

Ōpōtiki Landscape Review
Outstanding Natural Landscape Evaluation and Mapping
Prepared for Ōpōtiki District Council
8th July 2016

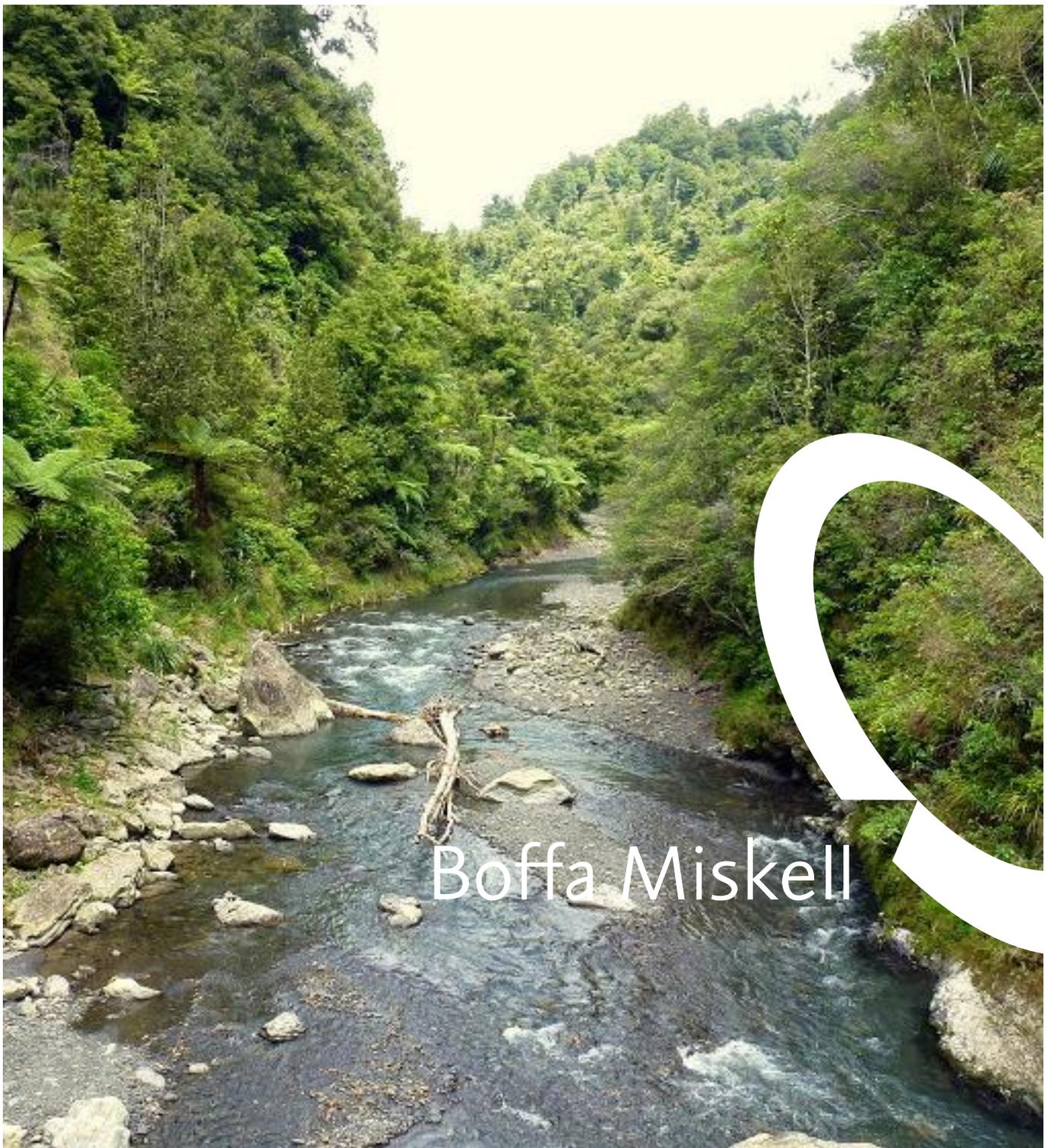


Table of Contents

Contents

1.0	Introduction	4
1.1	Background	4
1.2	Landscape Meaning and the District’s Statutory Context	5
2.0	Methodology.....	8
2.1	Landscape Evaluation.....	8
3.0	Outstanding Natural Landscape Evaluations	12
4.0	Potential Future Land Uses and Management Mechanisms	13
4.1	Tree planting and Forestry.....	13
4.2	Earthworks and Quarrying	15
4.3	Removal of native vegetation	15
4.4	Subdivision, Buildings and Structures	16
4.5	Flood Protection and Coastal Erosion.....	18
	Appendix 1 – Collation of ONFL value descriptions	29
	Appendix 2 –Geographic Information System (GIS)	31
	Appendix 3 – Maps	32
	References	33

1.0 Introduction

1.1 Background

The Ōpōtiki District Council (ODC) is currently undertaking a review of its District Plan. A Draft version of the District Plan was released in October 2015 and the Proposed Plan is due to be notified in July 2015. In order to ensure that the identified Outstanding Natural Features and Landscapes (ONFLs) are consistent with those identified by Bay of Plenty Regional Council (BOPRC) within the region. These regional ONFLs are based on a review undertaken by Boffa Miskell (BML) in 2007.

ODC and BOPRC have requested Boffa Miskell to undertake a review of the regional ONFL assessment (BML, June 2007) within the Ōpōtiki District. The 2007 study identifies approximately 80% of the Ōpōtiki District's land area as ONFLs. Much of the ONFLs is undeveloped multiple owned Maori land.

Whilst identifying important landscapes Ōpōtiki District Council is also seeking to enable the development and growth within the District, recognising opportunities within multiple owned Maori land. ODC have requested BML to further refine ONFLs in the Ōpōtiki district, where possible, to exclude areas that do not exhibit values and characteristics that contribute to the natural features or landscapes being outstanding at a district scale.

BOPRC requested that the district ONFLs be identified on the planning maps and that the planning provisions are included within the Proposed District Plan. Areas subject to ONFL overlays will require planning provisions so land use, subdivision and development is managed to ensure it is appropriate and avoid, remedy or mitigate any adverse effects on the values and characteristics that make natural features and landscapes outstanding. BML has also been asked to provide guidance to ODC and BOPRC on landscape management and planning provisions for the Proposed District Plan, recognising the objective to promote the development of multiple owned Maori land. This would include information to assist consideration of the potential landscape implications of resource consents applications.

The Bay of Plenty Regional Policy Statement Appendix F set 2 outlines the criteria that have been used to assess and identify ONFLs within the region. The brief for this study also requires the application of these criteria in this review. As part of this report, all relevant ONFL descriptions from the regional and district landscape assessment have been collated as part of an inventory of identified areas (see summary of ONFL areas in Section 3 and detailed descriptions in Appendix 1). The values outlined in Appendix 1 of this report in the form of PDF extracts for each ONFL are to be included in the GIS mapping metadata for an online resource provided by the council.

Maps included in Appendix 3 of this report show the identified ONFL areas (both 2007 BOP and 1998 ODC), as well as areas that could be further refined in terms of their boundary definition based on more detailed mapping results based on aerial photography for the district.

Finally, the brief required recommendations on whether ONFLs can be categorised to form common landscapes and feature types with tailored planning provisions to manage their vulnerability to change and how they should be managed. Commentary is provided on where protection mechanisms should be focused or prioritised in terms of management mechanisms and outcomes sought in the light of potential threats to degradation of the ONFL.

1.2 Landscape Meaning and the District's Statutory Context

For the purpose of this report 'landscapes' have been interpreted as the geographic products of interaction between human societies and culture with the natural environment. While natural processes established the land on which we live, human processes have modified the land with various characteristic activities and patterns. Because the human and natural processes are subject to change and evolution, landscapes are dynamic systems which will be subject to further change in the future. This understanding is consistent with the purpose, principles, definitions and interpretations of the Resource Management Act (RMA), which provides the context for this study.

The RMA's references to landscape are both explicit and implicit. In "Landscape Planning Guide - For Peri-urban and Rural Areas", Raewyn Peart suggests that the Act

...“enables the identification of four broad categories of landscapes which merit more dedicated focus in regional and district planning, each with slightly different management objectives: outstanding natural landscapes, landscapes which contribute to visual amenity and/or the quality of the environment, areas of the coastal environment with high natural character and areas with cultural or heritage significance. These categories are overlapping and interconnected and may not always have distinct boundaries.”

She goes on to observe that

“Although landscape management, like any other environmental management exercise, is necessarily going to focus on some priority areas, there is a need to be concerned for the maintenance and enhancement of landscape quality everywhere. All landscapes arguably merit some management consideration under the ‘sustainable management’ purpose of the RMA and the requirement to avoid, remedy or mitigate adverse effects of activities on the environment.”

1.2.1 Purpose of Landscape Management

From a technical landscape perspective, the purpose of management may be characterised as:

- a) avoiding the inappropriate erosion of the intrinsic characteristics and qualities that have built up over time through the interplay of natural and cultural processes; and
- b) enabling development and change to occur that avoids the loss of landscape coherence, diversity and cultural identity and meaning.

This landscape perspective is packaged within the RMA under a number of matters of national importance (Section 6) and other matters to which the Council is required to have particular regard (Section 7). The key sections of the RMA that relate to 'landscape' are the 'natural character of the coastal environment, wetlands, and lakes and rivers and their margins' (Section 6(a)), 'outstanding natural features and landscapes' (Section 6(b)), 'historic heritage' (Section 6(f)) and landscapes which contribute to 'visual amenity' and/or 'environmental quality' (Sections 7(c) and (f)). 'Protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna' (Section 6(c)) and 'the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga (Section 6(e)) are also clearly linked to a broad understanding of landscape.

Natural features and landscapes that do not meet the criteria for being ranked as 'outstanding' can nonetheless qualify for protection under other clauses in Section 6 or be

required to be 'maintained and enhanced' either as 'amenity values' or part of the wider 'environment' Section 7(c) or Section 7(f). Thus, for example, coastal landscapes or rivers/wetlands that were not 'outstanding landscapes' would still be required to have their 'natural character' preserved under Section 6(a), as would areas of indigenous vegetation or habitats of indigenous fauna that were also not considered to be 'outstanding natural features' under Section 6(b), will require protection under Section 6(c).

While all sections of the RMA are relevant, it is Section 6(b) regarding outstanding natural features and landscapes that was the main focus of this assessment at a district scale.

1.2.2 Outstanding Natural Landscapes

Case law has described the word 'outstanding' in 'outstanding natural features and landscapes' in section 6(b) of the RMA as 'conspicuous, eminent, especially because of excellence' and 'remarkable'. A landscape may be magnificent without being outstanding¹. Usually an outstanding natural landscape should be so obvious (in general terms) that there is no need for expert analysis² but analysis is required to determine where an ONL ends.

1.2.3 Regional and District Levels

The Environment Court also found that 'outstanding' can be considered on a regional basis, if being assessed by a regional council. If being considered by a district council, then outstanding must be considered in terms of the district or city. In relation to a district plan, what is outstanding can only be assessed on a district-wide basis, because the sum of the district's landscapes are the only immediate comparison that the council has³.

This approach has been taken for the review of regional ONFLs within Opotikli District, where further refinement was undertaken for the delineation of areas of ONFLs within Ōpōtiki District that are in the BOP RPS, as the scale moves from national, to regional, to local. The focus of this review is natural features and landscapes that are outstanding when assessed at a district level. There is a complex relationship between the status "outstanding" and the scale at which an evaluation is made. Two contrasting approaches have been adopted by various assessments across the country in the past.

The first is based on the identification of additional areas of outstanding natural features and landscapes as the scale moves from national, to regional, to local. While some areas may not meet the threshold to be regionally outstanding, they may well be outstanding within a district (eg a minor mountain range). In this instance district ONLs would be larger than regional ONL areas.

The second approach involves a gradual refinement of outstanding areas as the focus narrows from a national towards a local scale. This may result in broad areas assessed at a regional scale being re-analysed in more detail at a district or local scale and variations in quality identified. Under this 'refinement' model it may be appropriate to be more selective

¹ *Wakatipu Environmental Society Inc v Queenstown Lakes District Council [2000] NZRMA 59 at paragraph 82.*

² *Wakatipu Environmental Society Inc v Queenstown Lakes District Council [2000] NZRMA 59 at paragraph 99.*

³ *Wakatipu Environmental Society Inc v Queenstown Lakes District Council [2000] NZRMA 59 at paragraph 85.*

at a district scale, in particular in instances where regional ONLs include extensive parts of a district. Recent case law (C45/2008 – Briggs et al vs CCC) confirmed that an entire district may be identified as outstanding at a regional scale, while the ONL delineation within the district may differ from the regional outlines.

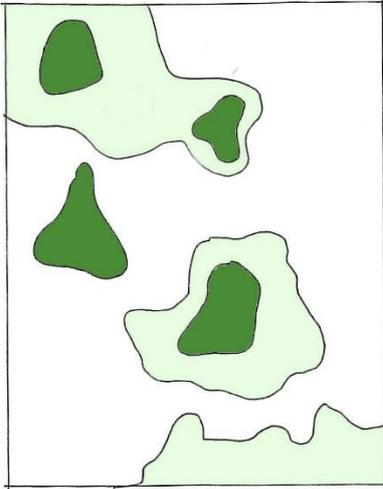


Diagram 1: New areas of ONFL are added as the focus moves from regional to the district level. (dark green - region, light green - district)

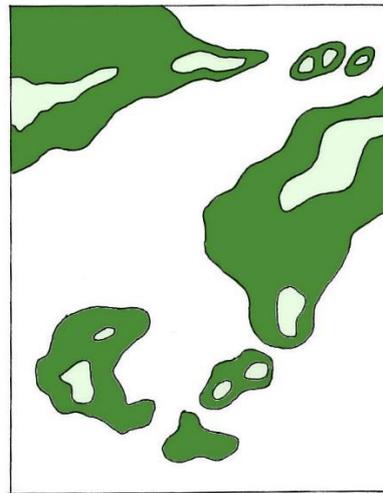


Diagram 2: Gross areas identified at a regional level maybe refined as the focus moves from regional to the district level. (dark green - region, light green - district)

1.2.4 Natural Landscapes and Features

Landscapes are larger areas that are perceived as a whole, which can include a number of features within them. Landscapes can be either experienced from within (eg walking tracks within the inland ranges landscape) or seen as the whole of the outlook (eg the inland ranges forming a backdrop to the coastal landscape). Landscape boundaries can coincide with visual catchments or land type boundaries.

Landscape features are discrete elements within a landscape, which are generally experienced from outside the features' boundaries. Features display integrity as a whole element and can often be clearly distinguished from the surrounding landscape, which forms the context around them. Generally features are defined by their geomorphological landform boundaries, such as coastal headlands or cliffs. However, in some instances (such as areas of native bush) these are defined more readily by landcover characteristics. Small landscapes can nest within larger landscapes. Both landscape and feature are scale dependent (District and Local Scale).

While RMA Section 6(b) refers to both landscapes and features without differentiating between the two, for this Study a differentiation has been made between the identification of Outstanding Natural Landscapes (ONL) and Features (ONF).

2.0 Methodology

As a basis for the landscape character assessment, the study team undertook a desktop analysis of the existing information relating to Ōpōtiki District's landscape, including a review of the Ōpōtiki District Landscape Assessment (BML, 1998), the Outstanding natural features and landscapes review for the Bay of Plenty Region (BML, June 2007 and February 2009) covering the inland areas of the region and the Bay of Plenty Coastal Environment ONFL Assessment against RPS Criteria for assessing the Significance of Natural Features and Landscapes (BML, 2006).

A series of Geographic Information System (GIS) information sets were analysed containing different landscape layers, such as vegetation, landuse and geology. The focus of the GIS and desktop studies was to enable a clearer understanding of Ōpōtiki's landscape without undertaking a complete revision of the District and Regional landscape studies.

An adequate amount of data, including information about land ownership, conservation land and land use capability was assembled despite the restricted timeframes. Following the desktop study one day of site observations was undertaken, by traversing predominantly the district's coastal road. This, as well as familiarity with the landscapes and features from previous work enabled the study team to get an overview of the various landscapes and to better understand the type and extent of current land use trends.

Additional to the desktop analysis was a field assessment that undertook a review of the existing ONFL's from public viewing points, being the road corridor and public reserves. Observations during the field assessment were made on the landcover, landform, natural processes and aesthetic values associated with the identified ONFLs.

2.1 Landscape Evaluation

The landscape of Ōpōtiki District has been modified over the past centuries, which has had detrimental effects on its naturalness in some parts of the district, in particular on the coastal plains. However, the human influence has also added a distinctive cultural layer to the landscape, which is valued by many today. The difficulty the study team faced during the landscape evaluation phase lay in determining whether these landscapes meet the threshold of being 'outstanding at a district level' and whether they are 'natural enough' to qualify as Outstanding Natural Landscapes.

2.1.1 Landscape Assessment Criteria

As mentioned previously, there are various different ways in which landscapes may be appreciated and thresholds for quality determined. The range of criteria that the Environment Court has reinforced for landscape practitioners to consider when valuing landscapes is referred to as the Amended Pigeon Bay criteria or factors⁴. The criteria or factors include (but are not limited to):

1. the natural science factors - the geological, topographical, ecological and dynamic components of the landscape;
2. its aesthetic values including memorability and naturalness;

⁴ *Pigeon Bay Aquaculture Ltd v Christchurch Regional Council [1999] NZRMA 209; Wakatipu Environmental Society Inc v Queenstown Lakes District Council [2000] NZRMA 59 at paragraph 72.*

3. its expressiveness (legibility): how obviously the landscape demonstrates the formative processes leading to it;
4. transient values: occasional presence of wildlife; or its values at certain times of the day or of the year;
5. whether the values are shared and recognised;
6. its value to tangata whenua; and
7. its historical associations.

There is now a level of acceptance in the use of these criteria as an assessment framework. While these criteria have been applied in the 2007 Inland BOP ONFL study and the 2006 coastal study, the Ōpōtiki District Study was undertaken prior to case law defining these factors. The assessment of landscape values within the district study is, therefore, not fully comparable to the methodology applied for the region.

The 2007 BOP landscape study (BML), which served as the basis for this review, assessed the natural features and landscapes of the Bay of Plenty Coastal Environment against the criteria set out in Set 2 Natural Features and Landscapes of the RPS. BML undertook the assessment applying all but the final three criteria; 'Shared and Recognised Values'; Maori Values; and 'Historical Associations'. This is because these criteria are not technical landscape criteria and are outside the scope of the landscape assessment brief. These criteria will be applied by Environment Bay of Plenty staff.

Criteria used to determine whether a feature or landscape should be classified as outstanding were as follows:

Naturalness	or degree of cultural modification / landuse and activities. Thus, pristine areas of the Urewera Forest are highly 'natural' whilst urban areas such as Tauranga are not
Coherence	the pattern of the landscape or feature relative to landform, landcover and landuse
Vividness	the perceived memorability of a feature / landscape
Prominence	elevation in relation to surrounding landform (above or below). Thus, volcanic cone features in a generally flat landscape would be highly prominent
Visibility	number of viewers and their orientation relative to feature / landscape
Geopreservation Value	geological significance, based on the GSNZ Geopreservation Inventory
Ecological Value	ecological significance (vegetation cover / habitat)
Cultural Association	whether the feature or landscape has a name, known story, or significance attached to it

The decision as to whether a particular feature or landscape qualified as "outstanding", was based on an evaluation against these criteria. Once the evaluation of each feature or

landscape against each of the criteria has been established, this was reviewed by the three landscape architects involved in the assessment to determine the overall classifications.

Therefore, it was the collective interpretation of the values associated with each feature/landscape that accorded its status as outstanding, rather than adding areas or values until a particular threshold or benchmark was reached. This latter system of scoring or adding rankings was rejected because a particular natural feature or landscape may be outstanding based on the values associated with one or two criteria only. Conversely a particular natural feature or landscape may have a high ranking for one, or more criteria, yet overall still not be considered as outstanding. Consideration of findings from the previously undertaken studies and limited on-site investigations assisted the study team to determine a landscape's or feature's appropriate boundary outlines. For comparative purposes tables were prepared for the Coastal (BML, 2006) and Inland (BML, 2007) BOP ONFL Assessments, where each of the landscape attributes were rated on a three point scale from High – Medium- Low. The assessment ratings for each regional ONFL have been collated as Appendix 1 to this report.

2.1.1 ONFL Mapping Review

Following the review of the landscape evaluation, the next step the study team undertook was to determine the spatial extent of the ONFLs. The study team was able to delineate areas that displayed high qualities of values based on a number of GIS layers that informed the study and aerial photographs. The GIS layers used for the assessment are detailed in Appendix 2 of this report.

ONFLs have been consistently mapped on aerial photos at a scale 1:25.000, as required for particular features. Depending on the specific values identified for a landscape or feature, a number of different mapping techniques were used in this study to identify boundaries:

1. Land typing Approach: This approach has been applied at a broader scale before refining the boundary outlines with one of the two approaches below. This approach can often be too coarse, but it informed the initial identification of the ONFLs within the inland ranges.
2. Land use Approach: This approach was particularly important for the refinement of regional ONFLs, where the land use/ cover changed throughout the landscape/ feature. This applied for example to some of the inland ranges that contained substantial areas of commercial forestry within a wider hill landscape covered in mature native bush/ forest.

The GIS review of previously identified and potential ONFLs involved an analysis of landuse, landform, and landcover through a variety of GIS data sets and geo-referenced ortho-corrected colour aerial photography (see Appendix 2 for details). The GIS data included the New Zealand Land Resource Inventory, Land Cover Data Base and Land Environments data sets, as well as additional data that identified Department of Conservation (DoC) conservation units and 20 metre contour data.

Finally, the value descriptions from previous reports provided a basis for outlining specific management mechanisms designed to protect the actual outstanding values present. For example, if a landscape is considered to be outstanding because of its biophysical values, appropriate management mechanisms to protect those values may be very different from a landscape that is outstanding due to its cultural heritage values. Of course, in many cases

the value layers will overlap and a landscape will be outstanding for a range of reasons. Management mechanisms should reflect this.

2.1.2 How natural does a landscape/ feature have to be in order to be considered?

As outlined in other Landscape Studies a natural landscape is one possessing a dominance of natural elements, patterns and processes (for instance soil, hydrology, topography and vegetation), over those created by humans. A natural landscape has a predominance of unchanged landforms, functioning water, drainage and soil processes and tree, plant and animal patterns, compared to human developments such as buildings, earthworks, vegetation modification, fencing, roads, quarries, reclamations or subdivision. Under the RMA a landscape does not have to be unmodified to be natural, just relatively unmodified. At issue is the degree of the natural component compared to the degree of human modification, and the balance of dominance of one over the other. This has to be assessed in the context of Ōpōtiki District, which contains large areas of highly natural, native vegetation in the inland ranges.

Court decisions make it clear a landscape need not have indigenous or native vegetation to be considered natural, even though landscapes with a significant component of unmodified native vegetation would be considered more natural and closer to a pristine state. Landscape assessments in New Zealand generally ascribe higher landscape values to unmodified areas, but this does not imply that anything less than pristine is devoid of natural values, just that they are of lesser value⁵. Most of the above issues arose in the 'Plan Change 13 Interim Decision' concerning the Mackenzie Basin. In this Decision the Court determined that landscapes with a wide range of 'High' landscape values can qualify as an ONFLs despite significant modifications.⁶ In the Interim Decision, the Court 'provisionally approved' a seven-point scale of naturalness that might be useful in landscape proceedings (but subject to a caveat about naturalness being a cultural construct).⁷ ONLs can, therefore, be identified in the moderate to high, high or very high range of naturalness, while they would not qualify if they are moderate or below in naturalness. The Court viewed this scale as having potential to standardise references to degree of naturalness in landscape proceedings, and it is therefore adopted in this study. The same paragraphs of the Mackenzie Basin Interim Decision also discuss the degree of naturalness necessary for a landscape to be an outstanding natural landscape. It states that the criteria of 'naturalness' usually include:

- relatively unmodified and legible physical landform and relief;
- the landscape being uncluttered by structures and/or obvious human influence;
- the presence of water (lake, river, sea);
- the presence of vegetation (especially native vegetation) and other ecological patterns.

⁵ *Wakatipu Environmental Society Inc. v Queenstown Lakes District Council* [2000] NZRMA 209 at paragraphs 88 and 89.

⁶ *High Country Rosehip Orchards Ltd v Mackenzie District Council* [2011] NZEnvC 387, paragraphs 105 - 106, but also the general discussions in 76 – 105.

⁷ *High Country Rosehip Orchards Ltd v Mackenzie District Council* [2011] NZEnvC 387, paragraphs, paragraphs 93 - 95

The subsequent discussion makes it clear the Court regards naturalness as comprising a balance between the natural and cultural components of a landscape⁸. It concludes that modified landscapes, and not just pristine ones, can qualify as ONFL.

3.0 Outstanding Natural Landscape Evaluations

The following tables summarise the ONFLs previously identified in the region and district. It is worth noting that all regional ONFLs have also been identified on a district level, while the regional ONFLs exceed the size and extent of the district ONFLs, which were identified in the 1998 Ōpōtiki landscape assessment. The focus of the boundary review was on these areas that were identified on a broader regional scale, but currently fall outside the district ONFLs.

Of the following three Outstanding Natural Landscapes and 21 Outstanding Natural Features are identified. Some ONFL's identified for the region were removed as they did not regionally display qualities of being identified as Outstanding⁹. Coastal Regional ONFL's excluded from this review comprise those areas that fall below Mean High Water Spring (MHWS) where they fall within the jurisdiction of Bay of Plenty Regional Council, for example Ohiwa Harbour and Waitotahi Estuary.

Inventory of BOP Regional ONFLs within Ōpōtiki District

No.	ID Report	Name of ONFL	Source	ONL	ONF
1	ONFL 78 (67)	Ikawhenua Forest and Urewera Forest Inland	BOP ONFL 2009	L	
2	ONFL 81 (67)	Otamaroa Inland	BOP ONFL 2009	L	
3	ONFL 41 (S32)	Steep Coastal Hills between Cape Runaway & Lottin Point	BOP Coast ONFL 2006	L	
4	ONFL 21 (S17)	Uretara Island	BOP Coast ONFL 2006		F
5	ONFL 22 (S18)	Pataua Island	BOP Coast ONFL 2006		F
7	ONFL 24 (08)	Waitotahi Spit and Estuary Mouth	BOP Coast ONFL 2006		F
8	ONFL 25 (S20)	Pohutukawa tunnels over State Highway 2 at Waitotahi	BOP Coast ONFL 2006		F
9	ONFL 26 (S21)	Tarakeha (Opape)	BOP Coast ONFL 2006		F
10	ONFL 27 (S22)	Haurere Point	BOP Coast ONFL 2006		F
11	ONFL 28	Pehitairi Point	BOP Coast ONFL 2006		F
12	ONFL 29 (S23)	Haumiaroa Point	BOP Coast ONFL 2006		F
13	ONFL 30 (S24)	Whituare Bay	BOP Coast ONFL 2006		F
14	ONFL 31 (S25)	Maraenui Escarpment (Whituare Bay)	BOP Coast ONFL 2006		F
15	ONFL 32 (09)	Motu River Mouth	BOP Coast ONFL 2006		F
16	ONFL 33 (S26)	Orangoihunui Point & Whitianga Bay, Whitianga Bay to Ohae Point	BOP Coast ONFL 2006		F
17	ONFL 34 (S27)	Motunui Island and Associated Reefs	BOP Coast ONFL 2006		F

⁸ *Long Bay-Okura Great Park Society Inc. v North Shore City Council, EnvC Auckland A078/08 16 July 2008 at The issue is considered also in Long Bay-Okura Great Park Society Inc. v North Shore City Council, EnvC Auckland A078/08 16 July 2008 at The , paragraphs 133 – 135.*

⁹ Refer Appendix 3 of Bay of Plenty Outstanding Natural Features and Landscapes Review, June 2007.

No.	ID Report	Name of ONFL	Source	ONL	ONF
18	ONFL 35 (010)	Whanarua Bay	BOP Coast ONFL 2006		F
19	ONFL 36 (S28)	Ruakokere River Mouth	BOP Coast ONFL 2006		F
20	ONFL 37 (S29)	Oruaiti Beach, offshore rocks and Waikanapanapa cliffs	BOP Coast ONFL 2006		F
21	ONFL 38 (S30)	Whangaparaoa dunefield, wetland and estuary	BOP Coast ONFL 2006		F
22	ONFL 39 (S31)	Kopongatahi Point	BOP Coast ONFL 2006		F
23	ONFL 40 (011)	Cape Runaway	BOP Coast ONFL 2006		F

4.0 Potential Future Land Uses and Management Mechanisms

Within this section landscape, vulnerability to a variety of human activities is addressed as part of the potential landscape management mechanisms. Landscape mechanisms would ideally be targeted to the identified sensitivities and threats within each specific ONFL area, but a range of generic aspects of landscape management that apply to all ONLs and ONFs are outlined below to reflect the wider range of values. Potential land uses that may change the appearance and identified values of various ONFLs are identified. The list is, however, not necessarily comprehensive and the future may hold a different range of uses that cannot be anticipated at the moment.

Methods of managing the effects of landuse activities within Outstanding Natural Landscapes and Outstanding Natural Features is subject to the scale of the feature and the dominant factors, values and associations for its identification as Outstanding. Section 5.0 details the key values, threats and management mechanisms for each of the Outstanding Natural Features and Landscapes.

4.1 Tree planting and Forestry

Tree planting, particularly exotic plantation forestry, can have visual effects on the openness of the landscape and in some cases this reduction in openness can have adverse effects on the legibility of landscapes and features. Tree planting for commercial purposes, such as plantation forestry, is often linear in form with distinctive, unnatural edges and generally consists of exotic, single species monocultures. This results in an 'unnatural' appearance of plantation forests compared with indigenous vegetation communities, which generally contain a variety of plants of different age, size, colour and texture, which follow the natural terrain with more natural edges and transitions.

The landscape effects of the larger scale, commercial plantation forests can also include the creation of access tracks and visual scarring of the landform during harvesting. Sedimentation and erosion are other potential environmental impacts from conventional plantation forestry, which in turn can effect waterways. On the other hand, tree planting for ecological restoration purposes and/or other methods of forestry including both indigenous and exotic continuous canopy forestry can have positive impacts on ecological values, landscape, soil and waterways.

When considering the effects of tree planting the scale, location and layout in relation to the underlying landform, species composition and edge treatment should be taken into account. While small-scale woodlots, shelterbelts, riparian planting, restoration and erosion control

planting may be widely accepted in sensitive landscapes, large scale commercial forestry, particularly involving clear-felling of single species, could lead to significant visual and physical effects that causes degradation of landscape values.

- Consideration should be given to:
- The scale of planting;
- Mix of species and the effect on the naturalness of the landscape;
- Visual domination, and in particular effects on openness of the landscape (if appropriate);
- The potential for the planting to block views from roads and other public or culturally significant places;
- Effects on existing vegetation patterns and any positive or negative impacts on ecological values;
- Layout, including spacing and pattern;
- Relationship to other areas of forestry and the potential for cumulative effects on landscape values;
- Potential to obscure or encroach upon important landforms;
- Location and visibility of tracks (covered by earthworks matters); and
- The purpose of the planting.

The main visual issues associated with forestry activities on the plains relate to the loss of openness of the landscape. Currently the plains offer views across a relatively open landscape to the enclosing hills and landform features of the ranges and islands. The establishment of forests on the plains especially adjacent to viewing corridors such as roads could transform this expansive open space environment to an enclosed corridor environment with restricted visibility. On flat land forestry activities can alter visual character turning a once open panoramic landscape into an enclosed, more intimate -scaled environment. Intensive horticulture with tall shelter planting generates similar visual change when viewed from the road. It is, therefore, recommended to consider appropriate setback distances from the scenic roads in the district.

Potential future forestry expansion in the Cape is an issue particularly within the coastal environment and in areas visible from the Pacific Highway Scenic Route. Of significance is the location and pattern of forestry relative to the natural landform features, the coastal margin and existing native bush areas. Activities associated with earthworks, roads, and harvesting operations have the potential to generate adverse visual effects. Mitigation of these visual effects through forest management practices should be a priority in these highly visible locations. The effects can, for example, be mitigated by the retention of a vegetative buffer along the main visible edges - generally the road corridor. Where this buffer strip is planted in permanent native species the effects generated can be beneficial improving the visual character of the location.

Forestry expansion within the foothills is potentially of high visibility which can generate adverse landscape effects on the natural patterns of the identified Outstanding Natural Landscapes, if not appropriately designed and managed. Of particular significance can be the pattern of forestry relative to the natural landform and scarring associated with thinning and harvest operations. Mitigation of the potential adverse visual effects of forestry within the foothills areas can be more difficult to achieve than in flatter landscapes. The size and outline of new forestry blocks, should, therefore be managed to ensure that the outlines

follow landform boundaries as much as possible. Forest patterns - the orientation of rows, extent of blocks, location of fire breaks, sequence of felling, location of windrows and replanting methods can be designed and located to relate to the pattern of the landform.

4.2 Earthworks and Quarrying

Earthworks can leave exposed and cut surfaces which often contrast with surrounding vegetation and natural contours. Earthworks and quarrying can also completely destroy natural contours, depressions and historic landscape features and landforms, some of which may be significant to tangata whenua.

In particular, if earthworks are carried out on slopes, the scarring can be visually prominent with an adverse effect on the surrounding landscape. The location, shape, volume and size of earthworks generally determine their visual impact, but other factors, such as extent and treatment of cut, batter and spill on slopes are also important aspects that can influence the landscape outcomes of larger-scale earthworks. On slopes, large-scale earthworks can also lead to erosion which can cause adverse visual effects over extensive areas, including increased sedimentation in nearby waterways.

The effects of quarrying can vary significantly depending on the type of extraction (eg rock quarry with exposed faces or gravel extraction from pits of a river). The extent of visibility is influenced by the location of the site and its elevation compared to surrounding viewpoints, as well as the scale of abstraction (vertical and horizontal extent). Apart from visual effects, ecological and cultural aspects of landscape values also need to be taken into account, particularly where significant ecological and/or cultural sites exist.

4.3 Removal of native vegetation

For many of the ONFLs, the presence of both mature remnant and regenerating indigenous vegetation is an important contributing factor that adds to the natural science, ecological and cultural values of the areas. The quality and quantity of native vegetation cover varies considerably between ONLs. The extent and species composition of vegetation cover/remnants needs to be considered when effects of vegetation removal are to be assessed. There is a strong overlap with parts of the district plan that are aimed at protecting the biodiversity of the district.

From a landscape perspective consideration should be given to the extent to which the loss of indigenous vegetation will adversely affect:

- The natural science values of an ONFL
- The overall natural character of an area, including its natural elements, patterns and processes;
- Indigenous ecosystem integrity and function;
- Cultural values;
- Natural character associated with the coast, a water body or wetland

Furthermore, where restoration of native vegetation can contribute positively to the existing values, consideration for not only protection, but enhancement should be given.

The inland mountains and foothills are characterised by extensive, elevated ranges clothed predominantly in native bush. This landscape is the most extensive of the District, covering the majority of the land area. The type extends to the coast over the central third of the

District and contains the Raukumara Range which extends from the East Cape to the Kaihikatea Range. The ranges provide the major east-west divide between the Bay of Plenty and Poverty Bay. Most of the inland ranges fall within the Urewera National Park and numerous Forest Parks also administered by the Department of Conservation.

The vegetated mountain ranges provide a backdrop for the more populated areas of Ōpōtiki District. The layering of the ranges from a number of vantage points along the Pacific Highway Scenic Route is particularly impressive and often, in certain light conditions, dramatic. Although most of the area is protected as National Park and Crown Reserve, issues, including removal of native vegetation, relate to the management of those areas in private ownership, particularly where the ranges extend out to the coast and are prominent in one's view travelling along the State Highway 35.

4.4 Subdivision, Buildings and Structures

Buildings and structures have the potential to modify the landscape depending on their location in relation to the topography, size/ scale/ height, form, colour, materials and finish as well as surrounding existing, former and proposed vegetation. For residential dwellings, landscape change can also relate to other consequential modifications that lead to domestication, such as gardens, driveways, washing lines, etc.

Within rural districts identified ONFLs are often not suitable for intensive development due to their remoteness and often difficult access (eg for districts that contain ONFLs in the hill country). For parts of Ōpōtiki the proximity of an attractive coastline puts increased pressure for residential development on the coastal edge and plains compared to rural areas in other districts. It may be appropriate to identify areas that are suitable to absorb residential and industrial development outside the ONFLs to ensure future development is planned in a strategic rather than reactive manner.

Structures can also include telecommunication towers, electricity pylons, wind turbines, solar panels and other non-residential buildings, such as sheds or commercial/ industrial buildings. Ridgelines are particularly sensitive to the locations of structures, since their appearance on the skyline is often visually prominent from a variety of viewpoints. Likewise (remnant) river channels and wetland basins/depressions are sensitive to the development of residential and industrial land as they are low-lying and often overlooked. The expressiveness of particularly legible landforms may be modified by subdivision, buildings and structures, if they physically and visually dominate their surroundings.

Consideration of the following factors should be taken into account when assessing landscape and visual effects of subdivision, buildings and structures in ONFLs:

- Type of subdivision/building/structure and the effects on the rural/ natural / cultural landscape character;
- Location in relation to the landform and topography and specific landscape features that are particularly legible within the ONFL;
- Scale, form, and finish of any structure, including colour and materials;
- Impact on coherence of landscape character or pattern of natural features such as indigenous vegetation, coastal escarpments, ridges, rock outcrops, river channels, springs and wetland basins etc;

- The nature and extent of existing development within the vicinity or locality;
- Whether or not the proposal is likely to lead to the introduction of urban/ domestic elements into the landscape, inconsistent with rural or visual amenity values.
- The extent to which the number of dwellings or the building location and coverage on a site would degrade, visually dominate or contrast with existing character, landforms and amenity values;
- The need for any increased height of a building/structure in order to undertake the proposed activity and how this may detract from views and outlook from adjoining properties or from public roads and places;
- Cumulative effects and potential to visually dominate the landscape;
- The benefits that may be obtained from clustering of buildings/ structures within the landscape;
- It would be beneficial to provide design guidance in the District Plan or through other non-statutory documents, which allows for detailed consideration of and the extent to which any design of any buildings or structures conforms with design guidance provided.

Threats to landscapes can also arise from cumulative effects from a variety of activities or from incremental development over time, such as sprawl or ‘creep’ of development where an existing modification in the landscape leads to further co-location of modification.

As part of an assessment of landscape effects, opportunities for benefits should, however, also be taken into account. These benefits could include opportunities to remedy or mitigate an existing adverse effect and opportunities to protect open space from further development through eg the use of restrictive covenants. The extent to which a proposal avoids fragmentation of the landscape and allows for the physical and visual connections between natural features and elements should also be taken into consideration.

The coastal plains within the district contain the major urban area of Ōpōtiki, which means that many of the major issues in this area relate to the potential for urban sprawl (including industry), the provision of rural and residential lifestyle blocks and the potential expansion of coastal residential areas. The conflict these uses may have with the existing rural character derived principally from the pastoral and horticultural land uses is one to be managed through the planning provisions.

Continuous ribbon development along roads leading out from Ōpōtiki should be discouraged as it reduces the discrete visual quality of the township and the delineation between the urban and surrounding rural landscape.

Should large-scale industry wish to locate within the plains area, sites should be chosen that have a landform context that assists with integration (i.e. near the foothills). Other provisions, such as, large scale (in area and size) woodlots should also be used to assist in visual integration. Buildings can be absorbed into the rural landscape most successfully when they are related to existing integrating features such as vegetation or a land backdrop. In particular remnant native bush provides a natural element, improves ecological diversity, and makes a connection with the historical landscape patterns of the locality. Protection and enhancement of those remnants provides a natural setting for rural farming activities and further subdivision.

The coastal edge of the plains includes a number of outstanding natural features in addition to the sensitive rocky and gravel beaches. With increasing pressure for residential and lifestyle subdivision in coastal areas in the western part of the District and Region, it may be a matter of time before this pressure extends into the foothills. The protection of the natural character of the highly sensitive coastal landscape should be of high importance, also reflecting the requirements of the Coastal Policy Statement 2010 and Variation 1 to the Regional Policy Statement. In particular the protection of the natural landform character, intact vegetation, ensuring an appropriate scale of development and retention of the dominance of natural processes and character are critical with any proposed development.

4.5 Flood Protection and Coastal Erosion

Flood protection and retention works, land drainage and stormwater can also affect the values of ONFLs, particularly where these are associated with waterways or wetlands and associated ecological and cultural values. Consideration of a range of matters to protect and/or enhance waterways from such works is important.

Most of the fluviially (river) derived areas throughout the plains have extensively modified drainage systems, with some remnant wetlands and lowland vegetation. In some areas the landform is gently undulating. This is either in areas that provide a transition from the foothills or in and around the coastal dunelands.

The dunelands along the coastal edge exhibit strong linear and parabolic (curved) dune formations due to the dual actions of the sea and wind respectively. These landforms tend to be relatively subtle and sensitive to change.

5.0 Recommendations

The following recommendations are provided for each of the identified Outstanding Natural Features and Outstanding Natural Landscapes identified through this review.

5.1 Outstanding Natural Landscapes

Outstanding Natural Landscapes	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
ONFL 78 (67) Ikawhenua Forest and Urewera Forest and Inland Forest	Extensive area of contiguous native forest modified at edges along main river valleys. Large areas of cleared bush within forest have been excluded. Managed under a variety of mechanisms, for example includes part of Whirinaki Forest Park, Te Urewera National Park, Waioeka Conservation Area, Waioeka Gorge Scenic Reserve, Urutawa Conservation Area, Toatoa Scenic Reserve and Whitiakau Scenic Reserve and Ruakumara Forest Park. An extensive area of upland forest of national significance with high ecological values and landscape integrity in relation to landscape structure and landscape function. Very high Cultural Values.	<p>High Natural Science Factors: Recognised characteristic of the upland forest landscape and backdrop to the District. In a good state of preservation despite extensive historical logging. There are high natural science research values to this area with the extent of the forest coverage significant and rare with a high diversity of forest and ecosystem types.</p> <p>High Aesthetic Values with strong cohesive upland indigenous forest landscape patterns depicting the variety of steep to very steep upland topography and valley systems. The scale, elevation and visibility at a District Wide scale provide a striking and memorable landscape. Margins of the forest adjoining road corridors create highly memorable experiences. A high level of naturalness with human modification and settlement within the area having a relatively low impact on the scale of the landscape and extent of forested area.</p> <p>Highly Expressive of upland volcanic topography and weathered terrain and natural processes that form the landscape.</p> <p>High Transient values with varying weather conditions, forest flowering, seasonal change in river and valley systems through this landscape.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Production Forestry <ul style="list-style-type: none"> Degradation of the natural patterns through removal of large areas of native forest cover. Scarring of the landscape through significant earthworks for road access or vegetation removal. Large scale earthworks and quarrying Infrastructure, including power generation. <p>Low Risk</p> <ul style="list-style-type: none"> Land subdivision Small scale buildings Tracks and small access roads Small scale vegetation clearance 	<ul style="list-style-type: none"> Minor change can be accommodated with small areas of native bush removal for dwellings or buildings, pedestrian tracks or vehicle tracks. Avoidance of large forestry removal. Avoidance of minor clearance alongside road corridors. Highly expressive areas with strong experiential values to the naturalness of the landscape. Policies can accommodate small scale change within the landscape scale feature Avoidance of earthworks and clearance along or near to ridgelines 	<ul style="list-style-type: none"> Some margins of the ONFL area where the native bush cover is compromised with exotic forestry and agricultural land practices are recommended to be removed. The driving factor for the landscape identification is the relationship of native landcover with the landform. Exclude the public road corridors from the ONFL but include the margins on either side of the road corridors.
ONFL 81 (67) Otamaroa Inland	Steep upland range continuum from the Mangatoetoe Stream corridor to Whangaparaoa River corridor and the seaward slope of Tapuaeharuru-Tutaewhakaipiki ridgeline west to Otamaroa and State Highway 35. Majority of area outside of the regional boundary.	<p>High Natural Science Factors: Recognised characteristic of the forest landscape and backdrop to the District. In a good state of preservation despite extensive historical logging. There are high natural science research values to this area with the extent of the forest coverage significant and rare with a high diversity of forest and ecosystem types.</p> <p>High Aesthetic Values with strong cohesive upland indigenous forest landscape patterns depicting the variety of steep to very steep upland topography and valley systems. The scale, elevation</p>	<p>High Risk</p> <ul style="list-style-type: none"> Production Forestry <ul style="list-style-type: none"> Degradation of the natural patterns through removal of large areas of native forest cover. Scarring of the landscape through significant earthworks for road access or vegetation removal. Large scale earthworks and quarrying Infrastructure, including power generation. 	<ul style="list-style-type: none"> Minor change can be accommodated with small areas of native bush removal for dwellings or buildings, pedestrian tracks or vehicle tracks. Avoidance of large forestry removal. Avoidance of minor clearance alongside road corridors. Highly expressive areas with strong experiential values to the naturalness of the landscape. Policies can accommodate small scale change within the landscape scale feature Avoidance of earthworks and 	<ul style="list-style-type: none"> Some margins of the ONFL area where the native bush cover is compromised with exotic forestry and agricultural land practices are recommended to be removed. The driving factor for the landscape identification is the relationship of native landcover with the landform. <p>Exclude the public road corridors from the ONFL but include the margins on either side of the road corridors.</p>

Outstanding Natural Landscapes	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		<p>and visibility at a District Wide scale provide a striking and memorable landscape. Margins of the forest adjoining road corridors create highly memorable experiences. A high level of naturalness with human modification and settlement within the area having a relatively low impact on the scale of the landscape and extent of forested area.</p> <p>Highly Expressive of upland volcanic topography and weathered terrain and natural processes that form the landscape.</p> <p>High Transient values with varying weather conditions, forest flowering, seasonal change in this landscape</p>	<p>Low Risk</p> <ul style="list-style-type: none"> • Land subdivision • Small scale buildings • Tracks and small access roads • Small scale vegetation clearance 	<p>clearance along or near to ridgelines</p>	
<p>ONFL 41 (S32) Steep Coastal Hills between Cape Runaway & Lottin Point</p>	<p>Steep coastal hill land with dramatic landforms depicting the natural volcanic and coastal processes of the landscape. Productive agricultural practices occur on the land which contribute to the recognition of the coastal patterns.</p> <p>Productive rural practices have contributed to the identification of the landscape as Outstanding with the natural science and aesthetic values forming key attributes to this landscape.</p>	<p>Moderate Natural Science Factors identified with distinctive steep coastal hill face that extends to a steep rocky shoreline. Grazed pasture dominates the landscape with some remnant pockets of native vegetation and individual groupings of native shrubs and trees. The landform is rare at a regional and district scale with the composition of a rocky shoreline and steep coastal hills.</p> <p>Moderate Aesthetic values with a largely denuded landscape of limited indigenous vegetation through pastoral farming with some vegetation remaining in gullies and along the shoreline. A highly vivid and distinctive landform with the open pasture revealing the dramatic landform. Naturalness is moderate with modification to the natural biotic patterns high. Remnant native vegetation reinforces natural patterns.</p> <p>Moderately to Highly Expressive of the natural processes that formed and continue to shape this landscape.</p> <p>Low Transient values identified for this landscape.</p>	<p>High Risk</p> <ul style="list-style-type: none"> • Production Forestry <ul style="list-style-type: none"> ◦ Introduction of productive forestry that results in incongruent patterns and resulting operational change to the landscape. • Scarring of the landscape through significant earthworks for road access. • Subdivision and development that results in the loss of the natural patterns and landforms that are expressive of the natural processes and patterns. <p>Low Risk</p> <ul style="list-style-type: none"> • Continued farming practices including fencing, access tracks. 	<ul style="list-style-type: none"> • Enable the continuation of pastoral farming practices within the landscape including fencing, small access tracks • Avoidance of introduction of large areas of forestry. • Avoidance of large areas of earthworks and quarrying. • Management of built form within the coastal landscape to ensure the landscape remains dominant, including managing the scale, colour and bulk of built form in the landscape. • Type of subdivision/building/structure and the effects on the rural/ natural / cultural landscape character; • Location in relation to the landform and topography and specific landscape features that are particularly legible within the ONFL; • Scale, form, and finish of any structure, including colour and materials; • Impact on coherence of landscape character or pattern of natural features such as indigenous vegetation, coastal escarpments, ridges, rock outcrops, river channels, springs and wetland basins etc; • The nature and extent of existing development within the vicinity or locality; • Whether or not the proposal is likely to lead to the introduction of urban/ domestic elements into the landscape, inconsistent with 	<ul style="list-style-type: none"> • Some margins of the ONFL area where the forestry is sited and the landform is not the dominant feature of this area of the landscape.

Outstanding Natural Landscapes	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
				<p>aesthetic values.</p> <ul style="list-style-type: none"> • The extent to which the number of dwellings or the building location and coverage on a site would degrade, visually dominate or contrast with existing character, landforms and amenity values; • The need for any increased height of a building/structure in order to undertake the proposed activity and how this may detract from views and outlook from adjoining properties or from public roads and places; • Cumulative effects and potential to visually dominate the landscape; • The benefits that may be obtained from clustering of buildings/structures within the landscape; • It would be beneficial to provide design guidance in the District Plan or through other non-statutory documents, which allows for detailed consideration of and the extent to which any design of any buildings or structures conforms with design guidance provided. 	

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
ONFL 21 (S17) Uretara Island	<p>A significant natural habitat within the Ohiwa Harbour, the island resides under Conservation Management</p> <p>The island forms part of the Region's only mainland (Ohiwa Harbour) Outstanding Natural Character Areas, under the Regional Policy Statement, Variation 1.</p>	<p>Moderate to High Natural Science Factors the island provides a significant wildlife habitat to native flora and fauna with a distinctive indented coastline. The feature is well preserved and forms a significant resource for research and education and conservation monitoring. The island is a rare feature within the harbour and District.</p> <p>High Aesthetic Values with the coherence of natural patterns in good condition, with no productive land use on the island. The unmodified patterns and processes on the island result in a high level of naturalness with a highly intact and aesthetically cohesive natural system.</p> <p>Highly expressive the landform of the natural processes which form it. The island expresses strong transient values with</p>	<ul style="list-style-type: none"> • Loss of native habitat of any kind within this feature. • Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Outstanding Natural Character at a regional scale. 	<ul style="list-style-type: none"> • Protective measures to avoid <ul style="list-style-type: none"> ○ Any clearance of native vegetation and natural habitat for flora and fauna. ○ Dredging around the margins of the island and earthworks on the island. ○ Formalising of pedestrian tracks or viewing areas resulting in moderate to large scale earthworks disrupting the natural patterns of landform and vegetation. 	No Changes to extent recommended.

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
ONFL 22 (S18) Pataua Island	<p>A significant natural habitat within the Ohiwa Harbour, the island resides under Conservation Management</p> <p>The island also forms part of the Region's only mainland (Ohiwa Harbour) Outstanding Natural Character Areas, under the Regional Policy Statement, Variation 1.</p>	<p>migratory birds and high avifauna values.</p> <p>Moderate to High Natural Science Factors the island provides a significant wildlife habitat to native flora and fauna with a distinctive indented coastline. The feature is well preserved and forms a significant resource for research and education and conservation monitoring. The island is a rare feature within the harbour and District.</p> <p>High Aesthetic Values with the coherence of natural patterns in good condition, with no productive land use on the island. The unmodified patterns and processes on the island result in a high level of naturalness with a highly intact and aesthetically cohesive natural system.</p> <p>Highly expressive the landform of the natural processes which form it. The island expresses strong transient values with migratory birds and high avifauna values.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of native habitat of any kind within this feature. Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Outstanding Natural Character at a regional scale. <p>Low Risk</p> <ul style="list-style-type: none"> Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> Protective measures to avoid <ul style="list-style-type: none"> Any clearance of native vegetation and natural habitat for flora and fauna. Dredging around the margins of the island and earthworks on the island. Formalising of pedestrian tracks or viewing areas resulting in moderate to large scale earthworks disrupting the natural patterns of landform and vegetation. 	No Changes to extent recommended.
ONFL 24 (08) Waiotahi Spit and Estuary Mouth	The Waiotahi Spit forms significant dune sand spit to the mouth of the Waiotahi Estuary. The large area comprises relatively unmodified duneland landscape with very high natural character values at a regional level.	<p>High Natural Science Factors attributed to the natural dune formation and continuing highly dynamic natural processes that continue within it. The dune landscape is well preserved and forms a significant feature of the overall Waiotahi Estuary feature.</p> <p>High Aesthetic Values attributed to the dune landforms and coherence of this formation with its native vegetation cover including Pohutukawa at the distal end of the spit. A low but significant profile the landform is a feature within the larger Waiotahi Estuary. A very high level of naturalness attributed to its lack of modification and dynamic natural processes continuing within it.</p> <p>Highly expressive of the natural processes that form it and continue to shape it on a daily basis. Transient values attributed to fauna and flora through seasonal change is moderate to high.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of native habitat of any kind within this feature. Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. <p>Low Risk</p> <ul style="list-style-type: none"> Conservation focused activities including structures and monitoring platforms. Small removable dune tracks (non permanent) on a limited extent. 	<ul style="list-style-type: none"> Protective measures to avoid <ul style="list-style-type: none"> Any clearance of native vegetation and natural habitat for flora and fauna. Dredging around the margins of the island and earthworks on the island. Formalising of pedestrian tracks or viewing areas resulting in moderate to large scale earthworks disrupting the natural patterns of landform and vegetation. Manage <ul style="list-style-type: none"> Access for conservation and recreation purposes. 	No Changes to extent recommended
ONFL 25 (S20) Pohutukawa tunnels over State Highway 2 at Waiotahi	A distinct and memorable feature and gateway to the Ōpōtiki township and Waiotahi settlement. The Pohutukawa clad coastal escarpment forms a striking tunnel through which the State highway passes through. The feature is distinctive and iconic to the District	<p>Moderate to High Natural Science Factors attributed to the singular grouping of Pohutukawa species along a distinctive coastal escarpment. A rare and distinct feature of the District and Region the public viewing strengthens its iconic status.</p> <p>Moderate to High Aesthetic values attributed to the composition of the Pohutukawa, road and coastal escarpment. The tunnel effect creates a highly coherent</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of habitat for Pohutukawa from roadside associated activity including road works, pollution and damage to root structure. Access tracks or modification to the escarpment and landform around the escarpment and Pohutukawa Road maintenance including 	<ul style="list-style-type: none"> Manage <ul style="list-style-type: none"> Vegetation management of the Pohutukawa Small scale earthworks within and immediately around the escarpment that may affect the habitat Require Arboricultural assessment and a 	No Changes to extent recommended

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		<p>and memorable feature of the state highway.</p> <p>Low expressive values attributed to the modification of the landform, however the coastal escarpment is distinct and expressive of the volcanic, tectonic and glacial processes that formed it. The Pohutukawa provide a high transient values particularly through differing light conditions and seasonal flowering.</p>	<p>spraying or vegetation management for road clearance and safety.</p> <p>Low Risk</p> <ul style="list-style-type: none"> • Subdivision, buildings and structures as it is public land. • Forestry activities 	<p>management plan for the ongoing maintenance of the feature, recognizing its composition as iconic to the District.</p>	
ONFL 26 (S21) Tarakeha (Opape)	<p>Tarakeha defines the eastern end of the long open Tirohanga beach coastline east of Ōpōtiki township. This forms a gateway into the steeper and rocky coastline that extends to Cape Runaway. This headland along with other similar headlands along the coast are also recognised as areas of Very High Natural Character.</p>	<p>Moderate to High Natural science factors Tarakeha provides a steep headland with intact indigenous vegetation cover existing across the entire headland. Whilst not rare it is a distinctive feature that defines the end of an embayment.</p> <p>High Aesthetic values attributed to the prominent headland feature with native vegetation cover extending to meet the coast, uninterrupted. A highly memorable and visually prominent feature at the end of the Tirohanga beach.</p> <p>Moderately expressive the landform is expressive of the volcanic and coastal processes which have shaped it. Transient values are less evident but are attributed to the coastal processes and sea conditions.</p>	<p>High Risk</p> <ul style="list-style-type: none"> • Loss of moderate areas native habitat of any kind within this feature. • Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. • Changes to vegetation patterns • Changes to landform <p>Low Risk</p> <ul style="list-style-type: none"> • Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> • Avoid production forestry • Avoid quarrying or mining • Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values. 	No Changes to extent recommended
ONFL 27 (S22) Haurere Point	<p>Haurere Point defines the western end of the Torere beach and settlement. This headland along with other similar headlands along the coast are also recognised as areas of Very High Natural Character.</p>	<p>Moderate to High Natural science factors Haurere provides a steep headland with intact indigenous vegetation cover existing across the entire headland. Whilst not rare it is a distinctive feature that defines the end of an embayment.</p> <p>High Aesthetic values attributed to the prominent headland feature with native vegetation cover extending to meet the coast, uninterrupted. A highly memorable and visually prominent feature.</p> <p>Moderately expressive the landform is expressive of the volcanic and coastal processes which have shaped it. Transient values are less evident but are attributed to the coastal processes and sea conditions.</p>	<p>High Risk</p> <ul style="list-style-type: none"> • Loss of moderate areas native habitat of any kind within this feature. • Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. • Changes to vegetation patterns • Changes to landform <p>Low Risk</p> <ul style="list-style-type: none"> • Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> • Avoid production forestry • Avoid quarrying or mining • Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values. 	No Changes to extent recommended

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
ONFL 28 Pehitairi Point	Pehitairi Point defines the eastern end of the Torere beach and settlement. This headland along with other similar headlands along the coast are also recognised as areas of Very High Natural Character.	<p>Moderate to High Natural science factors Haurere provides a steep headland with intact indigenous vegetation cover existing across the entire headland. Whilst not rare it is a distinctive feature that defines the end of an embayment.</p> <p>High Aesthetic values attributed to the prominent headland feature with native vegetation cover extending to meet the coast, uninterrupted. A highly memorable and visually prominent feature at the end of the Torere beach.</p> <p>Moderately expressive the landform is expressive of the volcanic and coastal processes which have shaped it. Transient values are less evident but are attributed to the coastal processes and sea conditions.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of moderate areas native habitat of any kind within this feature. Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. Changes to vegetation patterns Changes to landform <p>Low Risk</p> <ul style="list-style-type: none"> Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> Avoid production forestry Avoid quarrying or mining Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values 	Not mapped – need reinclusion and mapped to edge of forestry line adjoining native bush.
ONFL 29 (S23) Haumiara Point ONFL 30 (S24) Whituare Bay ONFL 31 (S25) Maraenui Escarpment (Whituare Bay)	A collection of individually identified features as one larger feature, this coastline comprises the formation of a coastal escarpment and headlands that extend between Hawai and Haupoto. Comprising steep coastal escarpments clad with native bush cover the area is identified as having High Natural Character at a Regional level.	<p>Moderate to High Natural science factors this coastline provides a steep headland with intact indigenous vegetation cover existing across the entire headland. Whilst not rare it is a distinctive feature that defines the end of an embayment.</p> <p>High Aesthetic values attributed to the prominent headland feature with native vegetation cover extending to meet the coast, uninterrupted. A highly memorable and visually prominent feature at the end of the Torere beach. Cultural paddocks on the terrace contribute to an interplay of an arcadian landscape with the natural coastal edge.</p> <p>Moderately expressive the landform is expressive of the volcanic and coastal processes which have shaped it. Transient values are less evident but are attributed to the coastal processes and sea conditions.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of moderate areas native habitat of any kind within this feature. Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. Changes to vegetation patterns Changes to landform Subdivision, built form and loss of vegetation cover. <p>Low Risk</p> <ul style="list-style-type: none"> Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> Avoid production forestry Avoid quarrying or mining Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values Manage subdivision, built form and infrastructure within this feature. Including earthworks associated with roading, access and building platforms of small to moderate scale. 	<p>Some changes to mapping to reflect removal of pastoral landscapes within the native bush areas.</p> <p>Combined the regional features into one larger coastal feature at a District Level, removing the dwellings and pastoral / agricultural land use along the coastal edge.</p> <p>Remove the physical road extent State Highway from the ONF extent, do not align to a designation or cadastral boundary.</p>
ONFL 32 (09) Motu River Mouth	A highly distinctive large river mouth, the Motu River provides a braided river mouth alongside a steep bush clad hill range. Identified as an area of Very High Natural Character at a Regional level, the extent of the feature resides in part Regional Council and part Ōpōtiki District Council jurisdiction.	High Natural Science factors relate to its large scale river mouth and dynamic nature of the river which is subject to cumulative and dramatic change. The native bush cover extends to meet the broader native bush of the Raukumua Range which forms the backdrop to the Ōpōtiki District. The river and the surrounding bush is in a good state of preservation with some modification resulting from river access and the state highway extending over the river.	<p>High Risk</p> <ul style="list-style-type: none"> Loss of moderate areas native habitat of any kind within this feature. Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. Changes to vegetation patterns 	<ul style="list-style-type: none"> Avoid production forestry Avoid quarrying or mining Avoid earthworks that disrupt the natural pattern of the river and its margins, in particular the function and aesthetic coherence of the river plain. Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including 	<p>Some modification to areas within the river plain are recommended to exclude pastoral farming areas, dwellings and road works depot sites alongside the road. Most of these areas adjoin the the road corridor.</p> <p>An extension is recommended to include the braided river pattern on the southern side of the river margin.</p>

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		<p>High Aesthetic Values are attributed to the natural patterns of the braided river floor and steep native bush hills to the north of the river. The river and its margins are renowned for its distinctive and memorable landscape and are regionally significant. High naturalness values are attributed to the composition of natural patterns and processes occurring within this feature.</p> <p>Highly expressive of the fluvial processes that have occurred to form it. The transient values are equally high with a constant change occurring with the river and its river bed.</p>	<ul style="list-style-type: none"> Changes to landform within the active bush area. Reclamation of the river floor from disrupting its natural braided river pattern. Subdivision, built form and loss of vegetation cover. <p>Low Risk</p> <ul style="list-style-type: none"> Conservation focused activities including structures and monitoring platforms. 	<p>ecological and aesthetic values</p> <ul style="list-style-type: none"> Manage subdivision, built form and infrastructure within this feature. Including earthworks associated with roading, access and building platforms of small to moderate scale. 	
ONFL 33 (S26) Orangoihunui Point & Whitianga Bay, Whitianga Bay to Ohae Point	A large coastline dominated by a rocky shoreline and native vegetation cover. The area extends inland to encompass part of the vegetated coastal ridgeline between Waihapokopoko and Waioria Streams. Identified as having high natural character values at a regional scale.	<p>Moderate to High Natural science factors this coastline provides a steep coastline with small plateau with intact indigenous vegetation cover existing across the entire coastline.</p> <p>High Aesthetic values attributed to the native vegetation cover extending to meet the coast, uninterrupted. A highly memorable and visually prominent coastline with the State Highway extending through the feature. Cultural paddocks and residential dwellings on the terrace contribute to an interplay of an arcadian landscape with the natural coastal edge, disrupting the naturalness of the area.</p> <p>Moderate to highly expressive the landform is expressive of the volcanic and coastal processes which have shaped it. Transient values are less evident but are attributed to the coastal processes and sea conditions.</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of habitat for Pohutukawa from roadside associated activity including road works, pollution and damage to root structure. Access tracks or modification to the escarpment and landform around the escarpment and Pohutukawa Moderate to large earthworks along the shoreline. Subdivision adjoining the headland areas and resulting in ribbon settlement with no relief between clusters. Removal of native vegetation cover Road maintenance including spraying or vegetation management for road clearance and safety. <p>Low Risk</p> <ul style="list-style-type: none"> Forestry activities Quarrying or mining. 	<ul style="list-style-type: none"> Manage <ul style="list-style-type: none"> Vegetation management of the Pohutukawa Small scale earthworks within and immediately around the escarpment that may affect the habitat Subdivision including building scale, bulk and colour and position within the ONFL 	Some modification at a District scale to remove the pastoral blocks and residential dwellings in open areas void of native vegetation.
ONFL 34 (S27) Motunui Island and Associated Reefs ONFL 35 (010) Whanarua Bay	<p>A narrow rocky shoreline iconic of this coastal landscape, the Pohutukawa clad volcanic rocky shoreline is also identified as having High Natural Character at a regional scale.</p> <p>The area excludes the settlement of Whanarua Bay and is aligned to the coastal edge.</p>	<p>Moderate to High Natural Science Factors attributed to the small rocky island and shoreline with pockets of native vegetation cover, being predominantly Pohutukawa. The shoreline plateau is representative of the tectonic and coastal processes that formed this landscape.</p> <p>High Aesthetic Values the rocky shoreline provides a sequence of headlands and embayments topped with a plateau of cultivated rural productive landuse which further accentuates the dominant coastal</p>	<p>High Risk</p> <ul style="list-style-type: none"> Loss of habitat for Pohutukawa from roadside associated activity including road works, pollution and damage to root structure. Access tracks or modification to the escarpment and landform around the escarpment and Pohutukawa Moderate to large earthworks along the shoreline. Subdivision adjoining the headland 	<ul style="list-style-type: none"> Manage <ul style="list-style-type: none"> Vegetation management of the Pohutukawa Small scale earthworks within and immediately around the escarpment that may affect the habitat Subdivision including building scale, bulk and colour and position within the ONFL 	<p>Some modification at a District scale to remove the pastoral blocks and residential dwellings in open areas void of native vegetation.</p> <p>Around Whanarua Bay some modification to the extent to remove productive farming on the valley floor and river margin and focus the ONF extent to the coastal edge and native vegetation cover and its interface with the broader inland ONL.</p>

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		<p>vegetation.</p> <p>Moderately expressive with intact sequencing of coastal landscape features and transient values attributed to the coastal processes and seasonal flowering of Pohutukawa.</p>	<p>areas and resulting in ribbon settlement with no relief between clusters.</p> <ul style="list-style-type: none"> ○ Removal of native vegetation cover ○ Road maintenance including spraying or vegetation management for road clearance and safety. <p>Low Risk</p> <ul style="list-style-type: none"> • Forestry activities • Quarrying or mining. 		
ONFL 36 (S28) Ruakokere River Mouth	<p>A distinctive river mouth, lagoon and stoney shore the feature includes the native bush along the river margins and the dune feature at the river mouth.</p>	<p>High Natural Science factors relate to its large scale river mouth and dynamic nature of the river which is subject to cumulative and dramatic change. The river and the surrounding bush is in a good state of preservation with some modification resulting from river access and the state highway extending over the river.</p> <p>High Aesthetic Values are attributed to the natural patterns of the braided river floor and native bush hills to the west of the river. High naturalness values are attributed to the composition of natural patterns and processes occurring within this feature.</p> <p>Highly expressive of the fluvial processes that have occurred to form it. The transient values are equally high with a constant change occurring with the river and its river bed.</p>	<p>High Risk</p> <ul style="list-style-type: none"> • Loss of moderate areas native habitat of any kind within this feature. • Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. • Changes to vegetation patterns • Changes to landform within the native bush area. • Reclamation of the river floor from disrupting its natural braided river pattern. • Subdivision, built form and loss of vegetation cover. <p>Low Risk</p> <ul style="list-style-type: none"> • Conservation focused activities including structures and monitoring platforms. 	<ul style="list-style-type: none"> • Avoid production forestry • Avoid quarrying or mining • Avoid earthworks that disrupt the natural pattern of the river and its margins, in particular the function and aesthetic coherence of the river plain. • Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values <p>Manage subdivision, built form and infrastructure within this feature. Including earthworks associated with roading, access and building platforms of small to moderate scale.</p>	<p>Modification required to remove productive pastoral land use areas within the ONF, retaining the coastal dune features as part of the feature.</p> <p>Modify the extent to exclude areas below MHWS, under regional council management.</p>
ONFL 37 (S29) Oruaiti Beach, offshore rocks and Waikanapanapa cliffs	<p>The area extends from a rocky shoreline west of Oruaiti Beach to incorporate the beach, dunes and rocky headland of Te Ahikehe Point and shoreline east of Waikanapanapa. This includes coastal fringe of Pohutukawa but does not extend into the cultivated terrace top paddocks.</p>	<p>Moderate to High Natural Science Factors attributed to the coastal dunes and beach and rocky shoreline with pockets of native vegetation cover, being predominantly Pohutukawa. The shoreline plateau is representative of the tectonic and coastal processes that formed this landscape.</p> <p>High Aesthetic Values the rocky shoreline provides a sequence of headlands and embayments topped with a plateau of cultivated rural productive landuse which further accentuates the dominant coastal vegetation.</p>	<p>High Risk</p> <ul style="list-style-type: none"> ○ Loss of habitat for Pohutukawa from associated activity including road works, pollution and damage to root structure. ○ Access tracks or modification to the escarpment and landform around the escarpment and Pohutukawa ○ Moderate to large earthworks along the shoreline. ○ Subdivision adjoining the headland areas and resulting in ribbon 	<ul style="list-style-type: none"> • Manage <ul style="list-style-type: none"> ○ Vegetation management of the Pohutukawa ○ Small scale earthworks within and immediately around the escarpment that may affect the habitat ○ Subdivision including building scale, bulk and colour and position within the ONFL 	<p>Modification required to remove productive pastoral land use areas within the ONF, retaining the coastal dune features as part of the feature.</p> <p>Modify the extent to exclude areas below MHWS, under regional council management.</p>

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		<p>Moderately expressive with intact sequencing of coastal landscape features and transient values attributed to the coastal processes and seasonal flowering of Pohutukawa.</p>	<p>settlement with no relief between clusters.</p> <ul style="list-style-type: none"> ○ Removal of native vegetation cover ○ Road maintenance including spraying or vegetation management for road clearance and safety. <p>Low Risk</p> <ul style="list-style-type: none"> • Forestry activities • Quarrying or mining. 		
<p>ONFL 38 (S30) Whangaparaoa dunefield, wetland and estuary</p>	<p>An extensive coastal duneland with intact cover of vegetation, wetlands and river system backing a long open beach.</p>	<p>High Natural Science Factors attributed to the natural dune formation and continuing highly dynamic natural processes that continue within it. The dune landscape is well preserved and forms a significant feature.</p> <p>High Aesthetic Values attributed to the dune landforms and coherence of this formation with its native vegetation cover including wetland features. A moderate level of naturalness attributed to this landscape</p> <p>Highly expressive of the natural processes that form it and continue to shape it on a daily basis. Transient values attributed to fauna and flora through seasonal change is moderate to high.</p>	<p>High Risk</p> <ul style="list-style-type: none"> ○ Loss of habitat for dune vegetation from activity including earthworks, cropping, road works, pollution and damage to natural landform and vegetation. ○ Access tracks or modification to the dune landform. ○ Moderate to large earthworks along the shoreline. ○ Subdivision adjoining the headland areas and resulting in ribbon settlement with no relief between clusters. ○ Removal of native vegetation cover <p>Low Risk</p> <ul style="list-style-type: none"> • Forestry activities • Quarrying or mining. 	<ul style="list-style-type: none"> • Avoid production forestry • Avoid quarrying or mining • Avoid earthworks that disrupt the natural pattern of the river and dune, in particular the function and aesthetic coherence of the dune system. • Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values • Manage subdivision, built form and infrastructure within this feature. Including earthworks associated with roading, access and building platforms of small to moderate scale. 	<p>Modification required to remove domestic land use areas within the ONF, retaining the coastal dune features as part of the feature.</p> <p>Modify the extent to exclude areas below MHWS, under regional council management.</p>
<p>ONFL 39 (S31) Kopongatahi Point ONFL 40 (011) Cape Runaway</p>	<p>Two ONF features combined to create the broader ONF which is reknown as Cape Runaway. The headland forms a key landmark to the turning point of the Eastern Bay of Plenty toward East Cape. A dominant headland covered in regenerating native bush cover the headland forms the largest of its kind within the District.</p>	<p>High Natural Science Factors include the rocky shoreline and reefs, Otarawhata Island and the series of coastal headlands and bays including Paparinga and Tikirau. The landform is highly representative of the coastal processes which shape it and is reflective of native vegetation patterns of the coastline.</p> <p>Moderate to High Aesthetic values are attributed to the distinctive and recognisable landform along with the regenerating native bush cover throughout. The naturalness is high and is associated with the natural coastal processes and regenerating native vegetation cover.</p> <p>Moderately expressive the feature currently has low transient values associated with</p>	<p>High Risk</p> <ul style="list-style-type: none"> • Loss of moderate areas native habitat of any kind within this feature. • Modification to the natural patterns, processes and elements which contribute to its high levels of naturalness, and in turn Very High Natural Character at a regional scale. • Changes to vegetation patterns • Changes to landform <p>Low Risk</p> <ul style="list-style-type: none"> • Conservation focused activities including structures and 	<ul style="list-style-type: none"> • Avoid production forestry • Avoid quarrying or mining • Manage access for recreation and conservation purposes to ensure the natural patterns and elements are not disrupted, including ecological and aesthetic values. 	<p>No Changes to extent recommended</p>

Outstanding Natural Features	Description	Values	Potential Threats	Management Mechanisms	Extent of Mapping
		vegetation cover.	monitoring platforms.		

Appendix 1 – Collation of ONFL value descriptions

Collation of the following value descriptions

- Bay of Plenty Inland ONFL Review 2009, BML
- Bay of Plenty Inland Inland ONFL Assessment 2007, BML
- Bay of Plenty Inland Coastal ONFL Assessment 2006, BML
- Ōpōtiki DC ONFL Assessment 1998, BML

Inventory of Ōpōtiki District ONFLs

Unit ID	Landscape Unit Name/ Description	
Unit 1	Unit Ohiwa Harbour containing ONFL OP1-3	ODC Unit 1998
Unit 2	Unit Waiotahi containing ONFL OP 4-5	ODC Unit 1998
Unit 3	Unit Waiotahi Valley containing ONFL OP7	ODC Unit 1998
Unit 4	Unit Paerata Ridge containing ONFL OP6	ODC Unit 1998
Unit 5	Unit Ōpōtiki	ODC Unit 1998
Unit 6	Unit Waiāua containing ONFL OP6	ODC Unit 1998
Unit 7	Unit Ngawaikui	ODC Unit 1998
Unit 8	Unit Torere	ODC Unit 1998
Unit 9	Unit Hawai	ODC Unit 1998
Unit 10	Unit Motu containing ONFL OP17	ODC Unit 1998
Unit 11	Unit Whitianga containing ONFL OP18	ODC Unit 1998
Unit 12	Unit Omaio containing ONFL OP30	ODC Unit 1998
Unit 13	Unit Te Kaha containing ONFL OP19-20	ODC Unit 1998
Unit 14	Unit Whanarua containing ONFL OP 21	ODC Unit 1998
Unit 15	Unit Waiāua Bay containing ONFL OP22; 24	ODC Unit 1998
Unit 16	Unit Whangaporoa containing ONFL OP25-26	ODC Unit 1998
Unit 17	Unit Cape Runway containing ONFL OP27-29	ODC Unit 1998
Unit 18	Unit Toatoa containing ONFL OP9	ODC Unit 1998
Unit 19	Unit Oponae containing ONFL OP9 surrounding unit	ODC Unit 1998
ID Report OP	Name of ONFL	Source
1	Ohiwa Harbour	ODC ONFL 1998
2	Pataua Island	ODC ONFL 1998
3	Uretara Island	ODC ONFL 1998
4	Waiotahi Spit and River Mouth	ODC ONFL 1998
5	Waiotahi River	ODC ONFL 1998
6	Pohutukawa tunnels	ODC ONFL 1998
7	Waioeka River	ODC ONFL 1998
10	Otara River	ODC ONFL 1998
11	Makeo	ODC ONFL 1998
12	Tarakeha Point	ODC ONFL 1998
13	Haurere Point	ODC ONFL 1998
14, 15, 16	Haumiāroa Point, Whitiare Bay, Maraenui Escarpment	ODC ONFL 1998
17	Motu River and mouth	ODC ONFL 1998
18	Whitianga Bay to Ohae Point	ODC ONFL 1998
30	Haparapara River	ODC ONFL 1998
19	Motunui Island and Associated Reefs	ODC ONFL 1998
20	Kereu River Mouth	ODC ONFL 1998
21	Whanarua Bay	ODC ONFL 1998
22	Raukokere River Mouth	ODC ONFL 1998
24	Oruaiti Beach, Off Shore Rocks and Waikanapanapa Cliffs	ODC ONFL 1998
25	Whangaparaoa River	ODC ONFL 1998
26	Whangaparaoa Dunefields and Wetlands	ODC ONFL 1998
27	Kopongatahi Point	ODC ONFL 1998
28	Cape Runaway	ODC ONFL 1998
29	Steep Coastal Cliffs between Cape Runaway and Lattin Point	ODC ONFL 1998
8,9,23	Contiguous native vegetation of ranges	ODC ONFL 1998

Appendix 2 –Geographic Information System (GIS)

A Geographic Information System (GIS) has been used throughout all stages of this Landscape Study. GIS is essentially a powerful tool for visualising, analysing, querying and mapping geographic data. GIS systematically organises geographic data to enable a person reading an electronic map to select or deselect specific information about the area under review.

GIS information can come from a variety of sources, which can be integrated it into a series of layers and used over a standard base map or aerial photo. Government departments, including Regional and District councils and the Department of Conservation for example, hold digital geographic data for their area of concern that is GIS compatible. GIS therefore is interactive and allows the user to select and view specific layers, such as Conservation layers, for a district which is then overlaid on a topographic base map or aerial photo. The user can zoom in and out of the map and change the nature of the information displayed on the map to suit the particular task at hand. For example, for this study, it became important to overlay data-sets onto one another (such as the land cover, zoning and conservation layers) which assisted in better understanding particular landscapes. It must be stressed that the scale of the information provided that forms a GIS layer must be of sufficient detail to enable its practical usage.

The full list of the landscape-related data used in GIS and its sources is listed below. The delineation of landscape values (such as ONFLs) were primarily based on land cover patterns. However, variations in landcover/ use were taken into account as a secondary factor. This information was sourced from aerial photographs, Google Earth and other GIS related information, such as the LCDB (Land Cover Data Base). The following data was used for the preparation of this study:

National GIS data provided by BML:

- Topo Maps (LINZ)
- Digital contour information 20 metre intervals (LINZ)
- Land Cover Database III (Landcare Research, based on SPOT 5 satellite imagery acquired 2006- 2008)
- DOC conservation units
- Land Resource Inventory (NZLRI Landcare Research)
- Land Use Capability (based on NZLRI Landcare Research)

Data provided by Ōpōtiki District

- Property boundaries based on land ownership
- BOP ONFL inland areas 2007
- BOP ONFL Coastal areas 2006
- Ōpōtiki ONFL areas 1998
- Significant Natural Areas

Appendix 3 – Maps

- Existing ONFLs
- Discrete recommended changes to ONF and ONL's

References

Boffa Miskell Limited (2010) Review of the Canterbury Landscape Study, ECAN

Boffa Miskell Limited (2006) Banks Peninsula Landscape Study, CCC

Boffa Miskell Limited & Lucas Associates (1993) Canterbury Regional Landscape Study Volumes 1 & 2

Boffa Miskell Ltd (2007), Outstanding Natural Features and Landscapes Review, Bay of Plenty Region.

Boffa Miskell Ltd (2006) Outstanding Natural Features and Landscapes, Bay of Plenty Coastal Environment.

Boffa Miskell Ltd (1998) Opotiki District Landscape Study