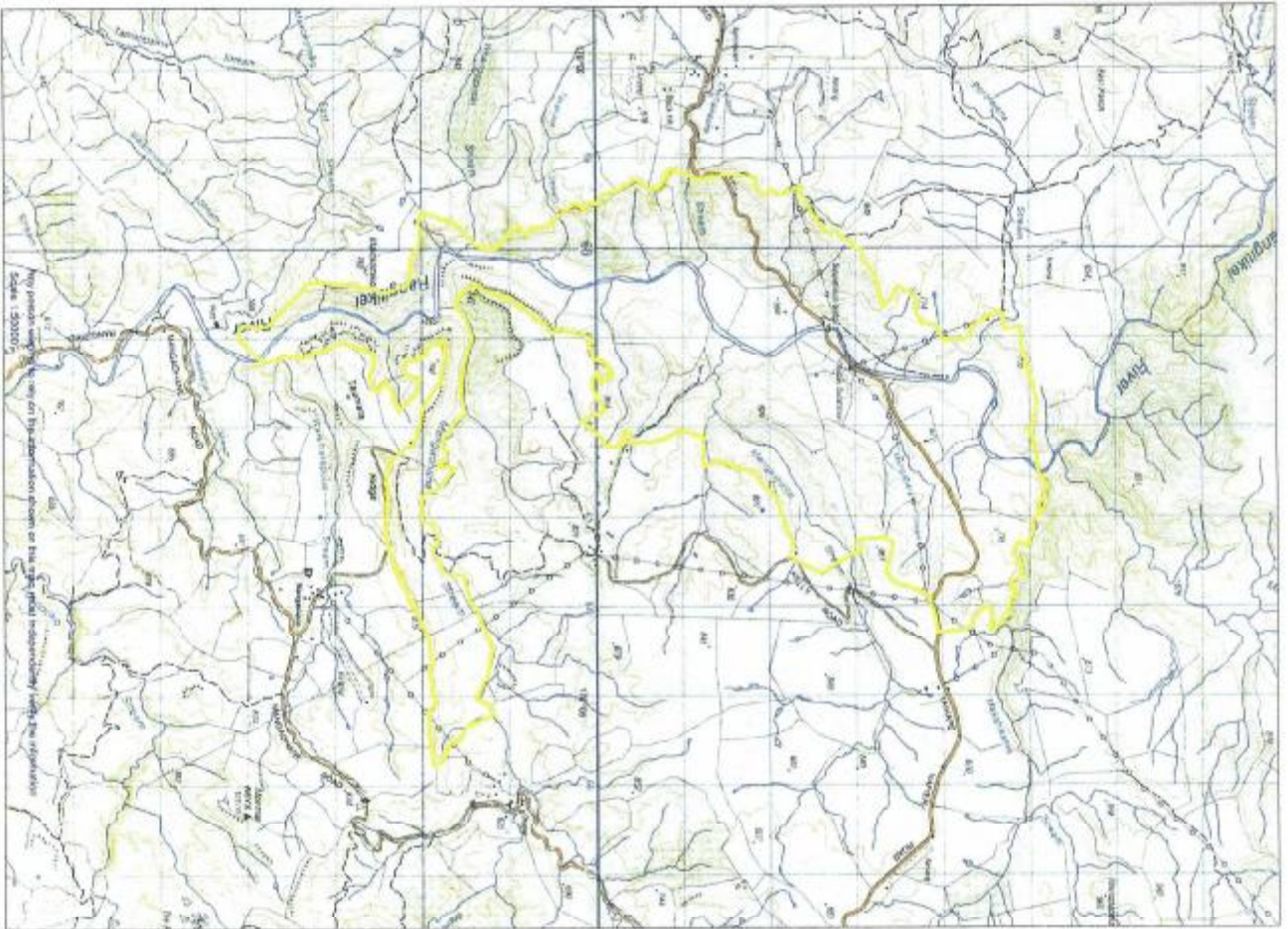
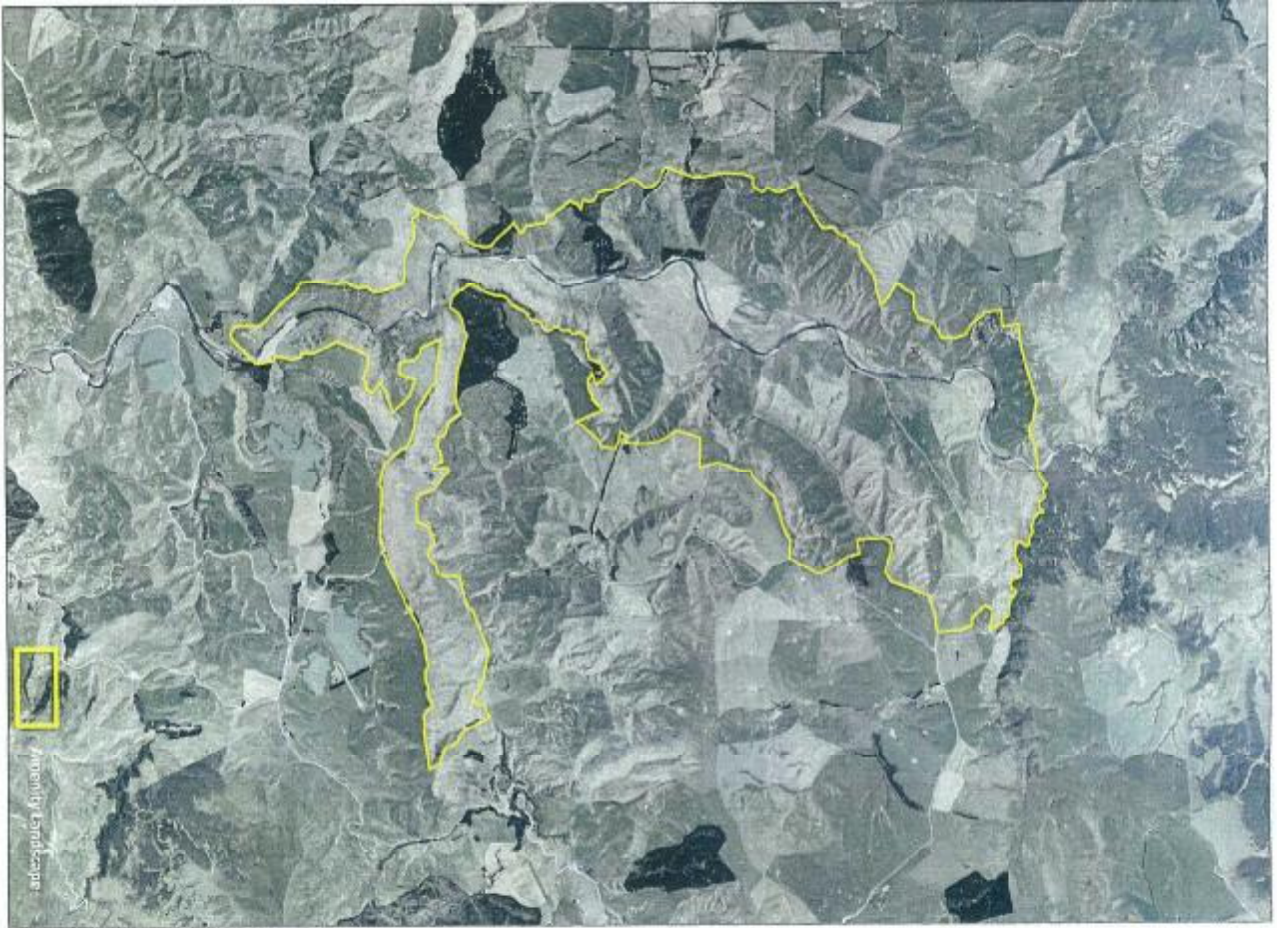


Name:	Woolwash and Blowfly Tussock Plateau
Location:	NZ Topo 50 Map B.036
Description:	Two separate areas of land, north and south of the Napier-Taihape Road. Parts of the extensive upland plateau predominantly covered in tall red tussock, although areas of modification through ploughing and pastoral grazing are occurring. Woolwash area to the north of the Napier-Taihape Road, Blowfly to the south.
OWLI/OWF/Amenity:	Significant Amenity Landscape
Natural Science	<p>Geological/Geomorphological An extensive upland plateau formed of soft marine sedimentary layering (visible in some valleys) with rocky outcrops. Contrast to the uplifted greywacke ranges to the north and west.</p> <p>Biological/Ecological A modified landscape consisting of partially ploughed tall red tussock grasslands. Part of the largest (but diminishing) remnant tussock grasslands in the North Island, although DoC web site suggests that it requires ongoing management (fires) to prevent it from generating into montane scrub. Some of the flatter ridges within the Blowfly area south of the Napier - Taihape Road have been ploughed but tussock remains in valley systems. The area north of the Road is less modified, but with internal tracking.</p> <p>Hydrological Marbled pattern of drainage channels throughout, falling into steeper ephemeral stream courses and valleys.</p>
Perceptual	<p>Memorability Highly memorable landscape due to the extensiveness of the flat tussock grasslands, openness and expansiveness surrounded by bold landforms of the Ranges and Mountains.</p> <p>Legibility/Expressiveness Flatness in comparison to surrounding forested mountain ranges and extensive covering of tall red tussock are very expressive of a higher altitude plateau. Lack of tall vegetation expressive of exposure to wind. Flatter land in the Woolwash area north of the Napier - Taihape Road, more rolling land south of the Road.</p> <p>Transient Climatic conditions, wind, some snow/frost in colder months. Evidence of wind effects on vegetation.</p> <p>Aesthetic High aesthetic values from the open expansive character, wilderness effect of the tussock grassland and feeling of isolation.</p> <p>Naturalness Retains some natural characteristics due to its isolation, lack of buildings, structures and human patterns of development (such as extensive shelterbelts). Landform shapes relatively unmodified. Apparent naturalness as being extensive tall red tussock grassland, although this is partially degraded through ploughing practices particularly in the Blowfly area south of the Napier - Taihape Road. The Woolwash area north of the Napier - Taihape Road has higher naturalness values due to the more continuous tussock cover.</p>
Associational	<p>Historical Location of many significant historical sites. Farming activity previously one of the largest sheep stations in the country.</p> <p>Tangata Whenua Shared/Recognised Unknown Significant milestone on the 'Gentle Annie' (Napier-Taihape) Road due to the notable topographical contrast to other sections of the road. Creates part of the identity of the Ngamatea Station farm operation. Tussock ecology management researched and described by DoC.</p> <p>Recreational Some recreational activity, predominantly hunting. Tourism.</p>
Summary of Key Values	A highly memorable, expansive upland plateau with isolated, wild tussock grassland character and lack of structural or patterned elements.
Potential Threats	Intensification of farming activity, especially ploughing or irrigation; threats to openness of landscape such as forestry, shelterbelts or wind turbines in some locations; invasion of wilding pine (esp. Pinus contorta). Wind turbines are more suited to the Blowfly Area south of the Taihape - Napier Road due to the more varied topography and greater complexity of the landscape.
Potential Policies	Maintain landscape amenity values of simplicity, openness, expansiveness and wilderness in both Woolwash and Blowfly areas. Avoid earthworks and modifications to existing native land cover and preserve drainage patterns and water quality in the Woolwash and Blowfly Areas. Control wind turbine development by maintaining landscape amenity values in the Woolwash Area and Blowfly Area and in nearby Outstanding Natural Landscapes.



Sheet 5 - Rangitikei River Open Valleys

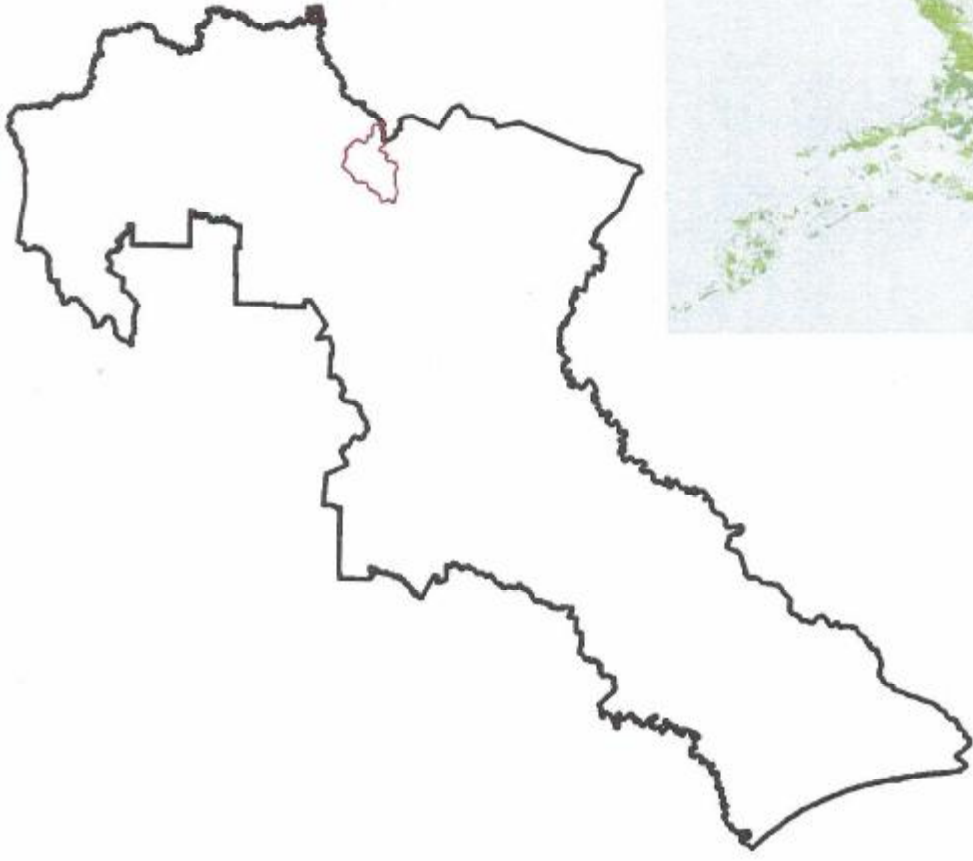


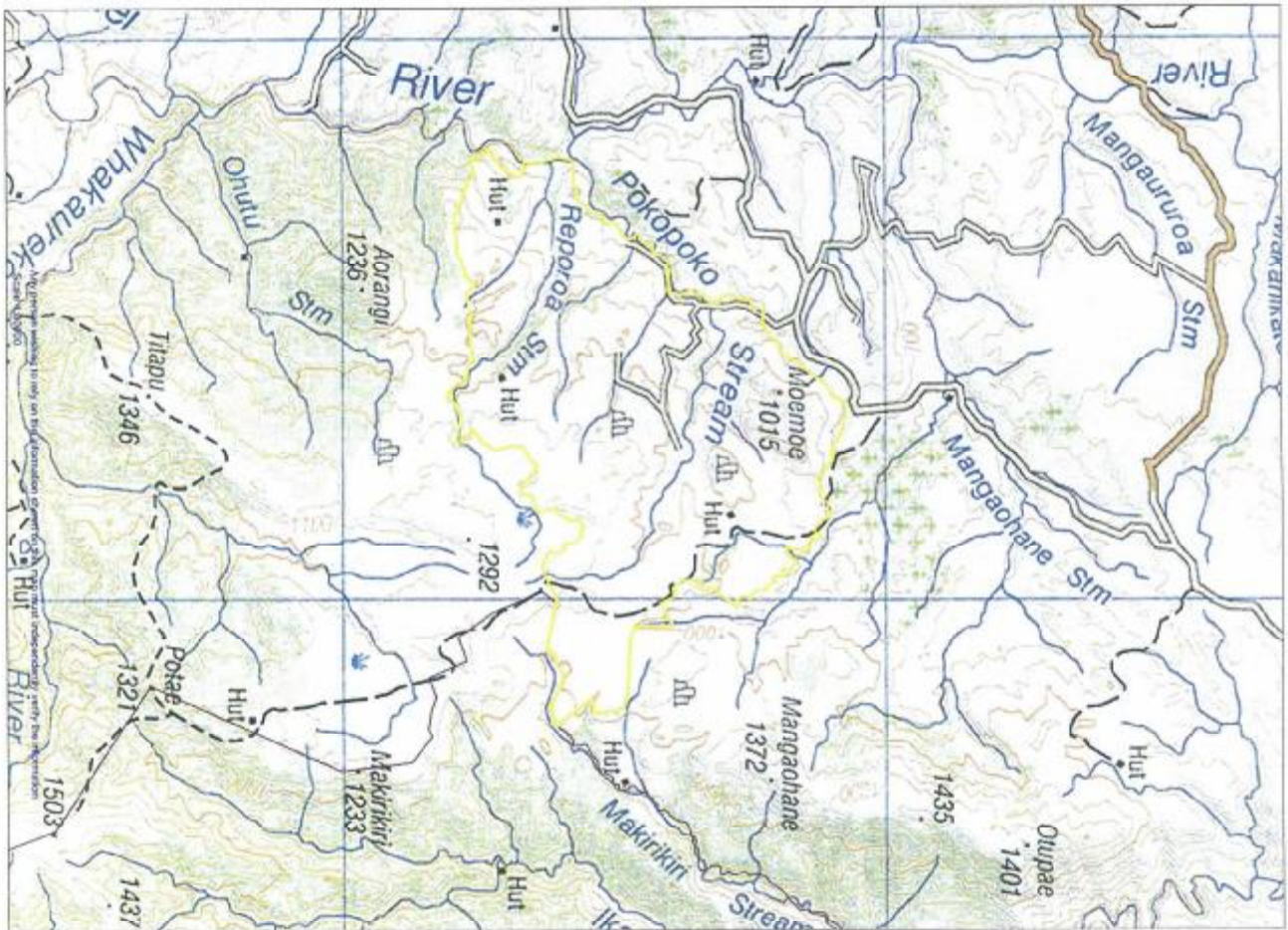
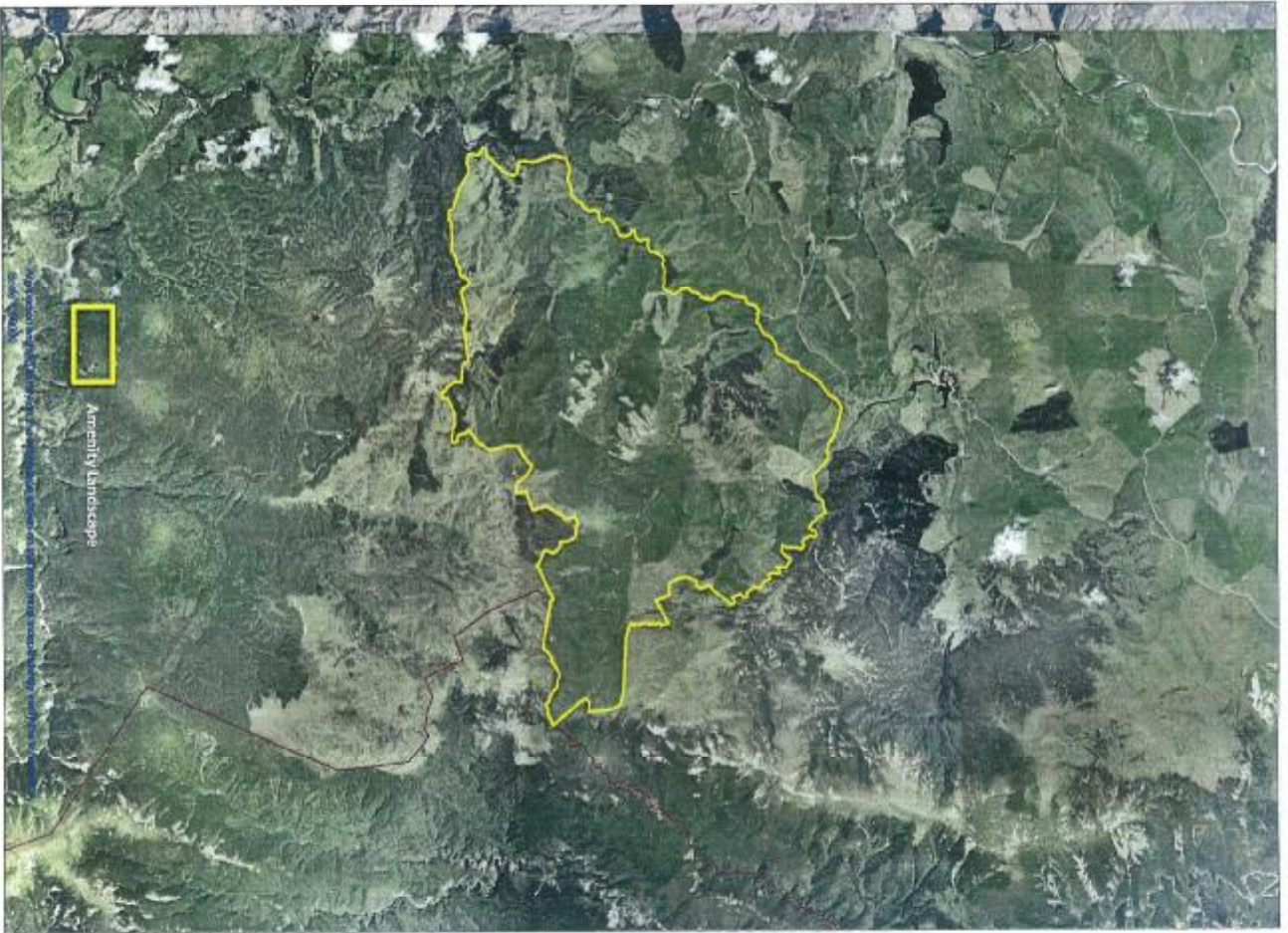


Name:	Rangitikei River Open Valleys
Location:	NZ Topo 50 Maps BK36 & BJ36
Description:	Wide, open and steep sided gorges and valleys of the Rangitikei River in the vicinity of the Taihape - Napier Road.
ONL/ONF/Amenity:	Significant Amenity Landscape
Natural Science	<p>Geological/Geomorphological Deeply incised, large scale, flat-bottomed river valleys demonstrative of the erosion processes of the river and contrasting to the flat topped plateaux. Exposed strata layers and rocky escarpment outcrops.</p> <p>Biological/Ecological Little native ecological or biophysical value as largely modified pastoral landscape. Some forest remnants or areas of indigenous regeneration on escarpments.</p> <p>Hydrological Water in the river and from stream tributaries has significant quality and quantity values, particularly on uses downstream. National water conservation order under current DP.</p>
Perceptual	Wide valleys highly memorable due to scale of incision, steep sided topography and subsequent exposure of rocky outcrops. Especially in contrast to the narrower gorges in the southern parts of the river and also in contrast with the flat topped plateaux surrounding the valleys. Milestone on the Gentle Annie Road due to significant topographical change and historical importance of the river crossing.
Legibility/Expressiveness	Highly expressive of the erosion caused by the river through soft marine sedimentary deposits. Simple landforms retain high degree of integrity.
Transient	Low transient values.
Aesthetic	Has significant aesthetic appeal due to the scale, simplicity and drama of the steep sided valleys in contrast to the flat bottoms and upper plateaux.
Naturalness	Largely modified pastoral landscape, with some remnants and regeneration of indigenous scrub forest in steeper locations. Scale and expressiveness of the landform contribute significantly to its perceived natural character.
Associational	<p>Historical Historical bridge at crossing of Rangitikei River by Napier-Iaihape Road.</p> <p>Tangata Whenua The Rangitikei River has significant cultural value to Maori for its life giving properties and connections to ancestry. Important access route for early Maori</p> <p>Shared/Recognised Bold scale valley topography a widely recognised feature of the upper Rangitikei River and side tributaries. Identified in some Rangitikei District Marketing literature.</p> <p>Recreational Some fishing in the river.</p>
Summary of Key Values	Bold, large scale river valleys, with uncluttered open pastoral character displaying the simplicity of the landform and escarpment features.
Potential Threats	Large scale earthworks that may disrupt the topographical/geomorphological feature of the steep sided valley formations; damming; pollution of water quality in the river from nutrients or sedimentation caused by earth disturbance or land clearance on steeper slopes. Reduced simplicity of landuse patterns from intensification or wilding pines.
Potential Policies	Avoid damming and earthworks on escarpments. Control wilding pines.



Sheet 6 - Pokopoko Stream Catchment

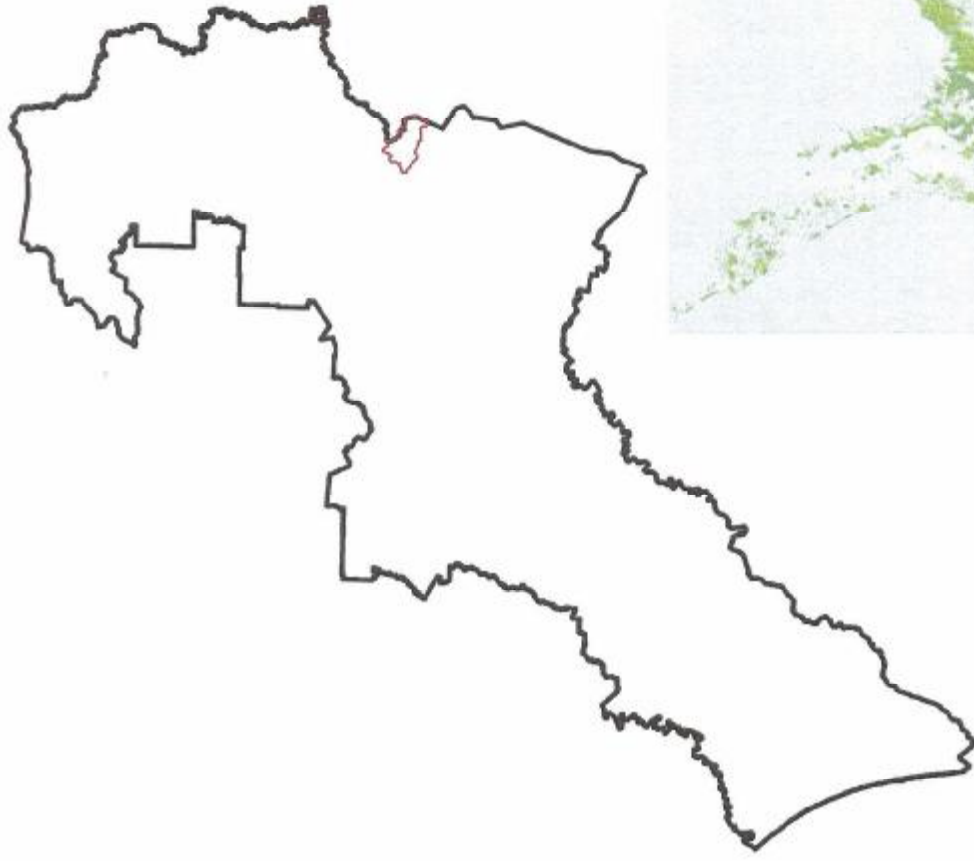


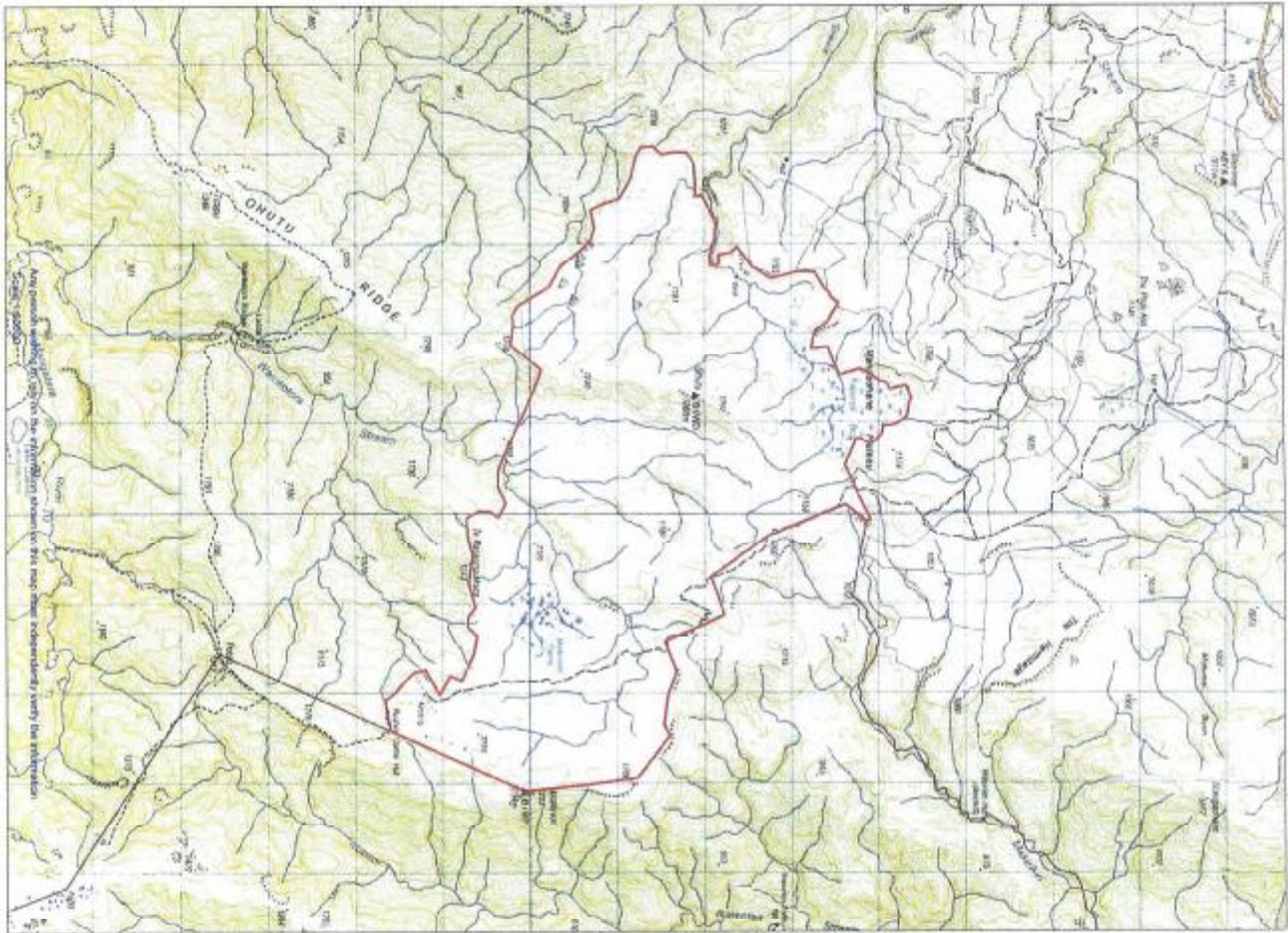


Name:	Pokopoko Stream Catchment	
Location:	NZ Topo 50 Map BK36	
Description:	Pastoral catchment on the eastern side of Pokopoko Stream	
ONL/ONF/Amenity:	Significant Amenity Landscape	
Natural Science	Geological/Geomorphological Biological/Ecological	Rolling land, significant limestone rock outcrops and escarpments. Indigenous forest remnants in steep sided river gorges such as the Reporoa Stream, Makokomiko Stream and upper catchment area of Pokopoko Stream (west of The Peak Hill). High water quality in streams, particularly those feeding directly from Reporoa Bog (such as Reporoa and Pokopoki Streams).
Perceptual	Hydrological Memorability Legibility/Expressiveness Transient Aesthetic Naturalness	Largely modified open rolling pastoral landscape has high memorable characteristics, especially particular combinations of rock outcrops and escarpment features. Expressive of the faulting and uplift that has formed the underlying folding of the landforms and the erosion of sedimentary material that has exposed rock outcrops and escarpments. Climatic conditions such as wind and snow. Likely micro-climates in deeper valleys. Some aesthetic qualities gained from rocky outcrops and escarpments that are expressive of the formative processes. Moderate naturalness value in open pastoral areas, although steep sided stream valleys have higher natural qualities due to extent of indigenous vegetation cover, lack of building structures, exposed escarpments, remoteness and strong contrast to pastoral landscape.
Associational	Historical Tangata Whenua Shared/Recognised Recreational	Unknown Unknown Reporoa Stream described by DoC as an important tributary leading from the Reporoa Bog and Makirikiri Tarns. Little or no recreational value known.
Summary of Key Values	Contributes to the openness and expansiveness of the upland plateau and wetland drainage systems. Expressive of the geological formation through the exposure of rocky outcrops and steep escarpment features, which also bring about some aesthetic interest. Indigenous vegetation in valleys greatly enhances natural character and maintains water quality. Potentially suitable for wind turbines due to complexity of topography and modified land use. Wind turbines should preserve landscape values of adjacent Outstanding Natural Areas.	
Potential Threats	Intensification of farming practices, including ploughing and irrigation. Earthworks that might affect drainage patterns, water quality from Reporoa Bog, escarpment features or rocky outcrops. Wilding pines.	
Potential Policies	Maintain water quality, drainage patterns and native vegetation cover. Control wind turbine development by maintaining landscape values in the Pokopoko Stream Catchment and in nearby Outstanding Natural Landscapes.	



Sheet 7 - Reporoa Bog & Makirikiri Tarns

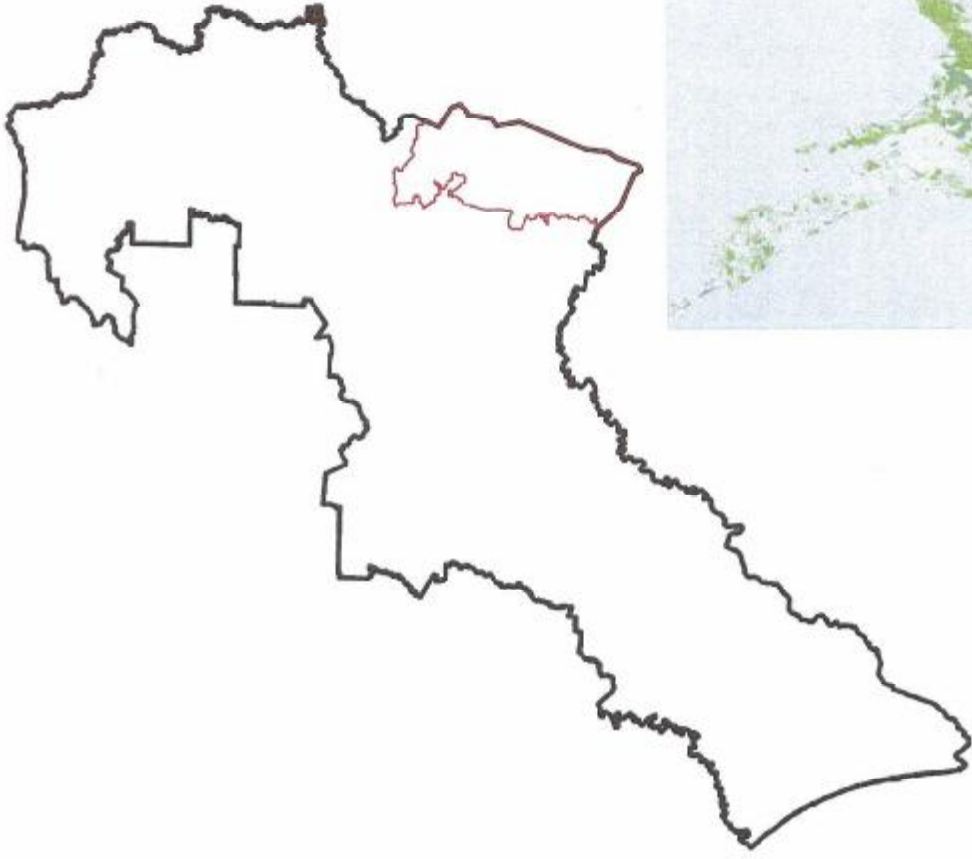


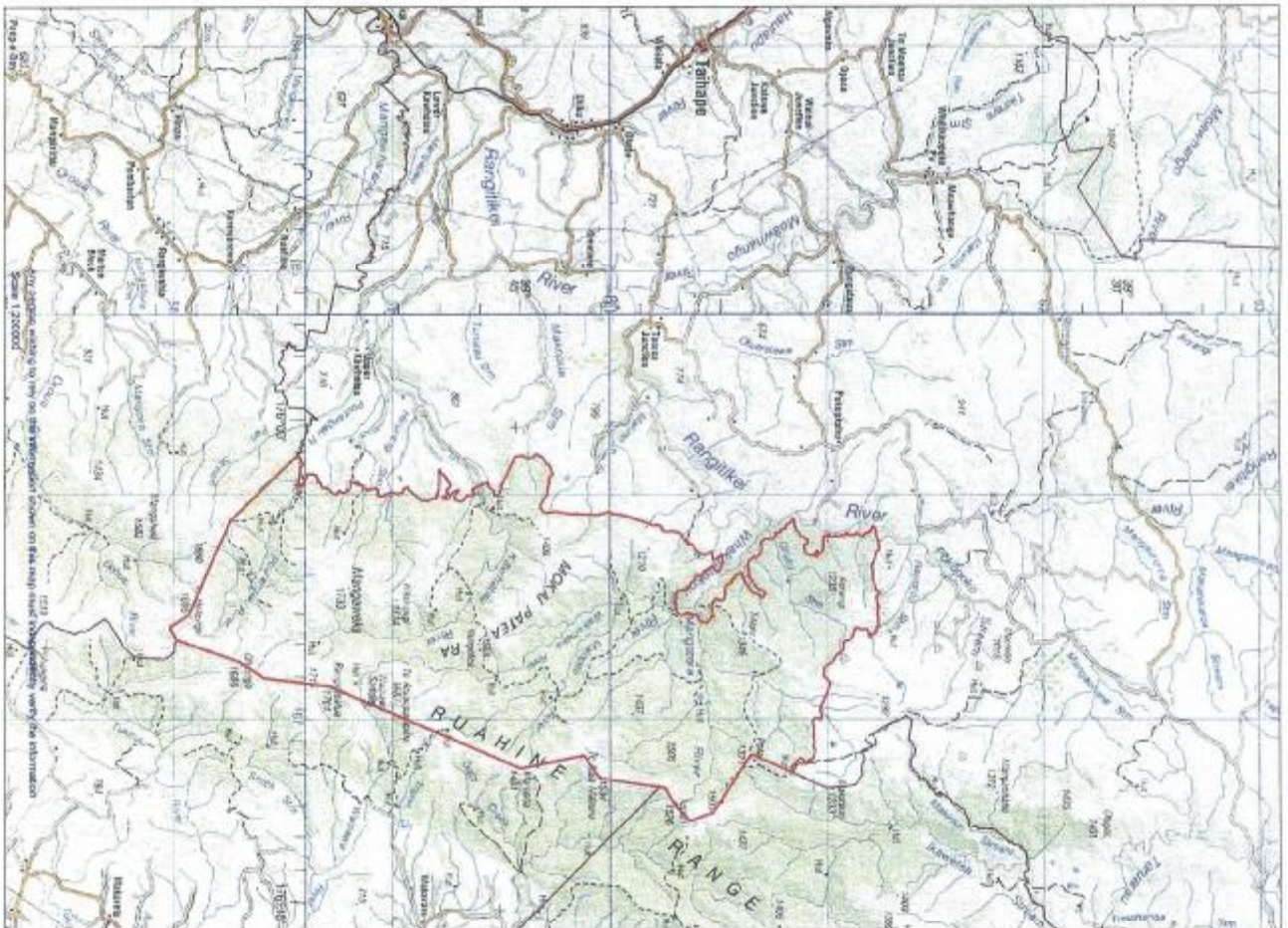
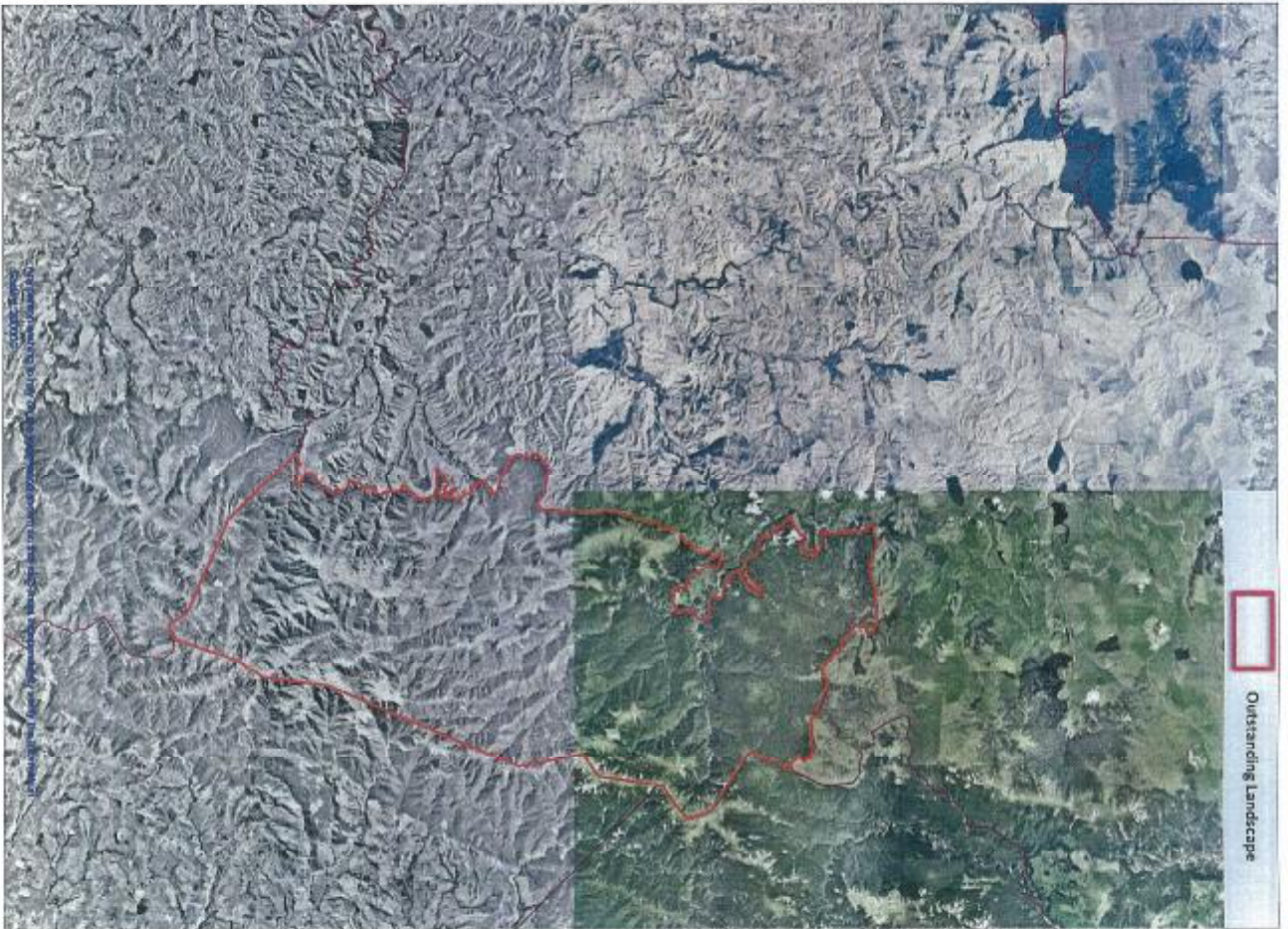


Name:	Reporoa Bog & Makirikiri Tarns	
Location:	NZ Topo 50. Map BK36	
Description:	Upland wetland and tarn features that are the headwater catchment of the Reporoa and Pokopoko Streams (draining into the Rangitikei River).	
OML/DNF/Amenity:	Outstanding Natural Landscape	
Natural Science	Geological/Geomorphological	Geological evidence of Taupo and Tongariro eruptions in the soil makeup. Part of the flatter upland plateaux systems.
	Biological/Ecological	Significant wetland and ephemeral wetlands containing rare indigenous flora and fauna species, with pockets of indigenous forest remnants. Includes some flora species that are found only in this site or region. Described by DoC as having extremely high botanical values.
	Hydrological	Important upland water catchment and wetland with an important role in maintaining/enhancing water quality. Has a complex network of drainage systems.
Perceptual	Memorability	Highly memorable landscape due to open and expansive flat topography and significant natural character.
	Legibility/Expressiveness	An expressive landscape demonstrating its origin as an upland plateau water catchment with drainage processes highly legible.
	Transient	Climatic conditions. Snow in colder months.
	Aesthetic	Open expansive wetland landscape bounded by majestic bold landforms of Ranges and Mountains.
	Naturalness	Largely unmodified natural landscape with high degree of isolation and wilderness.
Associational	Historical	Unknown.
	Tangata Whenua	Unknown. Likely to be site of ancestral food source, but unknown.
	Shared/Recognised	Mapped and described by DoC as an important upland wetland system with unique indigenous values.
	Recreational	Not readily accessible.
Summary of Key Values	Very high in natural character as a result of its significant ecological value, expansive open landscape, and expressive wetland drainage patterns.	
Potential Threats	Wandering stock and feral horses and deer; farming practices, including grazing, ploughing or drainage for irrigation needs; commercial forestry; wilding pines, earthworks, large structures.	
Potential Policies	Maintain ecological values, native vegetation, hydrological patterns and openness.	



Sheet 8 - Aorangi

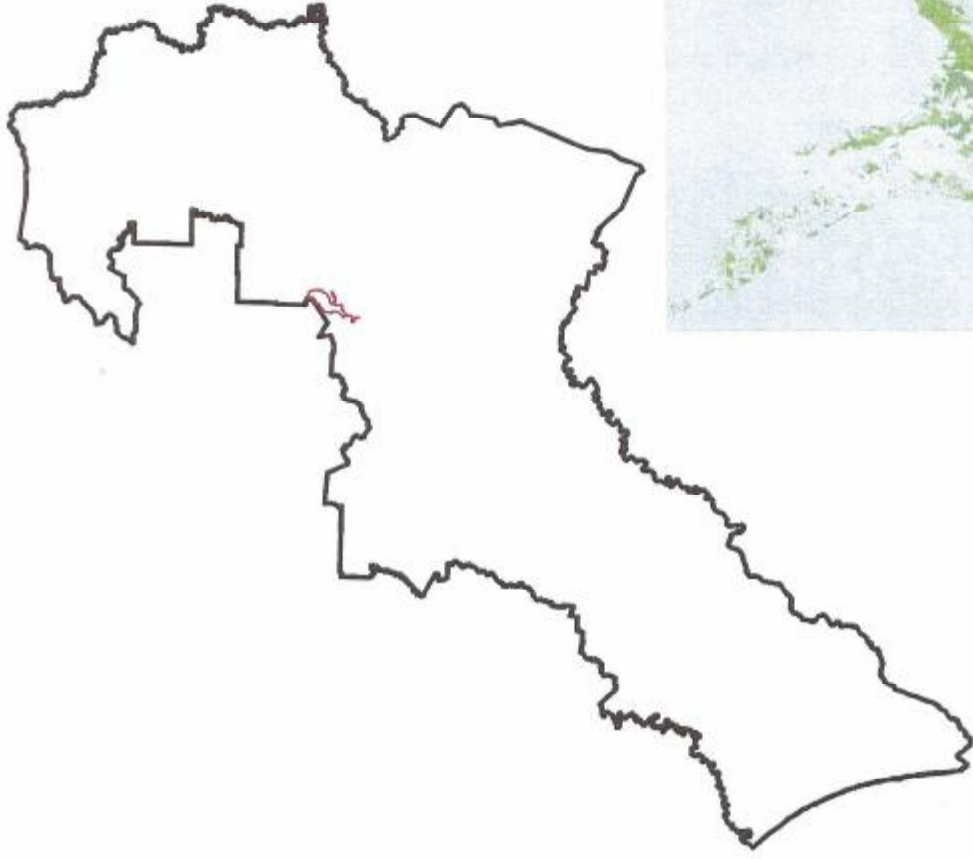


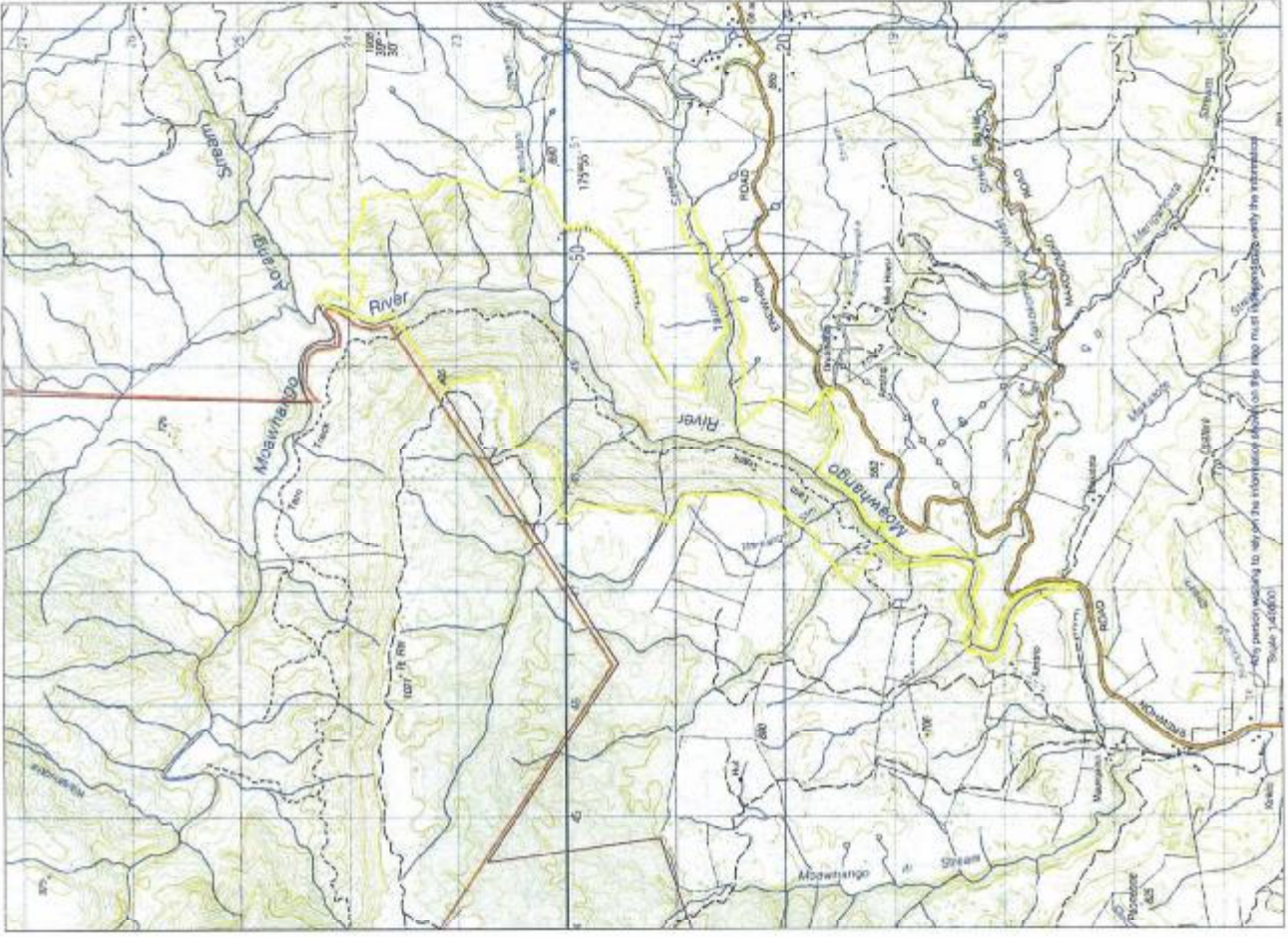


Name:	Aorangi	
Location:	NZ Topo 50 Map BK36	
Description:	A significant area of unmodified indigenous vegetation enclosing the prominent peak of Aorangi and including part of the Ruahine Forest Park in the Ruahine Ranges.	
ONL/DNF/Amenity:	Outstanding Natural Landscape and Feature	
Natural Science	Geological/Geomorphological	Folded landscape with patchwork of deeply incised drainage catchments. Ruahine Ranges part of the sequence of axial ranges that are a significant geological feature of the North Island, running Wellington to East Cape. Oldest geological elements in the district. Aorangi is a visually prominent and uneroded 'tabletop' landform.
	Biological/Ecological	Significant stretches of indigenous flora and fauna habitat, including podocarp, alpine beech forest, and subalpine tussock. Important kiwi and tūi habitat.
	Hydrological	Important catchment for the Rangitikei, Whakarekō and Kawhatau Rivers. Indigenous forest cover helps to protect from flooding and protects water quality.
Perceptual	Memorability	Aorangi is a highly memorable landform feature due to its prominence, unusual 'tabletop' topography and proximity to a large viewing catchment. Surrounding area also has high memorability as a large expanse of indigenous vegetation covering bold scale landforms leading to the high elevations of the Ruahine Ranges.
	Legibility/Expressiveness	Ranges very expressive of tectonic uplift. A number of very expressive cuesta type landform features such as Aorangi. Steep river and drainage valleys display natural erosion processes.
	Transient	Higher mountain ranges covered by snow in winter months. Ranges have a defining effect on the weather, which can change quickly. Some micro-climatic effects caused by Aorangi and other foothills such as Mokai Patea and Hikurangi Ranges.
	Aesthetic	Aorangi has a unique and visually distinctive 'table top' shape with exposed rocky escarpments. Combined with subalpine vegetation this feature stands out as a dramatic contrast to the surrounding dark indigenous forest. Natural character of the whole landscape gives rise to significant aesthetic value.
	Naturalness	Extensively covered in unmodified indigenous vegetation with very high natural character, isolation and wilderness.
Associational	Historical	Several historic sites and trading/walking routes throughout, including many mapped out by early settlers and explorers (including William Colenso). Pockets of early European migration and settlement, although now largely devoid of human habitation.
	Tangata Whenua	Significant value to tangata whenua as ancestral land, with the feature of Aorangi itself (the place of the guardian, Pohokura, the sacred lizard) still in Maori ownership.
	Shared/Recognised	Headwaters to rivers have significant ancestral value. Identified and protected in the RPS and One Plan. The prominence and memorability of Aorangi causes this feature to form a key part of the identity of the district.
	Recreational	Tramping and eco-tourism provided by Maori land owners. Some rafting/canoeing in river headwaters.
Summary of Key Values	Very high natural character due to the extensiveness of large scale landforms, covering of significant indigenous vegetation, feeling of isolation, wilderness, and lack of human modification. Significant cultural and historical value. Important recreational area. Highly memorable landform features, such as Aorangi, contribute to the identity and sense of place of the District.	
Potential Threats	Clearance of indigenous vegetation for alternative land use; earthworks such as mining, tracking or quarrying; damming of rivers for irrigation or hydro energy.	
Potential Policies	Maintain native vegetation cover, ecological values and landscape values. Avoid earthworks, land disturbance, mining, damming or wind turbines.	

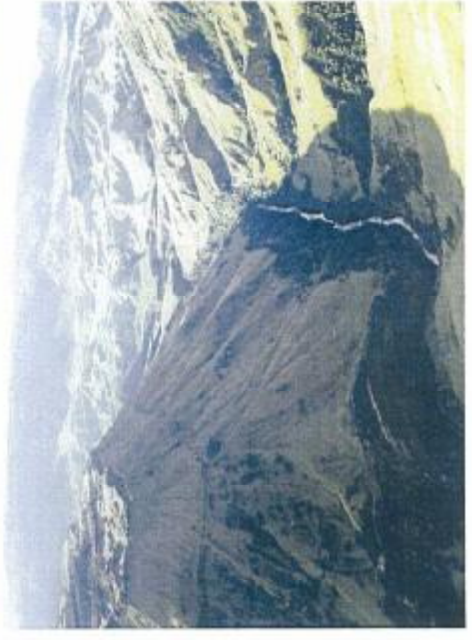


Sheet 9 - Upper Moawhango River Gorge

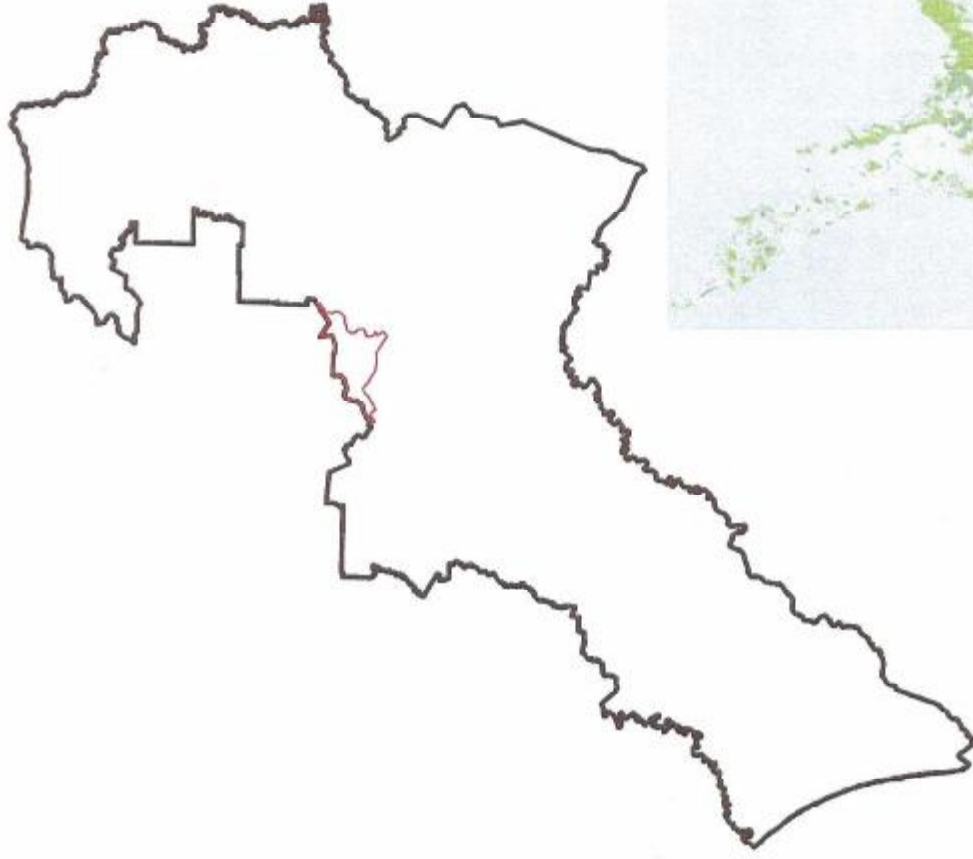


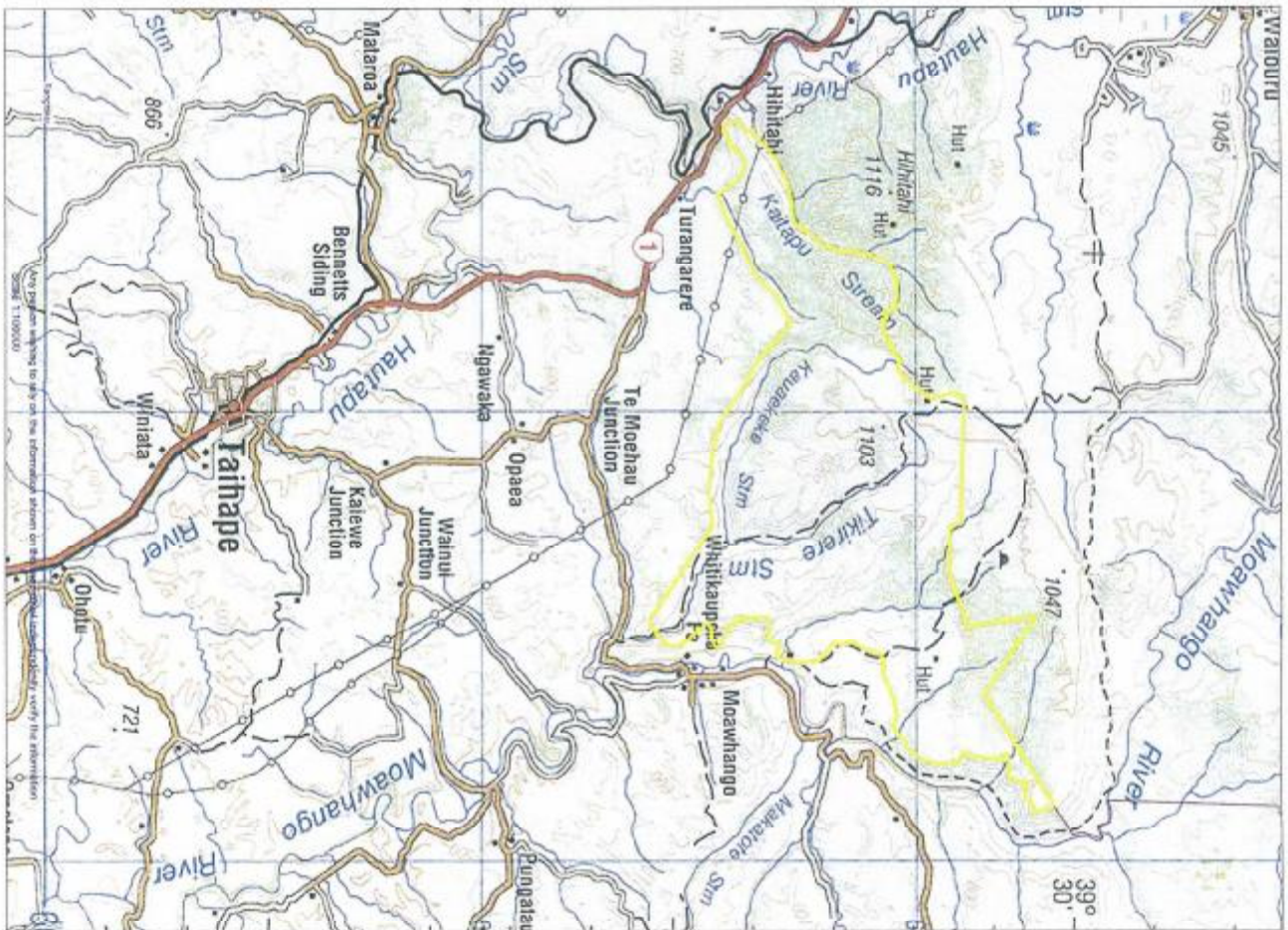
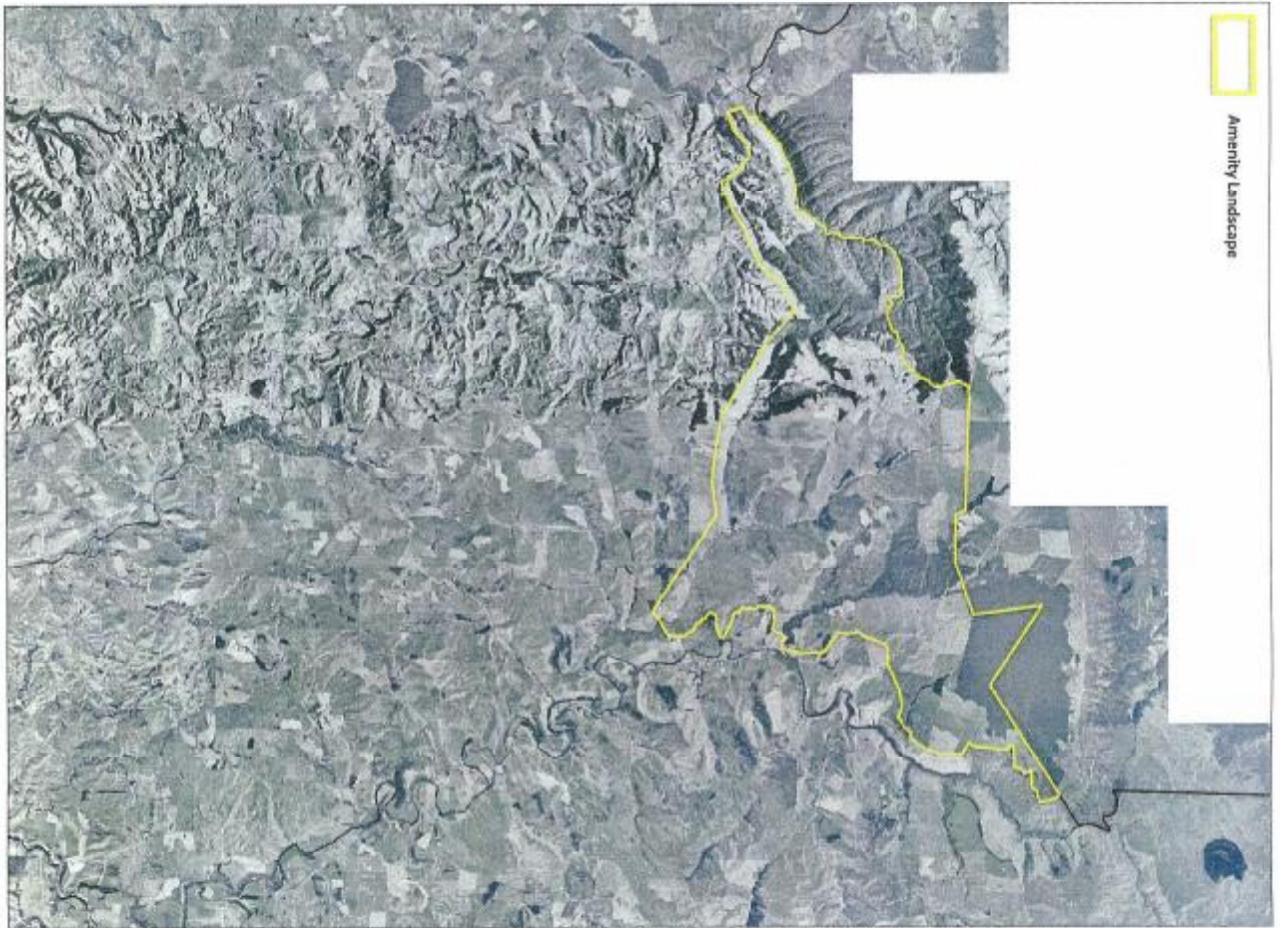


Name:	Upper Moawhango River Gorge	
Location:	NZ Topo 50 Map BK35	
Description:	An extensive large scale gorge feature north of the settlement of Moawhango.	
CNL/DNF/Amenity:	Significant Amenity Landscape	
Natural Science	Geological/Geomorphological	A steep sided large scale gorge (including some side tributaries) that is demonstrative of the erosion processes of the Moawhango River through the soft marine sedimentary layers, particularly in contrast to the flatter plateaux at the top of the valley system.
	Biological/Ecological	Parts of the river are habitat for the endangered blue duck. Little in the way of other ecological values due to highly modified pastoral landuse, although there are some pockets of remnant or regenerating indigenous forest and riparian species.
	Hydrological	Important tributary into the Rangitikei River with high water quality and quantity. Water flow significantly reduced since construction of the Tongarino hydro development which takes water from the upstream catchment.
Perceptual	Memorability	The massive scale of the landform feature makes it a particularly memorable example of this type of topography which is somewhat unique to the Rangitikei District. A notable landmark on the Napier-Talpahe Road, and similar to the Rangitikei River Open Valleys Landscape Area 5.
	Legibility/Expressiveness	Highly expressive of the erosion caused by the river through soft marine sedimentary deposits. Topographical feature is simple in formation and has a high degree of integrity.
	Transient	Low transient value, although likely microclimatic conditions in gorge.
	Aesthetic	Has significant aesthetic appeal as a result of the large scale and expressiveness of the topography.
	Naturalness	Whilst a largely modified pastoral landscape, it has high natural character as a result of the scale and expressiveness of the topography. Some remnants and regeneration of indigenous scrub forest in steeper locations and indigenous riparian vegetation contribute to the overall naturalness of the area.
Associational	Historical	Moawhango River used for hydro energy generation further upstream, resulting in a significantly lower flow rate through this gorge.
	Tangata Whenua	The Moawhango River has significant cultural value to Maori for its life giving properties and connections to ancestry. Important access route for early Maori.
	Shared/Recognised	Identified in some Rangitikei District Marketing literature. Commercial photographs of the gorge can be found online.
	Recreational	Some fishing - apparent habitat for Rainbow and Brown Trout.
Summary of Key Values	Extensive large scale gorge, with uncluttered open pastoral character displaying the simplicity and integrity of the landform and escarpment features.	
Potential Threats	Large scale earthworks that may disrupt the topographical/geomorphological feature of the steep sided valley formations. Damming. Pollution of water quality in the river from nutrients or sedimentation caused by earth disturbance or land clearance on steeper slopes.	
Potential Policies	Maintain water flow and quality. Avoid earthworks that disrupt the simplicity and expressiveness of the escarpments.	



Sheet 10 - Hihitahi Plateau

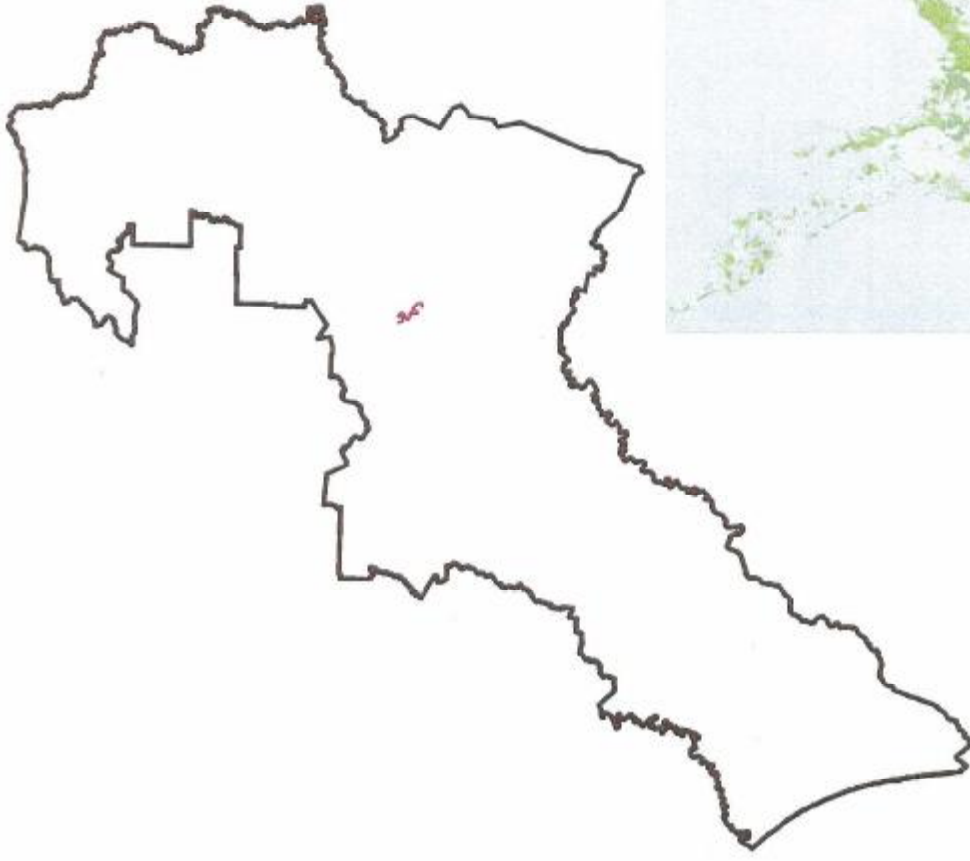


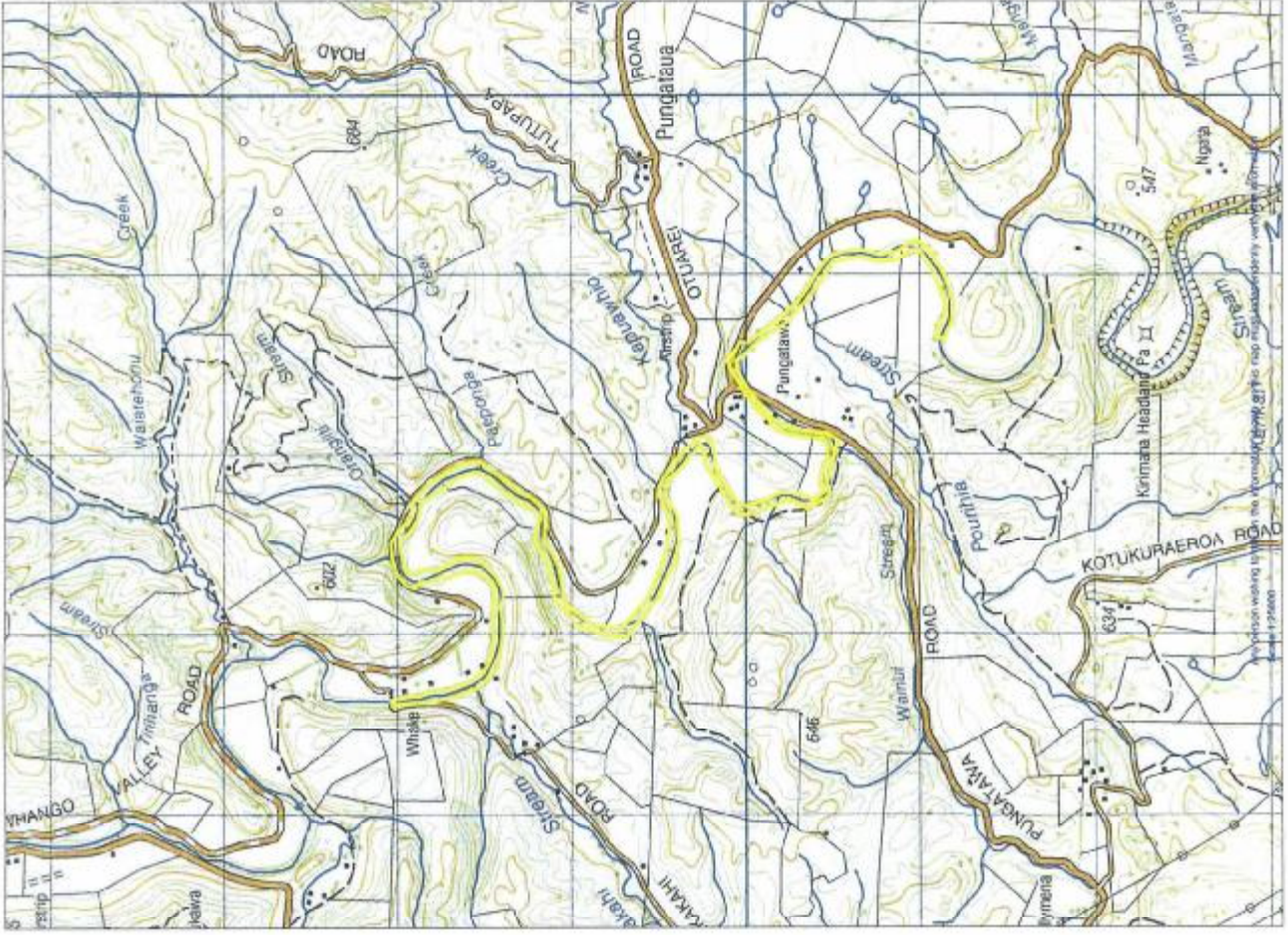


Name:	Hihitahi Plateau	
Location:	NZ Tops 50 Map BK35	
Description:	An expansive sequence of cuesta landforms consisting of flat plateaux bordered by steep rocky escarpments and deeply incised valleys. Large parcels of indigenous forest cover in Hihitahi Forest Sanctuary and Te Rei Forest immediately east of the Upper Moawhango Gorge.	
ONL/ONF/Amenity:	Significant Amenity Landscape	
Natural Science	Geologica/Geomorphologic	A classic example of a tilted cuesta landform, with bold escarpments and sequence of flat plateaux. Some deeply incised river and ephemeral waterway valleys.
	Biological/Ecological	Hihitahi Forest Sanctuary contains one of the largest tracts of unlogged kaitiaki forest remaining in the Central North Island, and renowned for its stands of Pahiutua and Hall's Totara. Although in a notably degraded state Hihitahi Forest Sanctuary is protected as a DOC Reserve. Te Rei Forest is a Recommended Area for Protection (RAP) containing extensive red beech and mountain beech forest.
	Hydrological	Contains some important ephemeral water tributaries that flow into the Moawhango and Hautapu rivers.
Perceptual	Memorability	The Hihitahi Ridge is memorable due to it being a highly prominent and somewhat contrasting topographical feature to the flatter central plateau to the north and rolling hill country to the south.
	Legibility/Expressiveness	Expressive of the tectonic uplift processes due to tilting plateaux and exposed escarpments.
	Transient	Climatic conditions, wind.
	Aesthetic	Moderate aesthetic values due to legibility of geomorphologic formative processes. Prominence of escarpment rock features and indigenous vegetation contribute to its aesthetic value.
	Naturalness	High natural value in Te Rei Forest due to ecological values, and lesser ecological values in the Hihitahi Forest Sanctuary due to weeds and somewhat degraded state of the native vegetation. Open pastoral landscape (site of the consented Meridian wind farm) retains some degree of naturalness due to lack of buildings and patterned landuse (such as shelterbelts). Traverse of transmission lines across south western edge diminishes natural character in their vicinity.
Associational	Historical	A few locally identifiable historical sites.
	Tangata Whenua	Important to tangata whenua as the boundary to the volcanic zone, which is a highly significant spiritual area.
	Shared/Recognised	Hihitahi Forest Sanctuary widely known as a good hunting reserve with well published walking track to Zeki's Hut. Te Rei recognised as a Recommended Area for Protection (RAP). Site recently known due to consent application for wind farming activity.
	Recreational	Hunting and tramping within Hihitahi Forest Sanctuary.
Summary of Key Values	Moderate aesthetic appeal and memorability value due to the expressiveness of the combination of cuesta and geological escarpment features. Flat plateaux, and steeply incised valley systems and native forest. Some ecological and recreational value gained from the large tracts of indigenous vegetation.	
Potential Threats	Loss of indigenous forest; weeds; large scale earthworks or mining operations that might affect the integrity of the cuesta landform or steep sided valley sides; extension of the wind farm which may affect integrity of escarpment features or lead to earthworks in river valleys.	
Potential Policies	Maintain ecological values of indigenous forest. Maintain aesthetic values of expressive geomorphologic processes.	



Sheet 11 - Mid Moawhango River

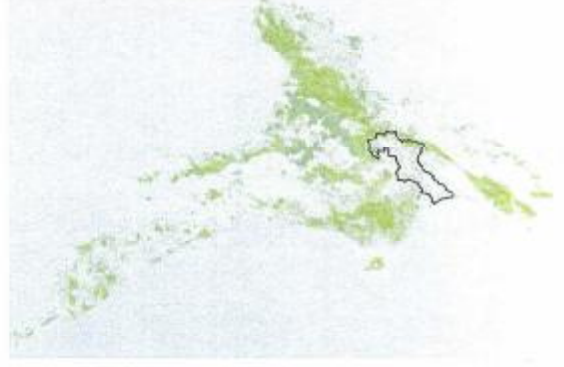
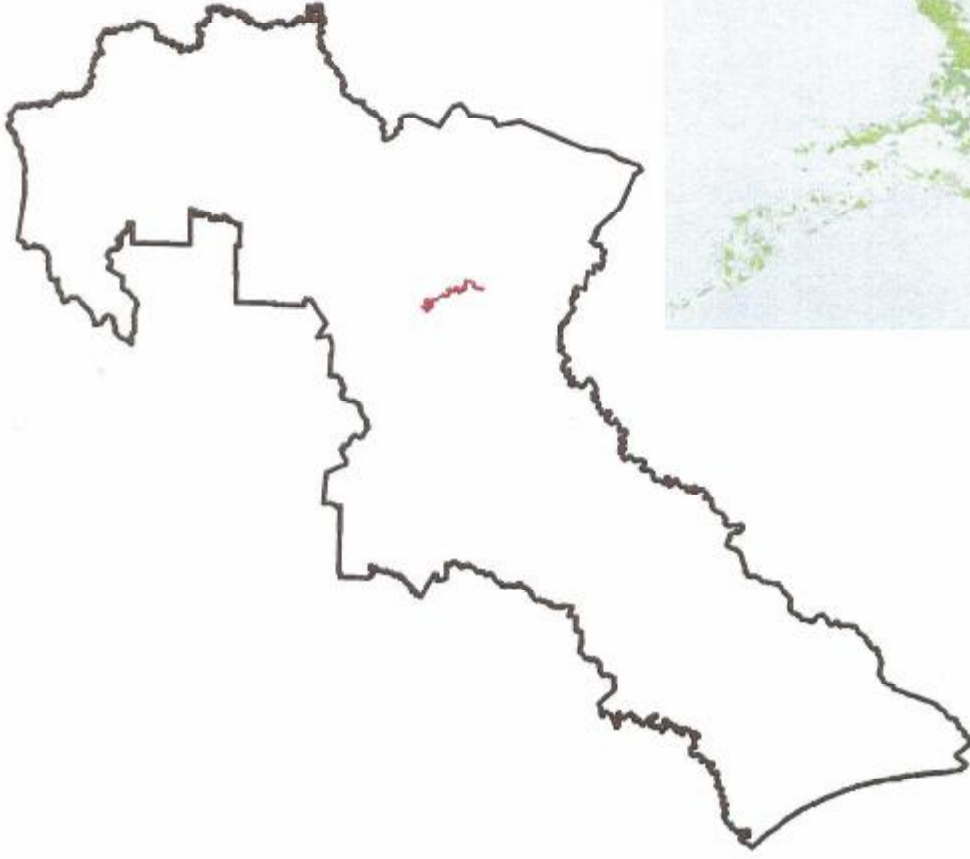


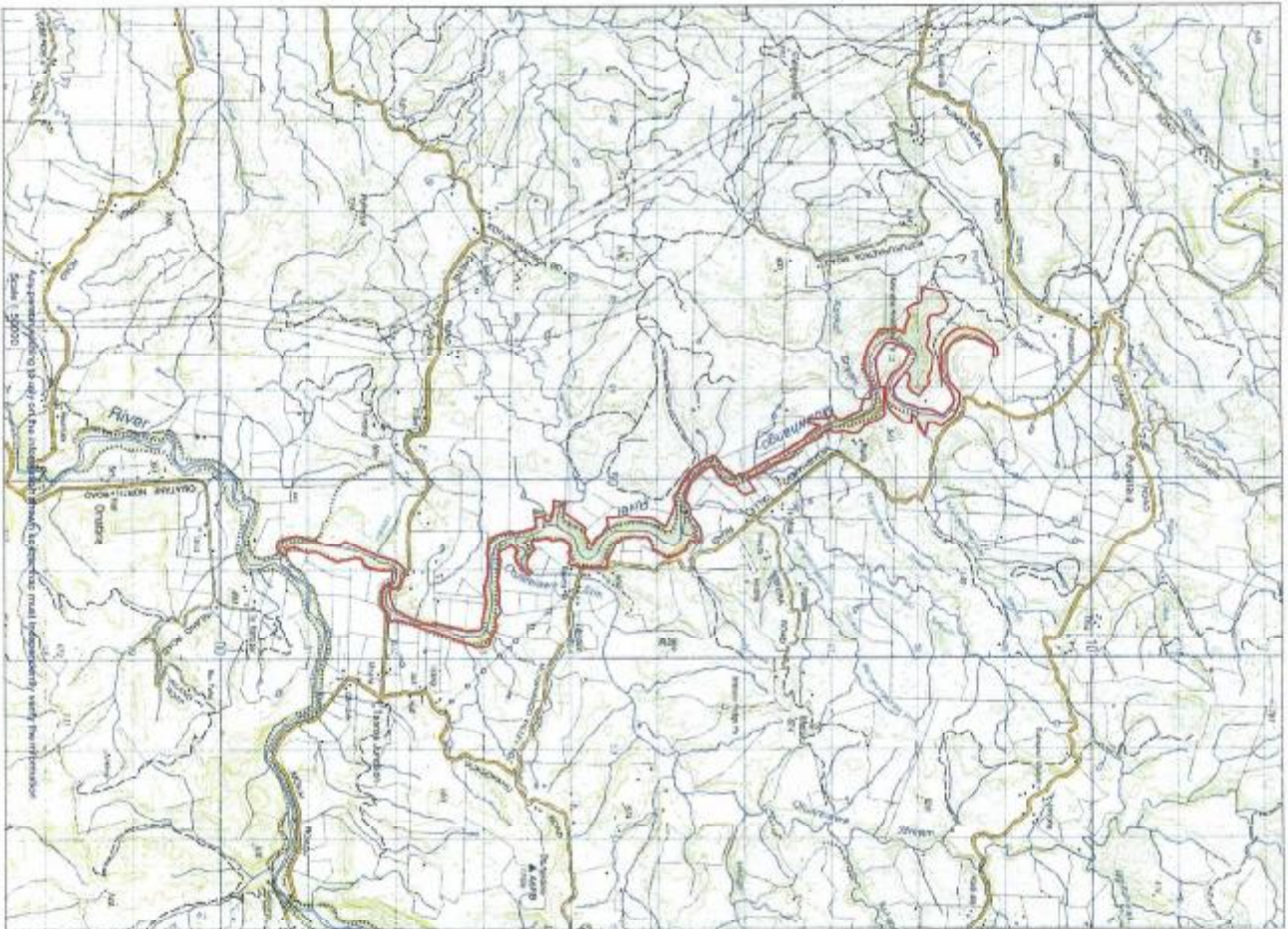


Name:	Mid Moawhango River
Location:	NZ Topo 50 Map BK35
Description:	Moawhango River from downstream of Moawhango township to meeting point with Lower Moawhango River ONL just downstream of Pungatawa. Moderately incised river valley that contrasts to the flatter surrounding topography. Exposed rock and limestone outcrops and some remnants indigenous riparian vegetation and some exotic vegetation.
ONL/ONF/Amenity:	Significant Amenity landscape feature
Natural Science	<p>Geological/Geomorphologic Incised channel created by erosion processes of the river cutting through the mudstone.</p> <p>Biological/Ecological Some remnant or regenerating indigenous riparian vegetation, although evidence of continued grazing and infestation of exotic flora species.</p> <p>Hydrological Important tributary into the Rangitikei River with high water quality and quantity. Water flow significantly reduced since construction of the Tongariro hydro-energy scheme further upstream.</p>
Perceptual	<p>Memorable landscape feature due to the expressive incisions caused by the river. A distinctive feature that adds to the identity of the district.</p> <p>Legibility/Expressiveness Expressive of the formative erosion processes cutting through the soft marine sedimentary deposits.</p> <p>Transient Little transient value. Deep gorges likely to have some impact on microclimatic conditions, such as creation of mist on colder mornings.</p> <p>Aesthetic Moderate aesthetic value derived from the expressiveness and power of erosion. Visible rocky outcrops and bluffs add further interest.</p> <p>Naturalness Moderate natural character as a result of the geological process and extent of regenerating (if slightly degraded) vegetation cover. Contrast to more structured pastoral landscape that it traverses through.</p>
Associational	<p>Historical Tributary waters to the Moawhango River taken for hydro energy generation further upstream, resulting in a reduced flow rate through this gorge.</p> <p>Tangata Whenua The Moawhango River has significant cultural value to Maori for its life giving properties and connections to ancestry. Important access route for early Maori</p> <p>Shared/Recognised Moawhango River important landmark to local people in providing identity and sense of place. Mentioned throughout district wide marketing literature.</p> <p>Recreational Fishing.</p>
Summary of Key Values	Moderate aesthetic and memorability values as a result of the scale of incision, integrity of valley sides, and their contrast to surrounding landscape. The difference between the Amenity landscape of the Mid Moawhango and Outstanding Landscape of the Lower Moawhango is the latter has deeper, more dramatic and more memorable gorges and less exotic riparian vegetation.
Potential Threats	Earthworks that might disturb the integrity of the valley sides or create sedimentation in the river system. Damming or reduced water flow. Continued grazing of riparian vegetation and further growth of exotic species.
Potential Policies	Maintain and encourage native riparian vegetation. Discourage riparian grazing and exotic vegetation. Control earthworks that may disturb steep valley sides. Maintain water flow.



Sheet 12 - Lower Moawhango River

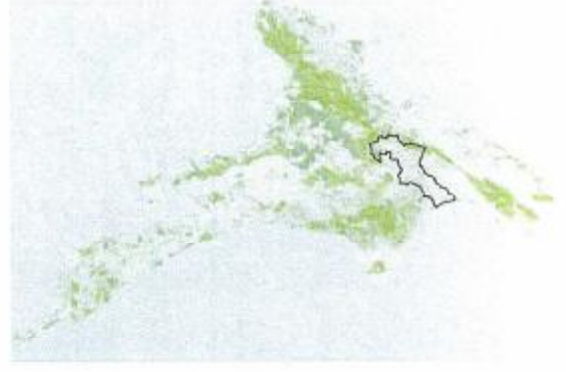
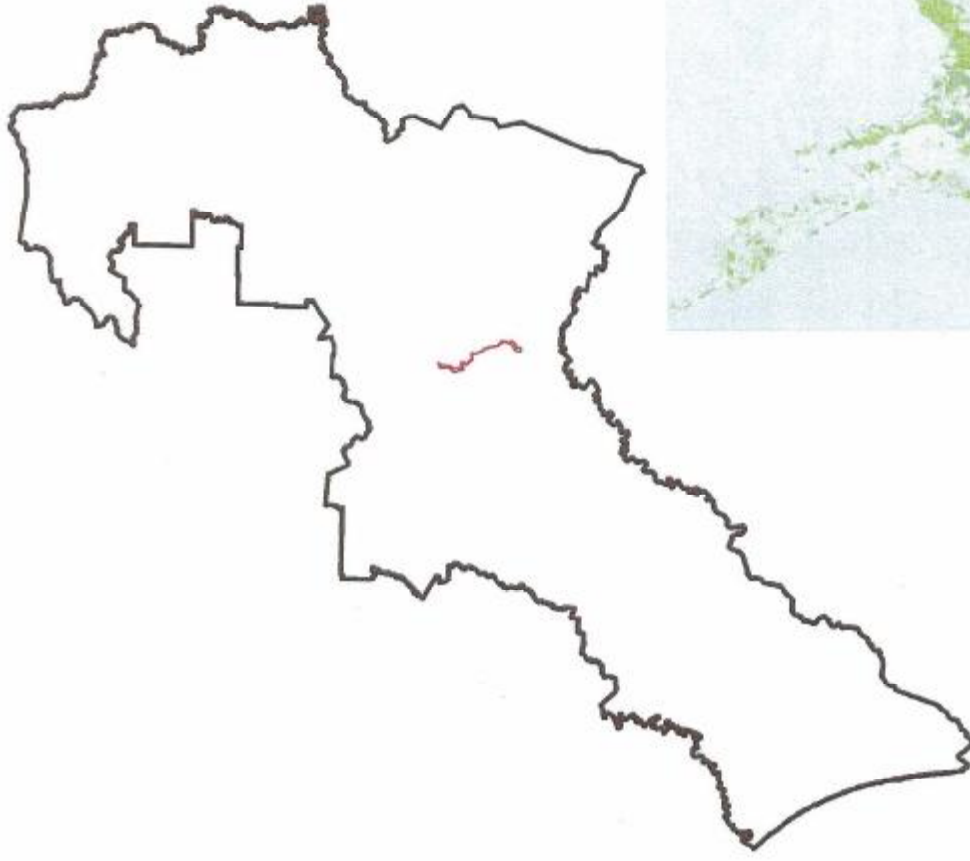


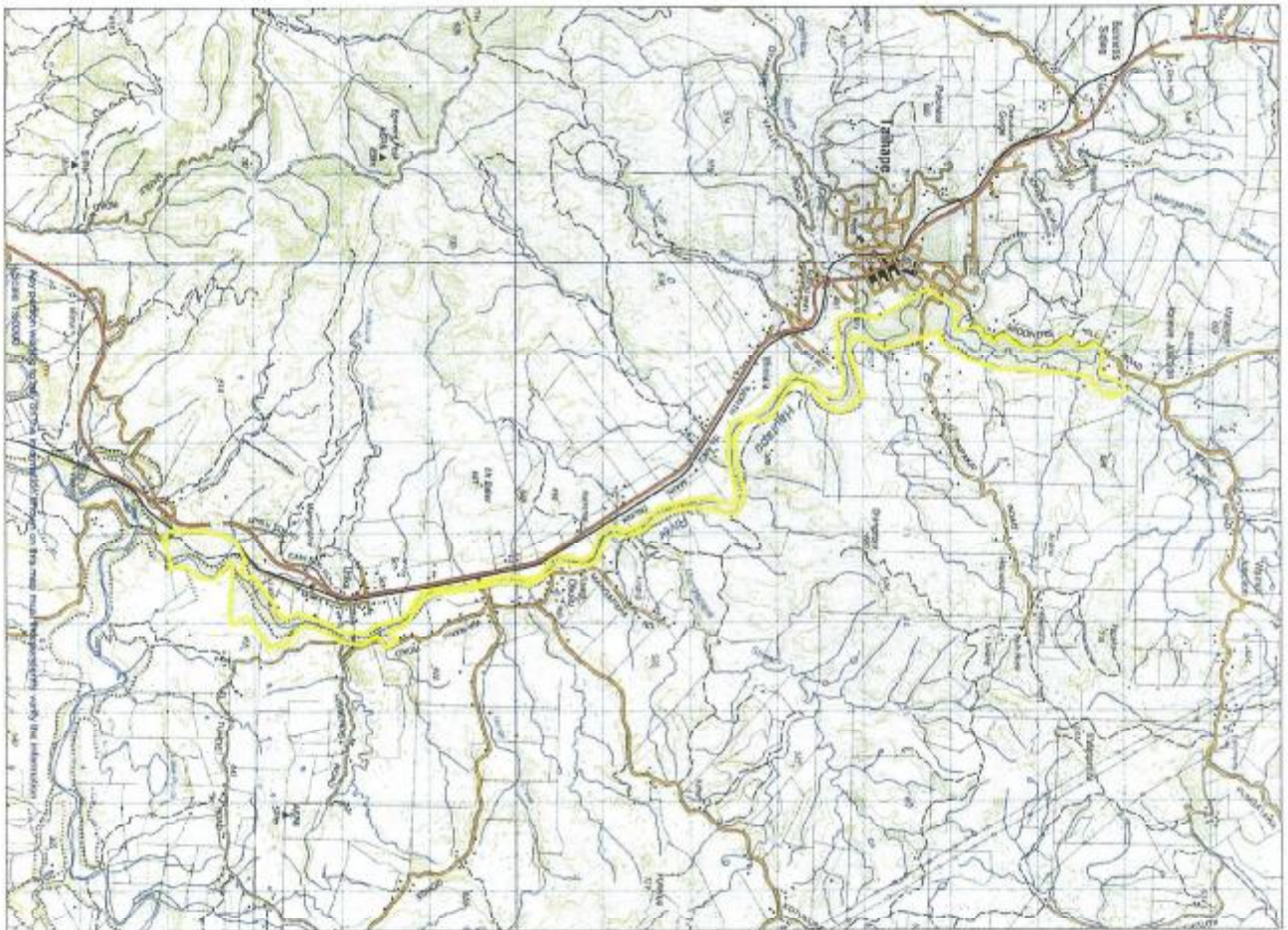
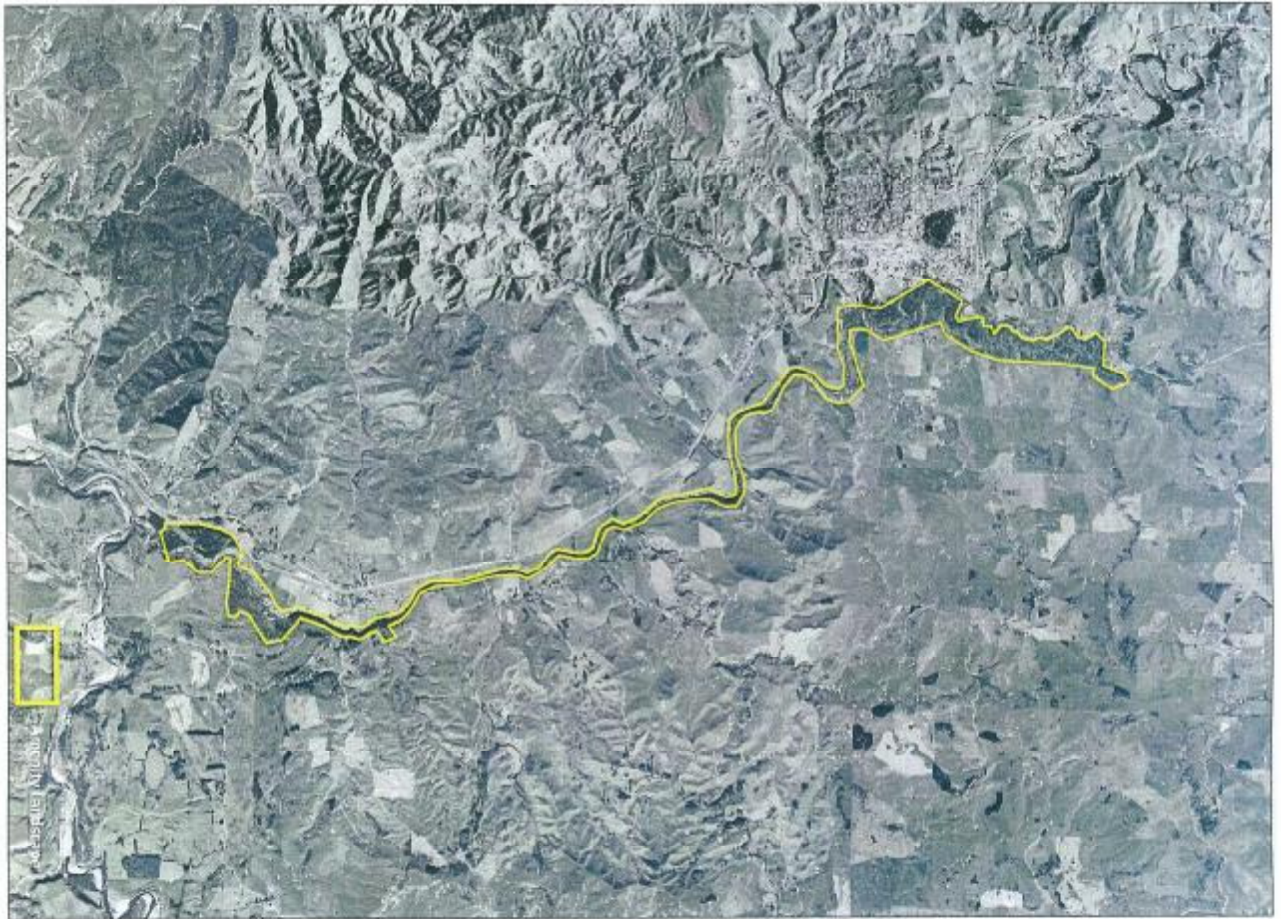


Name:	Lower Moawhango River
Location:	NZ Topo 50 Map BK35
Description:	Moawhango River from downstream of Pungatawa to Rangitikei River. Deeply incised river valley that contrasts to the flatter surrounding topography. Exposed rock and limestone outcrops and some remnant indigenous riparian vegetation.
ONL/ONF/Amenity:	Outstanding Natural Feature
Natural Science	<p>Geological/Geomorphologic Deeply incised channel created by erosion processes - in some places deep narrow gorges and in others wider scallops.</p> <p>Biological/Ecological Some remnant or regenerating indigenous riparian vegetation, although some evidence of grazing and presence of exotic flora species.</p> <p>Hydrological Important tributary into the Rangitikei River with high water quality and quantity. Water flow significantly reduced since construction of the Tongariro hydro-energy scheme.</p>
Perceptual	<p>Memorability Highly memorable landscape feature due to the expressive incisions caused by the river. A distinctive feature that adds to the identity of the district.</p> <p>Legibility/Expressiveness Highly expressive of the formative erosion processes cutting through the soft marine sedimentary deposits.</p> <p>Transient Little transient value. Deep gorges likely to have some impact on microclimatic conditions, such as creation of mist on colder mornings.</p> <p>Aesthetic High aesthetic value derived from the expressiveness and power of erosion. Visible rocky outcrops and bluffs add further interest.</p> <p>Naturalness High natural character as a result of the geological process and extent of regenerating (if slightly degraded) vegetation cover. Contrast to more structured pastoral landscape in which it transverses through.</p>
Associational	<p>Historical Waters from Lake Moawhango used for hydro energy generation in the Tongariro power scheme, resulting in a significantly lowered flow rates through this gorge.</p> <p>Tangata Whenua The Moawhango River has significant cultural value to Maori for its life giving properties and connections to ancestry. Important access route for early Maori</p> <p>Shared/Recognised Moawhango River important landmark to local people in providing identity and sense of place. Mentioned throughout district wide marketing literature.</p> <p>Recreational Fishing.</p>
Summary of Key Values	High aesthetic value due to legibility of geological processes. Highly memorable due to scale of incision, integrity of valley sides, and their contrast to surrounding landscape. The difference between the Outstanding Landscape of the Lower Moawhango and the Amenity landscape of the Mid Moawhango is the latter has shallower and less dramatic gorges and more exotic riparian vegetation.
Potential Threats	Earthworks that might disturb the integrity of the valley sides or create sedimentation in the river system. Damming or reduced water flow. Continued grazing and decreased native vegetation along riparian edge.
Potential Policies	Maintain and encourage native riparian vegetation. Discourage riparian grazing and exotic vegetation. Control riparian earthworks that may disturb steep valley sides. Maintain water flow.



Sheet 13 - Lower Hautapu River

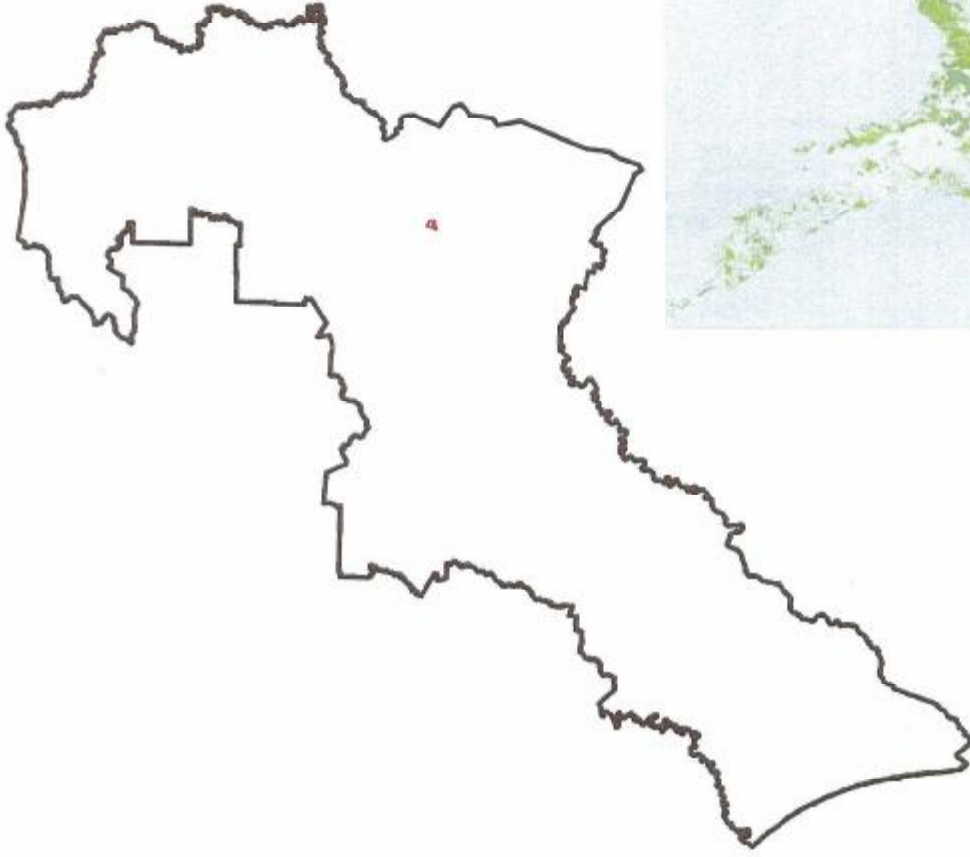


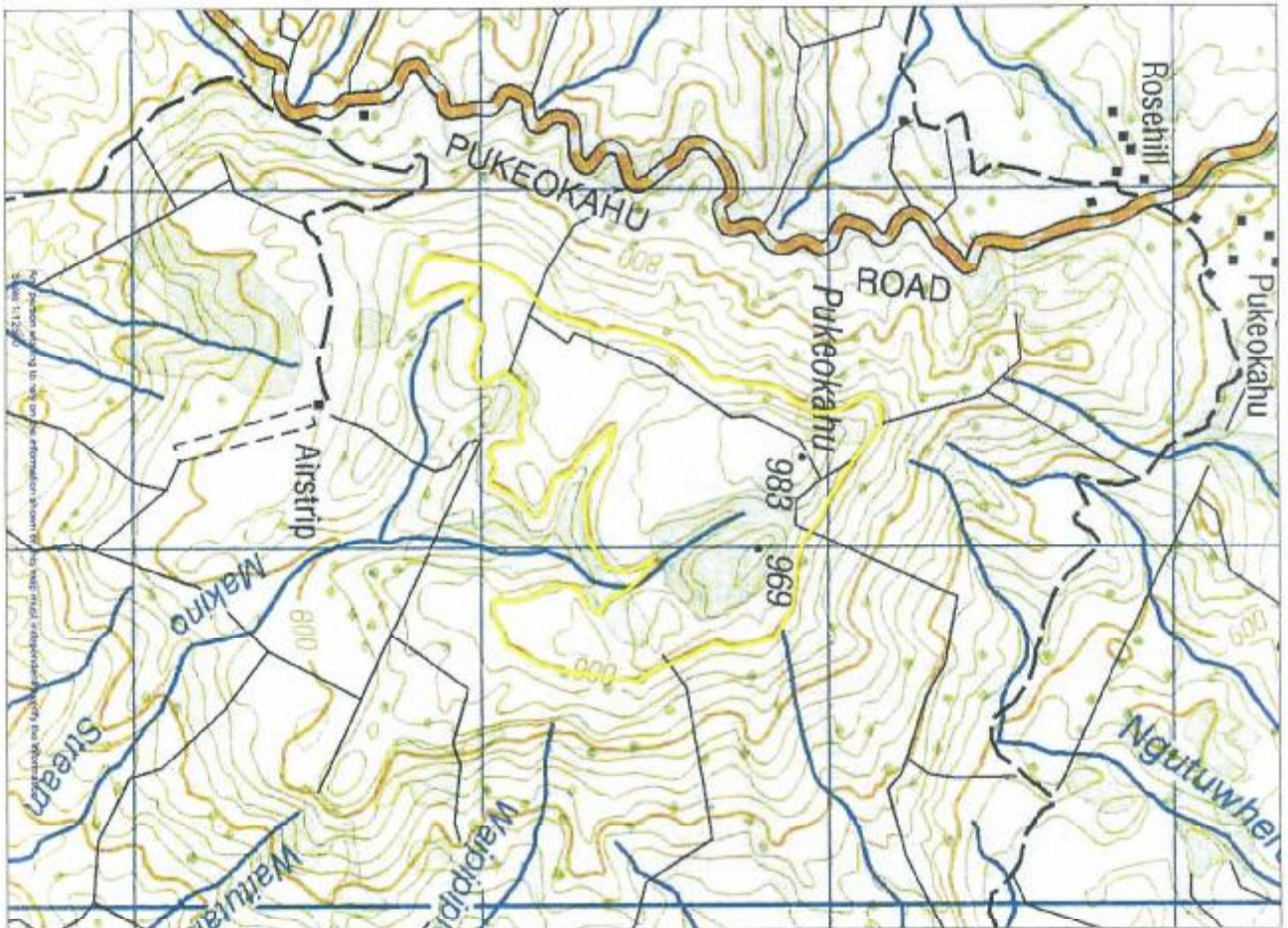


Name:	Lower Hautapu River
Location:	NZ Topo 50 Map BK35
Description:	A steeply incised river gorge running from south of the Taihape township to its confluence with the Rangitikei River.
ONL/ONF/Amenity:	Significant Amenity landscape feature
Natural Science	<p>Geological/Geomorphologic Deeply incised narrow gorge resulting from erosion processes of the river.</p> <p>Biological/Ecological Gorge sides flanked with mixture of exotic, scrub, weeds and indigenous vegetation.</p> <p>Hydrological Important river tributary of the Rangitikei River, draining swamps near Waiouru Army Camp.</p>
Perceptual	<p>Memorability Highly memorable feature due to the expressiveness of the geological and hydrological processes.</p> <p>Legibility/Expressiveness Highly expressive of the geological and hydrological processes creating a very deep incision into the landscape.</p> <p>Transient Little or no transient value (some changes in river levels likely)</p> <p>Aesthetic Very high aesthetic appeal due to the dramatic dissection of the rock by the river.</p> <p>Naturalness High natural character due to expressive geomorphology.</p>
Associational	<p>Historical Taihape once named after this river.</p> <p>Tangata Whenua Unknown. Water likely to have cultural significance for its life giving values and as a link to the ancestral lands at the headwater.</p> <p>Shared/Recognised Forms part of the local identity of Taihape and gorge widely known by local people as a dramatic feature of the landscape.</p> <p>Recreational Some fishing opportunities in more open valleys.</p>
Summary of Key Values	High geological value and aesthetic appeal due to the expressiveness of the sheer erosion processes in forming the gorge and enclosing indigenous vegetation, giving the feature high natural character in an otherwise heavily modified landscape.
Potential Threats	Earthworks. Damming for irrigation or hydro electricity. Weeds.
Potential Policies	Maintain and encourage native riparian vegetation. Discourage riparian grazing and exotic vegetation, including weeds. Control riparian earthworks that may disturb steep valley sides. Maintain water flow.



Sheet 14 - Pukeokahu

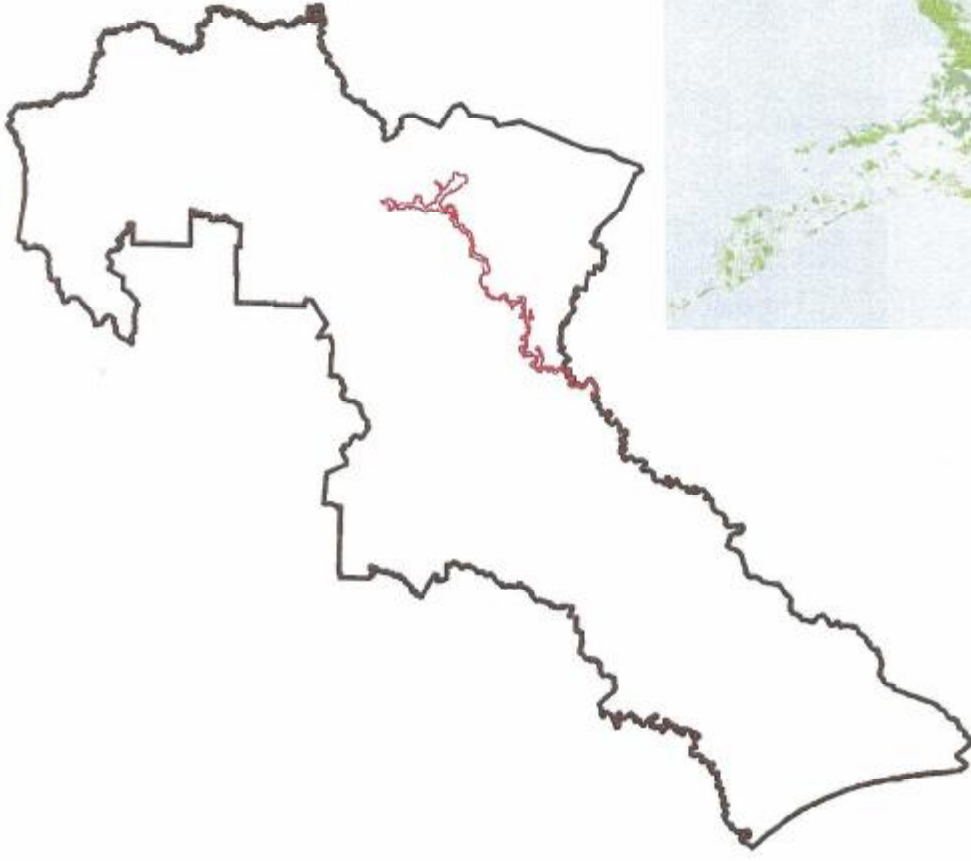




Name:	Pukeokahu
Location:	NZ Topo 50 Map BK36
Description:	A prominent cuesta landform feature located in farmland on the western side of the Rangitikei River opposite Aorangi.
ONL/ONF/Amenity:	Significant Amenity Landscape Feature
Natural Science	<p>Geological/Geomorphological An uneroded, uplifted cuesta landform feature similar to Aorangi. Bold escarpments and rock outcrops near summit on eastern and northern sides with noticeable stratification lines on steep sides.</p> <p>Biological/Ecological Little ecological value due to extensive pastoral farming. Some scattered remnant or regenerating scrub.</p> <p>Hydrological Little hydrological value.</p>
Perceptual	<p>Memorability Relatively prominent feature that stands above surrounding topography therefore making it a recognisable landmark. Degree of modification from pastoral use has lessened memorability.</p> <p>Legibility/Expressiveness Escarpments and diplope features of the cuesta landform easily recognisable and distinguishable from surrounding geological forms.</p> <p>Transient Little transient values.</p> <p>Aesthetic Escarpment and rock outcrop features have moderate aesthetic value due to legibility of formative processes. Visually prominent in this part of the district.</p> <p>Naturalness Naturalness affected by modified state, although feature retains some natural character as a result of the lack of building structures and its apparent openness.</p>
Associational	<p>Historical Unknown</p> <p>Tangata Whenua Landform feature translates as 'The Hill of the Hawk' - likely to have some cultural value to local iwi, details unknown.</p> <p>Shared/Recognised Forms part of the identity and sense of place of the rural settlement Pukeokahu.</p> <p>Recreational Photographic imagery used on local school website. Unknown - privately owned.</p>
Summary of Key Values	Moderate aesthetic value due to legibility of formative processes. Shared and recognisable values due to prominence of uplifted landform within an open pastoral character that enhances its raw, natural rocky escarpment 'cap' and geological stratification.
Potential Threats	Wind turbines and forestry would detract from natural prominence; earthworks and land disturbance likely to affect aesthetic value of the escarpment and rock outcrops.
Potential Policies	Maintain unbuilt character of uplifted cuesta landform. Control earthworks to maintain naturalness of escarpments.



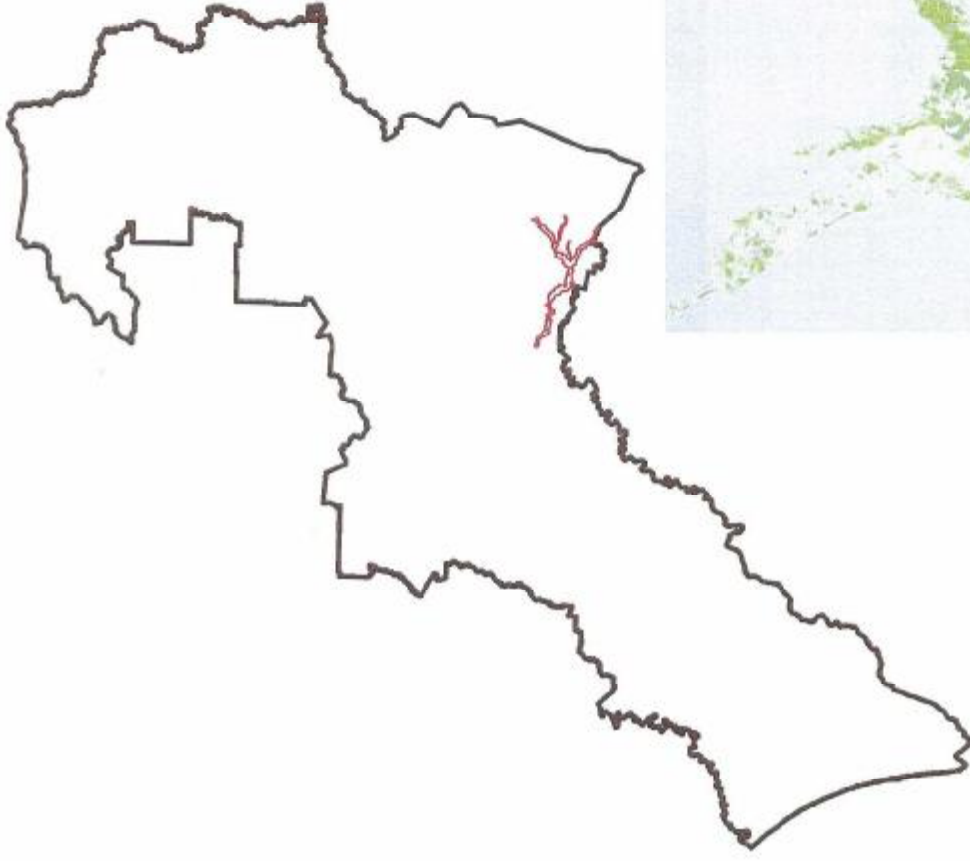
Sheet 15 - Rangitikei Narrows and Gorges

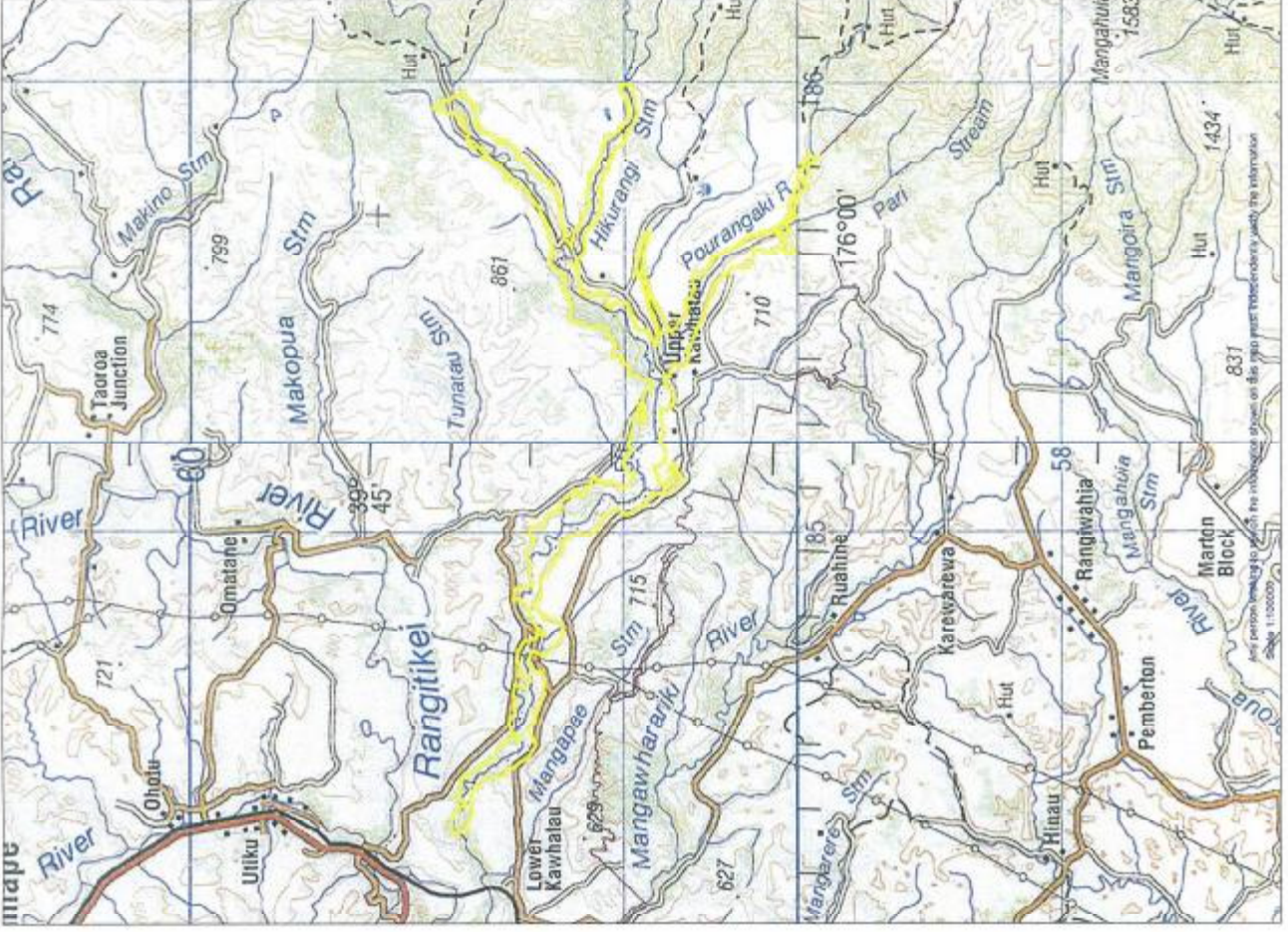
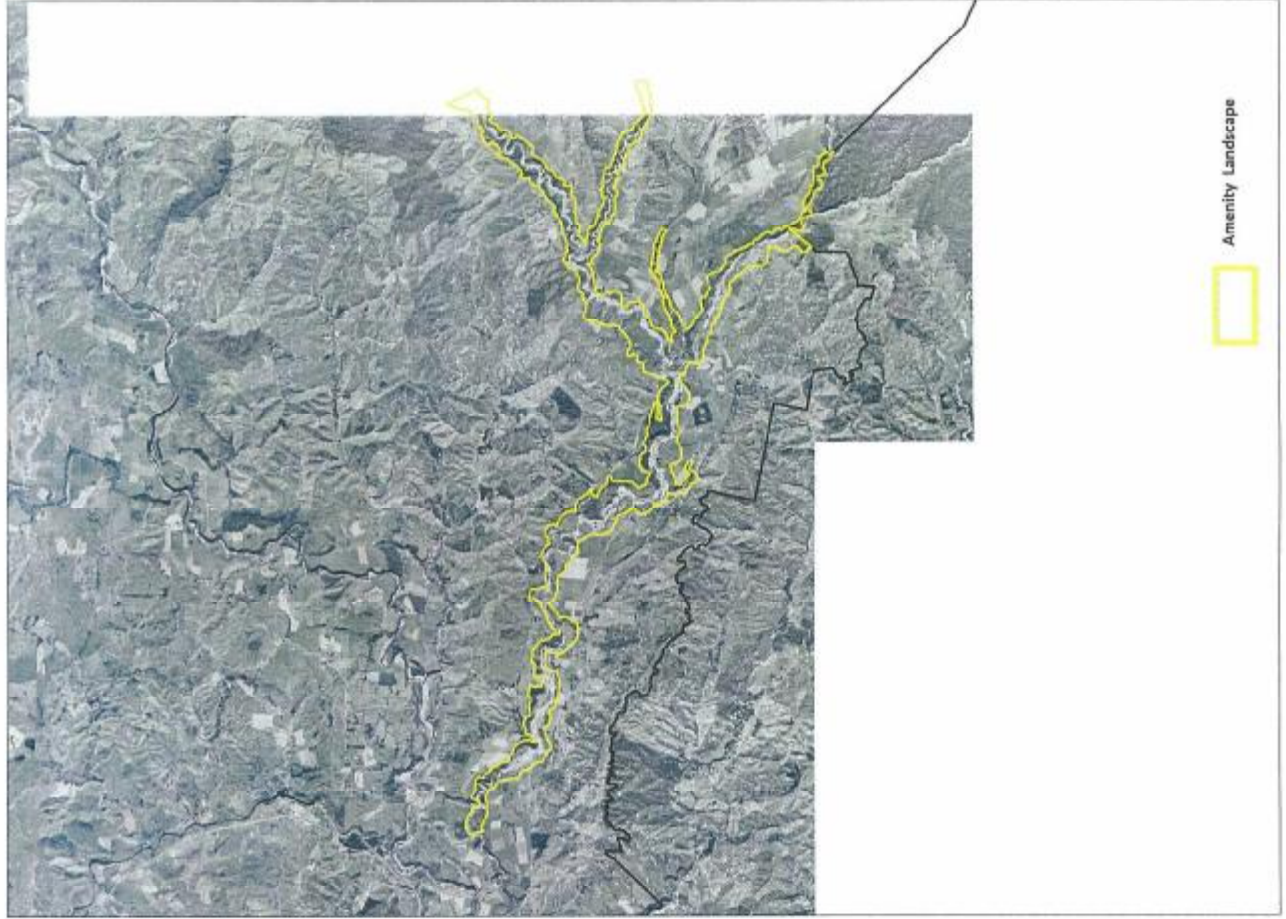


Name:	Rangitikei Narrows and Gorges	
Location:	NZ Topo 50 Map BK35, BK36	
Description:	Rangitikei River from The Narrows to downstream of Manawakea. Very steeply sided incised meandering river valley and gorges with significant tracts of remnant indigenous riparian vegetation and exposed rocky outcrops.	
CNL/ONE/Amenity:	Outstanding Natural Feature	
Natural Science	Geological/Geomorphological	Deeply incised river valley with very steep sided faces, sometimes with exposed rock outcrops or limestone bluffs. Demonstrative of the erosion processes of the river through soft marine sedimentary layers.
	Biological/Ecological	Indigenous riparian vegetation enhances ecological value and river water quality.
	Hydrological	Water in the river and from stream tributaries has significant quality and quantity values, particularly on uses downstream. National water conservation order under current DP.
Perceptual	Memorability	Highly memorable feature due to dramatic scale and steepness of landform incision rising from the watercourse - more dramatic than surrounding folded landforms due to the presence of a significant waterway. Riparian flora adds to memorability as being an extension of the Aorangi ONL and contrast to the modified pastoral landscape.
	Legibility/Expressiveness	Very expressive of the erosion formation processes.
	Transient	Deep gorges likely to have some impact on microclimatic conditions, such as creation of mist on colder mornings.
	Aesthetic	Very high aesthetic values as a result of the scale and depth of incision, a dramatic and awe inspiring landscape feature, with a the meandering pattern of the gullies that contrast to the pastoral landscape.
	Naturalness	Very high degree of natural character as a result of the scale of geological processes and presence of indigenous riparian vegetation. Lack of building structure.
Associational	Historical	The Rangitikei River has significant cultural value to Maori for its life giving properties and connections to ancestry. Important access route for early Maori
	Tangata Whenua	The gorges part of the Rangitikei River is widely recognised by local people and forms a key part of the identity of the central Rangitikei Region. Widely recognised for its white-water rafting opportunities. Many photographs available online.
	Shared/Recognised	
	Recreational	Rafting, canoeing, bungy, gravity canyon, Trout fishing.
Summary of Key Values	Very high natural character values due to legibility of geological processes. Dramatic, awe inspiring and highly memorable due to scale of incision, integrity of valley sides, and their contrast to surrounding landscape. Ecological and water quality values contributed to by existence of indigenous riparian vegetation.	
Potential Threats	Escarpment earthworks. Hydro electricity or damming for irrigation purposes. Weeds in riparian vegetation.	
Potential Policies	Maintain and encourage native riparian vegetation. Discourage riparian grazing and exotic vegetation and weeds. Control riparian earthworks that may disturb steep valley sides. Maintain water flow and quality.	

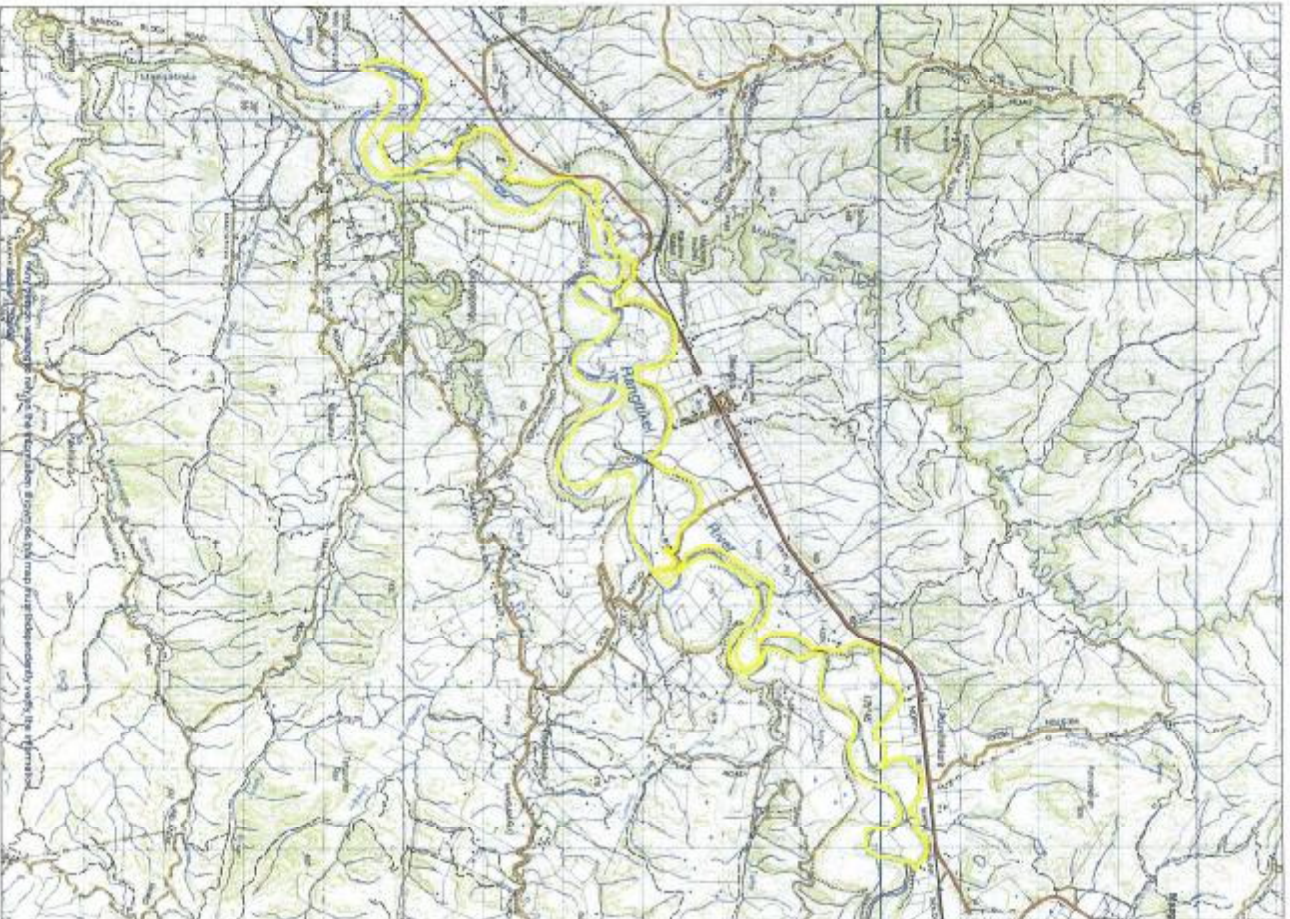
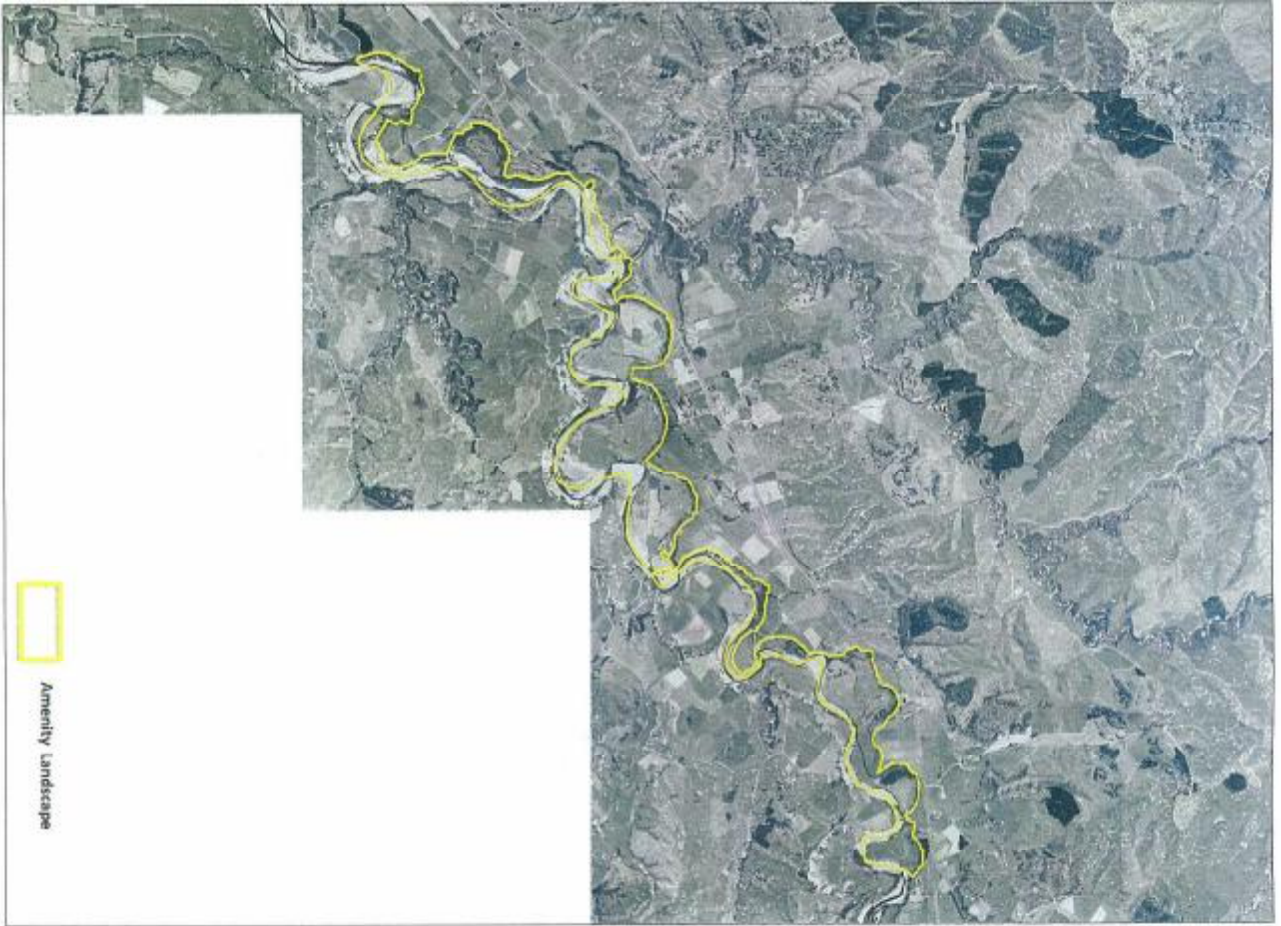


Sheet 16 - Kawhatau

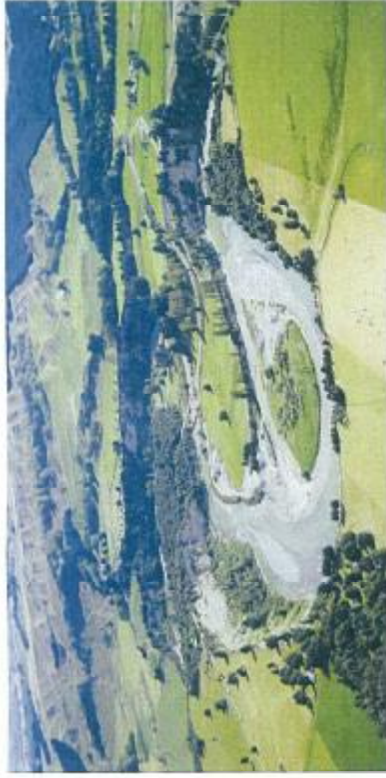




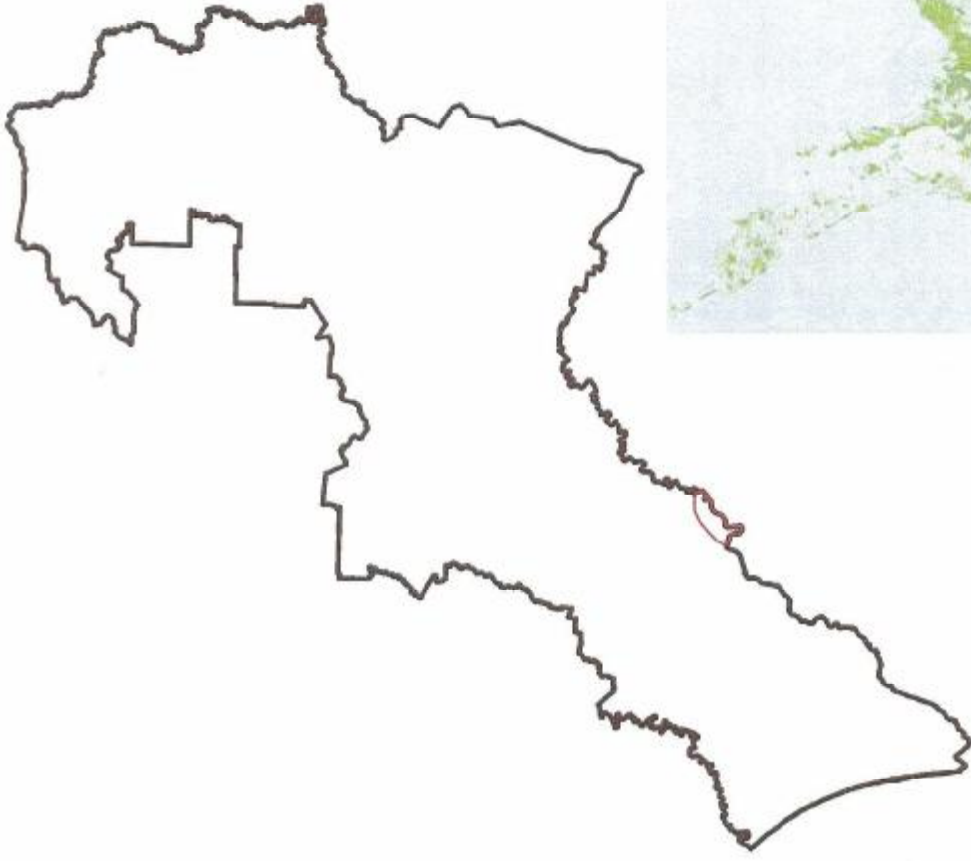
Name:	Kawhatau
Location:	NZ Topo 50 Map BK35 & BK36
Description:	Tributary streams to the Rangitikei River running off Ruahine Ranges northeast of Mangaweka. Includes Kawhatau River, Mangakokeke Stream and Hikurangi Stream.
ONL/ONF/Amenity:	Significant amenity landscape feature
Natural Science	<p>Geological/Geomorphological Incised and braided rivers, with deepening gorges towards the Rangitikei River</p> <p>Biological/Ecological Indigenous riparian vegetation enhances ecological value and river water quality.</p> <p>Hydrological Important river tributary of the Rangitikei River, draining catchments from the Ruahine Ranges.</p>
Perceptual	<p>Memorability Memorable feature due to the expressiveness of the geological and hydrological processes.</p> <p>Legibility/Expressiveness Highly expressive of the formative processes of the incised valleys and exposed mudstone escarpments in the lower reaches, and expressive of the meandering braided processes in the upper reaches.</p> <p>Transient Little known transient value. Gorges likely to have some impact on microclimatic conditions, such as creation of noise and dampness.</p> <p>Aesthetic High aesthetic appeal due to the expressiveness of the rivers erosion and formative processes.</p> <p>Naturalness Moderate naturalness, influenced by pastoral activity within the river corridor.</p>
Associational	<p>Historical Catchment rises from the Mokai Patea Range and Colenso, which is named after the well known European explorer.</p> <p>Tangata Whenua The rivers connection to the Rangitikei had cultural importance to Maori</p> <p>Shared/Recognised Recreational Access point to Mokai Patea Range and Ruahine Forest Park for tramping, hunting.</p>
Potential Threats	Damming, mining/extraction.
Summary of Key Values	Aesthetic values of expressiveness, naturalness in terms of geomorphological processes.
Potential Policies	Maintain water quality, flow and native vegetation.

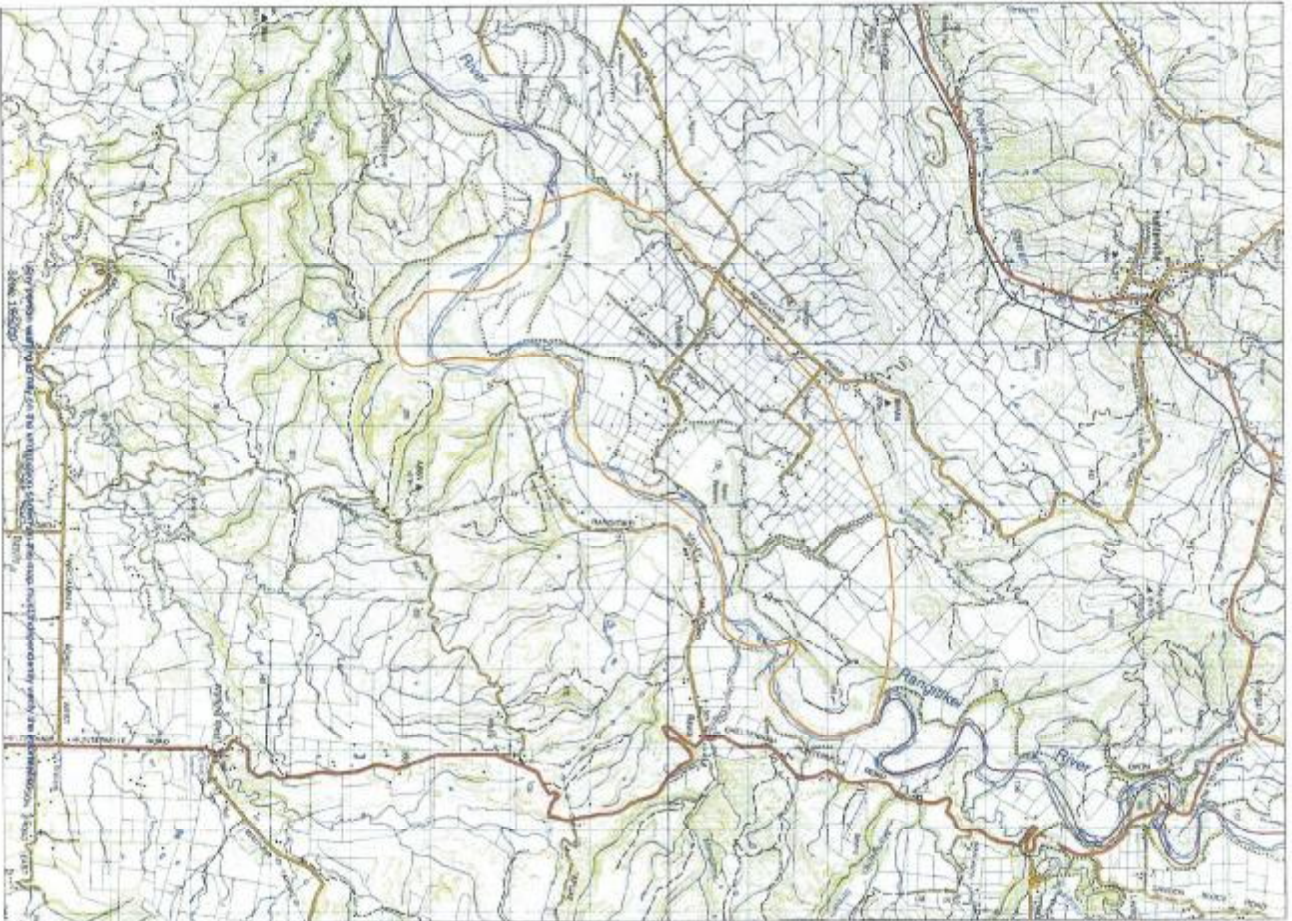


Name:	Central Rangitikei River
Location:	NZ Topo 50 Map BL34 & BL35
Description:	Rangitikei River from near Mangaweka to near Vinegar Hill. The widening river valley of the central part of the Rangitikei River, including the waterway, riparian terraces and scalloped or sheer valley walls.
ONL/ONF/Amenity:	Significant Amenity Landscape
Natural Science	<p>Geological/Geomorphological Created by erosion of the river through the sedimentary soils, creating a large widening river valley with scalloped edges and sheer limestone (papa) cliffs that define the river valley.</p> <p>Biological/Ecological Indigenous and exotic forest remnants on valley sides, also creating habitat for indigenous and exotic wildlife. Areas of pasture associated with the flats of the scalloped ox-bows.</p> <p>Hydrological A water conservation order exists on the river in an attempt to protect water quality and flow.</p>
Perceptual	<p>Memorability Memorable landscape feature of the Rangitikei District contributing to the identity and sense of place of the area.</p> <p>Legibility/Expressiveness Complex landform features very expressive of the erosion processes of the river, with 'empty' scalloped ox-bows providing historical references to shifts in the river.</p> <p>Transient River valley has its own microclimate. Changes in the location of the river bed over time, as evidenced by the 'empty' scallops. River level changes reflective of headwater rains.</p> <p>Aesthetic High aesthetic value due to its steep escarpments, cliffs and scalloping.</p> <p>Naturalness High amenity values despite some pastoral use in the scallop shapes within the river valley. Naturalness significantly contributed to by the dramatic escarpment features, scale of their erosion and the expressiveness of the river's meandering course over time as shown by the scallop shaped former ox-bows. Provides an important corridor for wildlife through the landscape.</p>
Associational	<p>Historical River and enclosing flats is very significant to Māori for habitation and intensive use for food gathering.</p> <p>Shared/Recognised Widely written about, photographed and described. Images of this part of the river are used to market the district, and can be found on postcards in the region.</p> <p>Recreational High level of recreational use, including rafting, swimming, fishing.</p>
Summary of Key Values	High aesthetic values derived from the expressiveness of the formative processes of the Rangitikei River course, with the dynamic qualities demonstrated by the legibility of the scallop features (formerly river bed), the dramatic appearance of the enclosing curved escarpments, and the prominence and beauty of the white, sheer, papa (mudstone) cliffs.
Potential Threats	Earthworks and/or quarrying that may affect the integrity of the limestone cliffs and scallops (including roading). Further degradation of native riparian vegetation which may lead to sedimentation of the river and destruction of wildlife habitat. Subdivision that may break the simplicity of enclosing terraces. Damming or water loss through irrigation.
Potential Policies	Avoid large scale earthworks on escarpments. Maintain riparian native vegetation, water flow and water quality, and simplicity of enclosing terrace edges.

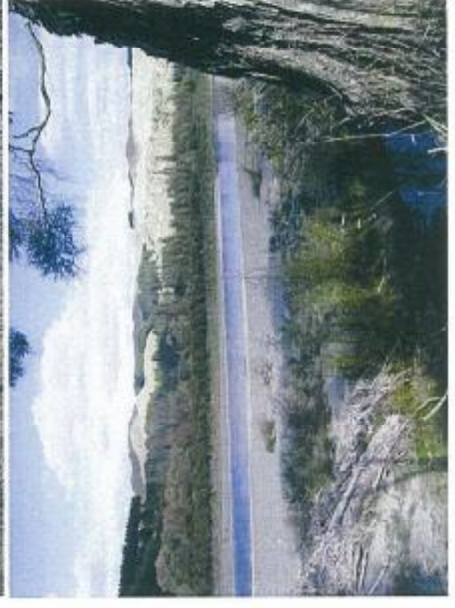


Sheet 18 - Putorino

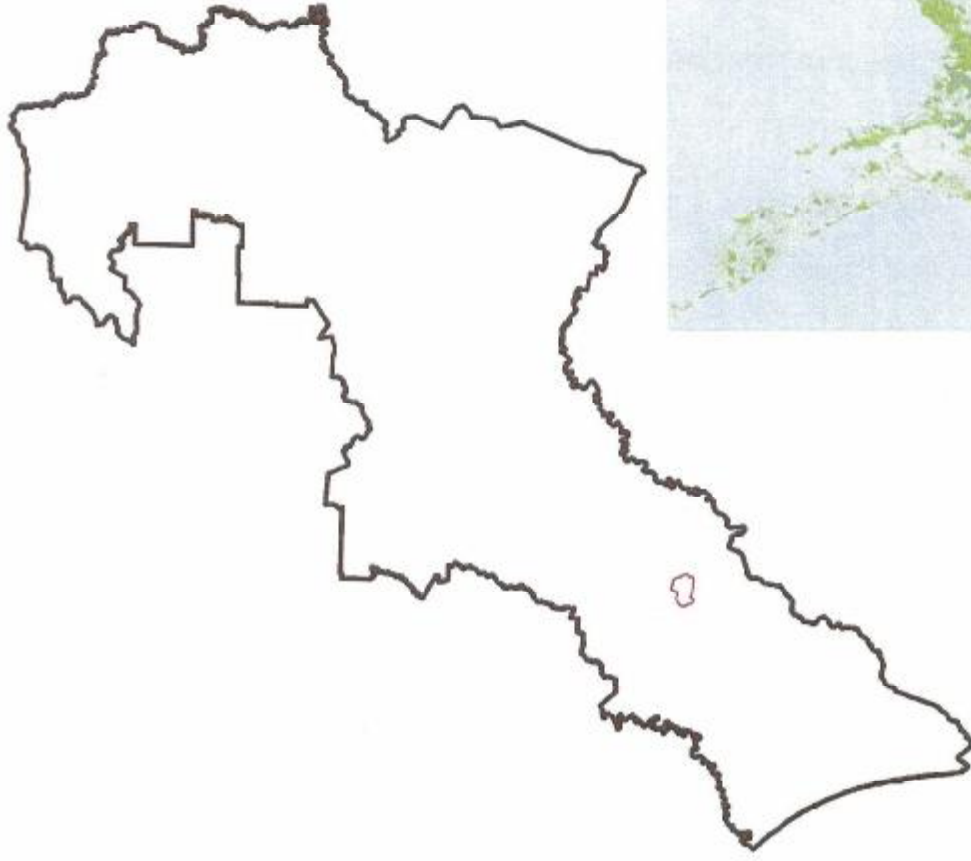


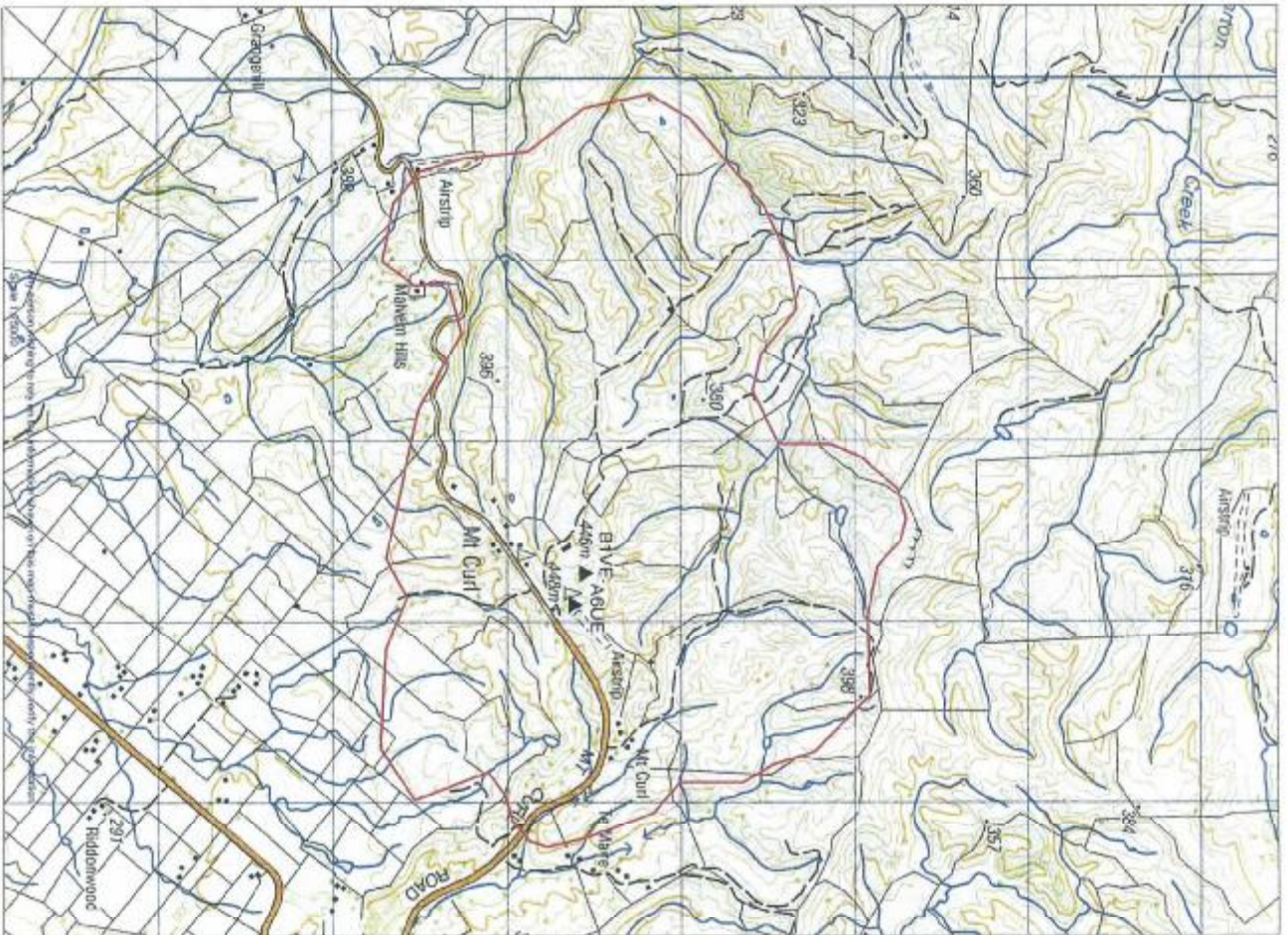


Name:	Putorino
Location:	Putorino to Vinegar Hill MapB134
Description:	Rangitikei River flats from Putorino to Vinegar Hill and beyond upstream for some distance
ONL/ONF/Amenity:	Cultural amenity landscape
Natural Science	<p>Geological/Geomorphological</p> <p>River flats and adjacent low lying terraces. Some escarpments, clearly distinctive because of their white mudstone cliffs, but generally open river corridor</p> <p>Biologicals/Ecological</p> <p>Modified ecology, particularly on low lying river flats and flood plains. Remnant bush in Rahui Reserve and Vinegar Hill Domain indicate the vegetation cover that once existed widely across the flats.</p> <p>Hydrological</p> <p>Water in the river and from stream tributaries has significant quality and quantity values. National water conservation order under current DP.</p> <p>Memorability</p> <p>Modified landscape, used for pastoral farming. Not highly memorable from visual perspective</p> <p>Legibility/Expressiveness</p> <p>River escarpments and circular meander patterns from the old river course are clearly evident</p> <p>Transient</p> <p>No transient values readily apparent</p> <p>Aesthetic</p> <p>Some aesthetic values of the open river valley and small areas of remnant bush.</p> <p>Naturalness</p> <p>Low degree of naturalness due to extensive modification of land use to current dairying</p>
Associational	<p>Historical</p> <p>Area of intense Maori occupation in the River valley. Vinegar Hill was an historic access point across the river used for transporting goods by bullock train.</p> <p>Tangata Whenua</p> <p>An area of past intense occupation by Maori. Highly significant area to Ngati Apa for food gathering, fishing, cultivation and living. Wetlands abutting the Rangitikei River, and tributary streams, were used as a source of eels, root gathering, mosses, reeds, flax and plants were grown and gathered, being essential for living requirements such as childbirth, healing battle wounds, women's medicinal use, and treatment of sicknesses. Some trees such as Miro were of such size and fruiting habit that they were individually named and used as a source of bird life. These trees had the special status of annual fruiting (a rarity amongst Miro), which attracted a reliable feeding ground for birds. The river, along with its numerous tributaries, provided not only an extensive fishery, but with fertile land for cultivation along the river meanders and terraces. There were traditional settlements along the valley floor and many elevated fortified Pa sites for defence from marauding war parties. Parae Karetu (Mt Curf) was one such Pa, being the highest land in the local area. The Rangitikei River flats have now been modified to such an extent from when they were actively occupied by Ngati Apa that there are few physical remnants of significance. The amenity values relate to cultural historic activities and values, now living on as very important memories rather than easily identifiable physical characteristics.</p>
Potential Threats	<p>Shared/Recognised Recreational</p> <p>Values are primarily confined to cultural associations by Ngati Apa Camping in the Vinegar Hill area, fishing</p> <p>Reduction in water quality and quantity, large scale excavation, further reduction on wetland habitat and ecological values.</p>
Summary of Key Values	Recognition of this area for its historic cultural associations for Māori as an area of past intense occupation. Remaining water flow, water quality and fish life.
Potential Policies	Maintain water quality and quantity, and avoid further reduction on wetland habitat and ecological values. Avoid large scale excavation.



Sheet 19 - Parae Karetu (Mt Curl)

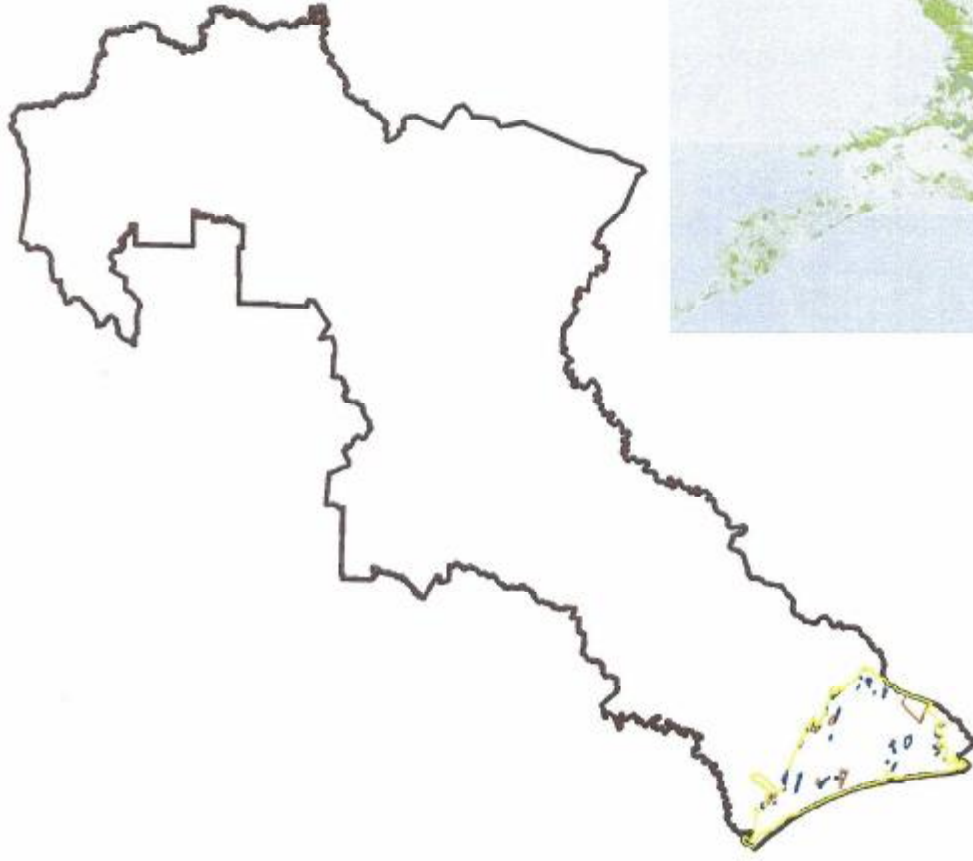




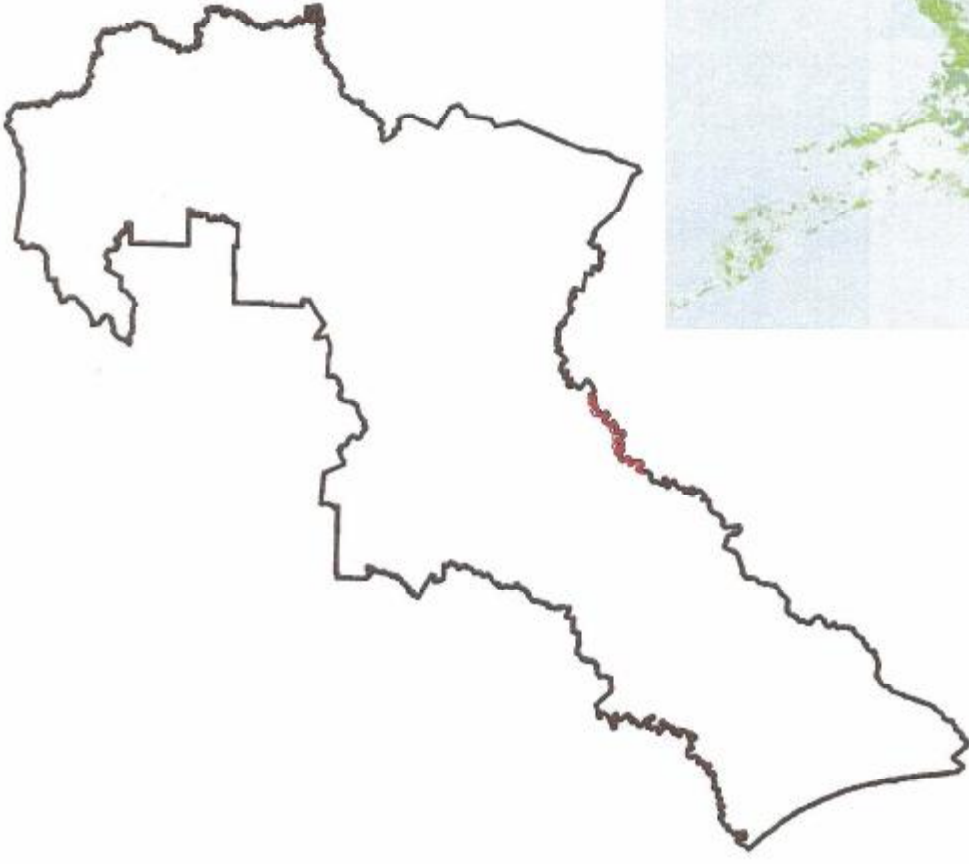
Name:	Parae Karetu (Mt Curl)
Location:	7km southwest of Hunterville
Description:	Parae Karetu was a defensive Pa on the high country west of the Rangitikei river. The collection of high points allowed full 360° views of the surrounding land providing visibility of approaching parties and protection from marauding war parties.
OWS/ONF/Amenity:	Outstanding Natural Feature
Natural Science	<p>Geological/Geomorphological</p> <p>The hill country comprises sandstones and mudstones, with the current landform patterns being created through uplift and subsequent erosion from rivers and streams that have cut through this soft material. Loess, blown from the lower plains and brie, has overlaid parts of the exposed land, softening the appearance of the sharper ridges and adding to the fertility of the soils. Parae Karetu (Mt Curl) is the highest and most prominent of these hills, known as part of the Marion Rise and formed through uplift and subsequent erosion of the exposed surface.</p> <p>Biological/Ecological</p> <p>Cleared of original native vegetation, the area is now generally pastoral hill country farmland. Some areas of regenerating native bush is present in steep gullies.</p> <p>Hydrological</p> <p>Ephemeral streams start from these high lands, feeding waterways that become small streams that flow towards the Rangitikei in the east and the Turakina River in the west. The upper reaches of these streams were used by Maori as water sources in times of occupation of the defensive Pa.</p>
Perceptual	<p>Memorability</p> <p>While being the highest hills in the area, their form and similarity to surrounding landform renders Parae Karetu (Mt Curl) not exceptional in terms of visual distinction apart from its height.</p> <p>Legibility/Expressiveness</p> <p>Expressive of its uplifted origins due to its height and through the exposed upper terraces on the southern side of the highest points. Also the valleys area expressive of the erosion patterns that have occurred through the uplifted mudstones and sandstones. Road cuts allow visibility of bees, which coats the hills to varying depths.</p> <p>Transient</p> <p>A high site, exposed to all climatic elements, particularly wind. Other transient values that were once prevalent such as bird song, is now absent.</p> <p>Aesthetic</p> <p>Of no outstanding aesthetic value, it appears contiguous with adjacent hill country pastoral farmland.</p> <p>Naturalness</p> <p>Low degree of naturalness due to the land cover modifications that have taken place, primarily being bush removal and replacement by pasture. Telecommunication facilities on the highest point also add to the modified character of the hills.</p>
Associational	<p>Historical</p> <p>Tangata Whenua</p> <p>High value to Ngāi Tahu in terms of cultural associations and past occupation. A key site in for offensive refuge and allowing visibility of approaching parties. The dispersed area covered a wide range of high points that provided viewing points to allow observations across the entire panorama of surrounding land, including their later reoccupation land through to the Whangaiti River to the east. Access to water was essential for prolonged occupation if needed, and local vegetation allowed access to birds. The hill tops remained vegetated, but by making use of the elevated position and by using trees as lookout points, the site provided great defensive advantages, which in turn provided security and well being for the tribe's use of the wider area. Parae Karetu (Mt Curl) was used in conjunction with Pa on the Rangitikei River north of the Makarewa Stream, which provided for food gathering, cultivation, living and cultural aspects of the iwi's needs.</p> <p>Shared/Recognised</p> <p>Values are generally confined to those recognised by Maori for cultural reasons and also by geomorphologists in relation to physical land processes. The terraces of the Rangitikei River valley and the Whangaiti coast provide one of the world's most complete records of climate and sea-level changes over the last 2.6 million years, and the Marion Rise is recognised as part of this process. The highest and oldest formation is near Parae Karetu (Mt Curl), while the youngest is closest to the coast.</p> <p>Recreational</p> <p>No particular recreational use known of these hills.</p>
Summary of Key Values	It has values relating to its expressiveness in terms of geological history. It was also highly valued by Tangata Whenua for past use as a defensive pa point, its proximity to inhabited areas by the Rangitikei River, the security the tribe gained from having control over such a commanding location and its relationship with the river flats. These values all contributed to the most important value, which relates to the mana gained from control of this site. Any further degradation of the site, from activities such as large earthworks or large structures, would further diminish the iwi's connection with the land and thus their mana whenua status and spiritual well being, adversely affecting their ability to exercise kaitiaki/taonga.
Potential Threats	Large scale earthworks such as excavations or mining. The mana of the land is already affected by existing telecommunication masts. Large scale structures such as wind turbines would have significant adverse effects if they were sited within the defined hilltop area, or in sufficient proximity to adversely affect the character of the defined area.
Potential Policies	Maintain the existing Tangata Whenua values by controlling large scale earthworks, mining and erection of large structures. Maintain the existing Tangata Whenua values by not allowing wind turbines within the defined Parae Karetu area or within sufficient distance to adversely affect its value.

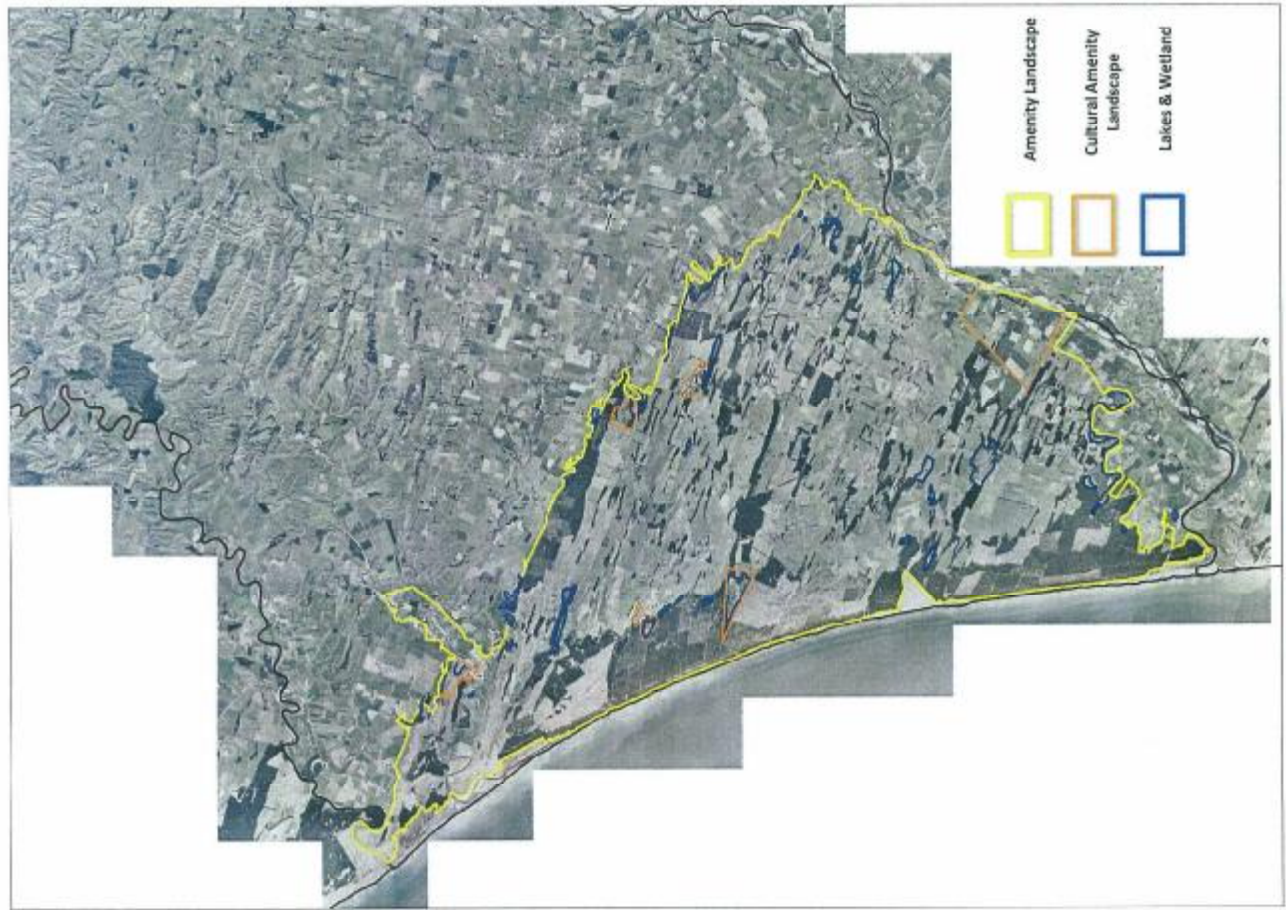


Sheet 20 - Rangitikei Coastal System



Sheet 17 - Central Rangitikei River

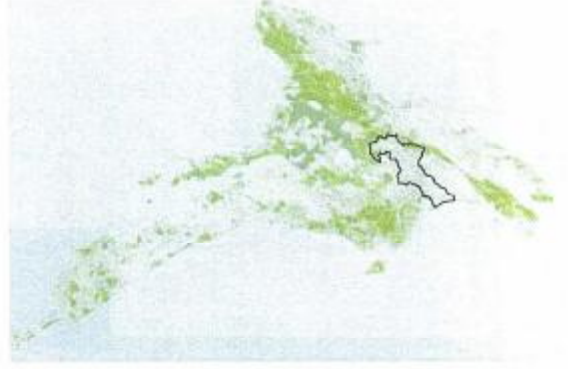
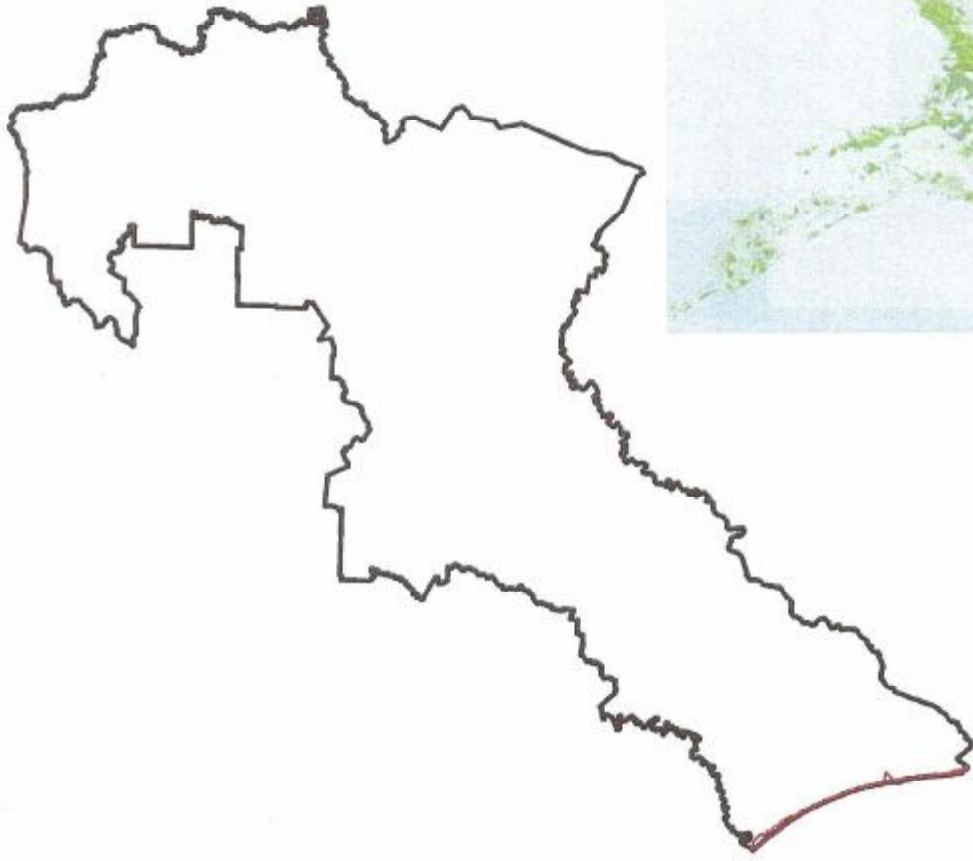






Name:	Rangitikei Coastal System
Location:	Coastal area from Whangape River to Rangitikei River, inland as far as the dune landform parallel to SH3
Description:	Coastal dune system extending from the inland side of the foredunes (excluding foredunes which are classed as Outstanding Natural Landscape - area 20) to inland waters of the remnant dune system parallel to SH3. Now extensively farmed and planted in pine plantations, but small areas of remnant wetland typical of inter-dunal lakes and hydrological flows.
OWU/DNF/Amenity:	Cultural amenity landscape
Natural Science	Geologica/Geomorphological The coastal area comprises a series of uplifted marine terraces, overlaid with an extensive belt of sand dunes blown east in long linear patterns from the coast. Biological/Ecological Low ecological values, with the vast majority of the land devoted to farming or forestry Hydrological The dunes have formed chains of small lakes of varying sizes, and also trapped water to form wetlands. Due to drainage, there is now little remnant wetland of the former hydrological systems Memorability Low degree of memorability, with character typically extensive areas of pasture or pine plantation. Legibility/Expressiveness Dunes are expressive of the coastal processes, where sand has blown inland for many kilometres Transient Climatic values, particularly wind Aesthetic Low aesthetic values, with extensive areas of farmland and forestry plantations Neutrality Highly modified from natural coastal dune and wetland system
Perceptual	
Associational	Historical Contains sites of Maori reservations at Parewani, Lake Kalkokopu, Lake Pukepuku, Tarukina River and the beach area between the Turukina River and the Whangape River. Rātana church at Batana, and the historic missionary church from <i>Parewani</i> now relocated to Tanglemoana. The effect of early transactions with the Crown resulted in Ngāiō Apa being located on reservations, especially at Parewani and between Turukina and Whangape River mouths, Whangape River across to Rangitikei River by Parae Karatu, and losing legal access to much of their former coastal lands. Many of the wetlands have now been drained for pasture, nutrient levels have risen, water courses are treated as drains and kept clear to speed runoff, and coastal waters have been fished. The effect is to further diminish their relationship with the land. Teianga Whenua The coastal area was of very high significance to Maori prior to European arrival, providing food sources from the sea, shellfish, wetlands and lakes. Hax was harvested, streams were utilised for fishing, rivers for canoe access to sea fishing, and local landmarks for navigation. After European purchase of the land, Maori were located onto several reservations, where intense living conditions prevailed. This containment denied Maori the ability to maintain their relationship with the coastal landscape, and the forces that came through their use and understanding of the land were gradually severed. The reservation sites (Landscape Area 20 maps) are areas where artefacts and sacred objects potentially remain, and have cultural connections signifying past occupation and presence. The entire coastal area is now highly modified from the time of sole Maori use, with pastoral farmland on the plains and pine plantations on the dunes. Small remnants of streams, lakes and wetland systems remain, and these are also identified in the Landscape Area 20 maps, but are in degraded states and isolated rather than connected as the coastal wetland system would have been. The location of the reservations, which were densely populated, and the <i>whi</i> 's lineage of intense connection to this land gave them mana and gives the area high associational values for Maori.
Potential Threats	Shored/Recreational The landscape values of the area are of highest importance to Maori, although the area provides recreational values for river users and vital livelihood values for land owners. Recreational River users, lake users such as the canoeing ground at Lake Dudding. Further drainage of wetland areas, large scale excavation such as for drainage. Wind turbines in culturally sensitive areas
Summary of Key Values	High cultural significance for Maori. The values of the site related to the mana, security and livelihood gained from its ecology and food sources. A very rich area, providing for physical and spiritual well being. Also, the reservations have a strong cultural significance, being the areas that were defined for Maori occupation. While extensively modified and in many cases unrecognisable in the pastoral/forest landscape, this landscape still has high cultural associational values. These values relate not only to a lineage of occupation and mana gained from the land, but also the loss of mana through confinement to the reservations and the resulting desperation, anger and inability to exercise <i>haukaiti</i> . Any further degradation of this area from activities such as excavation or further drainage would further diminish the <i>whi</i> 's connection with the land and thus their spiritual well being, adversely affecting their ability to exercise <i>haukaiti</i> . The identifiable areas for the reservation and of remaining wetlands and lakes have been located on the Landscape Amenity Map for the area. Further degradation of these areas by excavation or drainage should be avoided.
Potential policies	Avoid further drainage of wetland areas, or excavation that may expose artefacts in former settlement areas. Encourage activities that help restore water quality, fisheries and ecological vitality including traditional plants throughout the coastal area. Acknowledge past Maori relationship with this land, and the role reservations played in denying this relationship. Avoid wind turbines in locations that affect the values associated with culturally sensitive areas, including wetlands and former reservations.

Sheet 21 - Rangitikei Foredunes





Name:	Rangitikei Foredunes
Location:	Whangape River and Rangitikei River
Description:	Coastal foredunes
ONL/ONF/Amenity:	Outstanding Natural Landscape
Natural Science	Active coastal dune system Modified vegetation, covering dunes between high water mark and pine plantations Coastal lagoons, which contribute to function of the coastal processes where rivers meet the sea
Perceptual	Memorable for extensive unbuilt coastal foredune system Clearly expressive of coastal dune processes Climatic conditions of wind, coastal birds High aesthetic value due to linear extent of unbuilt coastal frontage Generally high naturalness, but with some areas of modification due to tracks and non-native vegetation. Naturalness also influenced by proximity of settlements and pine plantations parallel to the beach
Associational	Historical Tangata Whenua Shared/Recognised Recreational Foredunes are part of the wider coastal dune system (discussed in area 19), which was highly significant to Maori. The foredunes themselves are of less direct value, but are essential in allowing the beach to breathe and the inland area to function as a healthy dune and wetland coastal system. Dunes recognised for the importance they play in coastal processes Foredunes accessed from coastal settlements
Potential Threats	Erosion, loss of vegetation cover, earthworks, drainage
Summary of Key Values	Vital contribution to healthy functioning of coastal processes and erosion control. High aesthetic values of naturalness resulting from extensive unbuilt coastal strip. Cultural associational values of spiritual well being and kaitiakitanga for Maori.
Potential policies	Avoid ground disturbance and maintain free of development.

