



outstanding natural features and landscapes
BAY OF PLENTY COASTAL ENVIRONMENT
INDICATORS REPORT

Prepared for
Environment Bay of Plenty
By
Boffa Miskell Limited
Auckland

FEBRUARY 2006

outstanding natural features and landscapes

BAY OF PLENTY COASTAL ENVIRONMENT

Landscape Indicators Report

prepared for

ENVIRONMENT BAY OF PLENTY

by

BOFFA MISKELL LIMITED

AUCKLAND

CONTENTS

1.0	Introduction.....	1
2.0	Related projects	1
2.1	Tauranga District Council	1
2.2	Ministry for the Environment.....	6
2.3	Environment Bay of Plenty Heritage Criteria	8
3.0	Recommendation in relation to indicators for monitoring landscape change to Environment Bay of Plenty's coastal environment outstanding natural features and landscapes.....	11

APPENDIX I

Table recording observed landscape change in ONF&L's during 2005 review.

1.0 Introduction

Environment Bay of Plenty's brief to Boffa Miskell for updating the Coastal Environment landscape assessment and review of the outstanding natural features and landscapes (RM Act Section 6(b) Matters of National Importance) within the coastal environment includes a request for advice in relation to the identification of indicators of landscape change through which monitoring of the outstanding natural features and landscapes (ONF&Ls) could be implemented.

This report sets out an understanding of related background 'landscape indicators' projects and / or reports and makes recommendations for landscape indicators that could be adopted and applied to monitor landscape change within the ONF&L's of the Bay of Plenty coastal environment. In addition Appendix I to this report sets out a tabular summary of the outstanding natural features and landscapes of the Region's coastal environment and identifies particular 'enhancer' and 'detractor' change identified during the desk top (aerial photography comparison) and field survey work undertaken as part of the parallel review project also undertaken by Boffa Miskell.

2.0 Related projects

Boffa Miskell has previously undertaken related projects to assist in the identification of landscape indicators and in the development of methodologies, at a District level, to monitor landscape change in identified ONF&Ls. A brief description of two such related projects is set out below, following which we make recommendations to Environment Bay of Plenty in relation to suitable indicators of landscape change – both beneficial and adverse – that could be adopted and implemented to enable Environment Bay of Plenty to incorporate landscape monitoring within the region's state of the environment monitoring and reporting processes.

2.1 Tauranga District Council

State of the Environment Monitoring Programme

Outstanding Natural Features and Landscapes, March 2000 (Boffa Miskell)

Boffa Miskell undertook a district-wide assessment of the Tauranga Local Authority area in 1995 included in which was the identification of Outstanding Natural Features and Landscapes (ONF&Ls). During 1999/2000 the District sought to establish a methodology to monitor change, both adverse and

beneficial, in the ONF&Ls as part of its overall duty to monitor the state of the environment (Section 35 RM Act). That Council's brief for the development of a monitoring methodology required that the monitoring programme be able to be undertaken by "non-expert" individuals (i.e. those with no particular landscape architectural or landscape appreciation training or experience).

The methodology developed centred on the identification of activities that have the potential to either adversely affect (detractors) or benefit (enhancers) the qualities of the ONF&Ls, recognising at the same time that landscapes are complex dynamic systems and that there is little purpose in recording their every change in detail. What was needed was a methodology and indicators that would enable the District Council to monitor significant dramatic or incremental change that affected the overall core values of the ONF&Ls, the overriding purpose being to monitor whether the District Plan objectives, policies and rules were providing appropriate protection for the District's identified ONF&Ls.

The following extract from the "Procedures Manual" report describes the nature of landscape detractors and enhancers.

"Landscapes can be affected both adversely (by detractors) and positively (by enhancers). Detractors can be defined as those elements that interfere adversely with the visual character and quality of the landscape, while enhancers are those elements that improve character and visual quality. Both detractors and enhancers can be either natural or cultural activities or occurrences. Along the Tauranga Harbour coastline enhancers are frequently natural such as remnant vegetation, particularly pohutukawa, although some historical features may also enhance the visual experience of the coastline.

Detractors are generally culturally induced and include landuse patterns that are visually dominant and not in harmony with the natural pattern of the landform, earthworks that create visual scars and introduce unnatural landscape elements, as well as built elements that (by their scale, form or location) are incongruous within the surrounding (natural) landscape. Cultural elements tend to form either enhancers or detractors dependent on their location. It is not so much

the element itself that enhances or detracts but the visual combination of the element with its location and specific setting. The same type of cultural element placed in a different context may have an entirely different visual effect.

To enable a monitoring programme to be put in place the expected range of possible landscape enhancers and detractors within Tauranga District have been identified according to their landscape category (i.e. landform, vegetation, cultural). The specific types of activity that would adversely or beneficially affect each of these categories have also been defined. These are shown in Table 1.

Table 1 : Example of Field Card Showing Landscape Categories and Activity Types

Detractor Field Card For All Outstanding Landscapes

Category	Activity	Detractor Type	Scale	Impact	Score
			(0 – 5)	(0 – 10)	
Landform	<i>Earthworks</i>				
	<i>Structures</i>				
	<i>Dumping</i>				
Vegetation	<i>Clearance</i>				
	<i>Weed Infestation</i>				
	<i>Browsing Damage</i>				
Cultural	<i>Physical Damage</i>				
Other					
This Years Score					

Note: Both detractor and enhancer field cards are included in the field recording methodology.

Different detractors and enhancers that occur within any outstanding landscape will not be equal in terms of their effect on landscape values. These differences are a function of the respective visibility, vividness, context and scale of the effect. These four aspects of change are inter-related and are not entirely separated from each

other. It is the combination of all four aspects that produces the overall impression of change in a landscape. The four aspects of change operate in combination to generate a combined visual impact or effect. This is discussed in more detail below.

5.1 Scale or Magnitude

One of the key component elements in evaluating the effect of an activity (beneficial or adverse) on an outstanding landscape is that of scale. This measure refers to the magnitude or size of the activity that has altered the visual values of an outstanding landscape. Scale is based on the spatial extent of change and therefore not only allows an assessment of the relative impact of a new activity but also assists in distinguishing between the significance of different types of change within an outstanding landscape.

5.2 Impact

In addition to the scale the second factor that is 'scored' to record the effect of an activity on the values of the outstanding landscape is impact. Impact can be determined based on a combination of the elements of visibility, vividness and context.

5.2.1 Visibility

Visibility refers to the degree to which the landscape is viewed either by a static residential population or by mobile viewers (i.e. those either on roads, on the sea or at public viewing places).

As an example of the ways in which visibility effects perceived landscape change, earthworks on a highly visible landform (e.g. Mangatawa) would be more visible than a similar size reclamation just above the waterline within Tauranga Harbour. Such reclamation would itself be more visible than in similar sized earthwork in a remote part of the Wairoa floodplain located away from roads and residential properties. Notwithstanding the above it is important to keep in mind that landscapes that are not frequently seen are still sensitive to change, and that these should also be carefully managed to protect

and enhance their landscape quality. An activity that causes adverse landscape and visual effects that is only seldom seen will still generate those landscape effects but the degree of visual impact will be reduced by its limited visibility.

5.2.2 Vividness

Vividness is a reflection of how memorable the impact of a change is in a landscape. For example, the clearance of native bush from Mauao would be a more vivid impact than if an area of saltmarsh was cleared from the harbour. Both are adverse landscape effects, but the former is a more 'vivid' change, generating greater impact.

5.2.3 Context

Context refers to the relative location of a change and its relationship to its immediate environs. Determining the context involves an assessment of the degree of divergence away from (or toward) the previously existing visual state.

The degree of impact of an activity in relation to its context relates to whether or not harmony has been maintained. Harmony is achieved by way of integration with the existing or natural qualities of the landscape. Often it is the naturalness and/or modification of the surrounding landscape in relation to the new activity that is critical to this assessment. For example, new wharves will have a reduced adverse visual effect if they are constructed within an existing port zone than if they were constructed in a pristine area of coastline. Similarly several new houses located within an outstanding landscape would have less impact if they were associated with existing development rather than being in an area presently devoid of such structures.”

The Tauranga ONF&L monitoring methodology employs a simple system of scoring the impact of landscape change with the trend of change over time able to be monitored. In this way, incremental adverse and/or beneficial change can be “observed” as well as more dramatic single event alteration to the values of the ONF&Ls recognised.

The final loop in the monitoring of change to the ONF&Ls is to review the District Plan Objectives, Policies and Rules to determine whether these are providing adequate protection of these important landscapes and features, whether enhancement is being promoted and what if any amendments to objectives, policies and rules may be required to ensure the desired environmental outcomes – protection and enhancement of ONF&Ls as a matter of national importance – are being achieved.

2.2 Ministry for the Environment

Environmental Performance Indicators

Landscape Aspect of Natural Character, Stage 2: Outcomes of Pilots undertaken in Wellington and Auckland, Parts 1 and 2, November 2002 (Boffa Miskell)

During 2002 Boffa Miskell was contracted by the Ministry for the Environment (MfE) to undertake a project to determine “environmental performance indicators” (EPI) for the landscape aspect of natural character.

Whilst recognising that natural character comprises both ecological and landscape components, in both the marine and landward environments, the EPI natural character (landscape) study was limited to the landscape component (i.e. excluding the ecological component) in the landward coastal environment (i.e. excluding the marine environment). These other aspects of natural character were to be the subject of separate studies also commissioned by MfE at that time.

Boffa Miskell’s project methodology for this study included a number of practitioner working meetings / workshops as well as the use of an expert reference group.

Of relevance to this current discussion in relation to monitoring landscape change within the ONF&Ls of the Bay of Plenty Region are the criteria established and agreed as a measure of coastal natural character (landscape) for the land portion of the coastal environment. These six generic criteria and their definitions are as follows:

1. *Landform modifications*

In most coastal environments in New Zealand there are relatively few modifications to landforms. However, major changes can occur with quarrying and mining, in particular. Lesser levels of change may occur with tracking in steep country, remodelling of sand dunes and so on. The guidelines will need to indicate a suitable calibration for this criterion. Modifications of a significant scale are likely to involve resource consents.

2. *Waterform Modification*

Major changes to water bodies such as rivers and wetlands within the coastal environment can occur with artificial control of flow regimes, drainage and so on. (These criteria only apply to the land portion of the coastal environment). The guidelines will need to indicate a suitable calibration for this criterion. Modifications of a significant scale are likely to involve water permits or other consents.

3. *Indigenous Vegetation Cover*

The presence of indigenous vegetation is frequently indicative of a lack of modification. A continuum from 'expansive' to 'insignificant' or 'unmodified' to 'completely modified' indigenous vegetation may be used to describe this criterion. Alternatively a '% cover' continuum may be used. The guidelines will need to indicate a suitable calibration for this criterion.

4. *Vegetation Pattern*

This criterion applies to the patterns of vegetation cover. It includes both indigenous and exotic vegetation of all types. The key consideration is whether the patterns resulting from different vegetation types appear natural or artificial. This will usually depend on the regularity, linearity or geometry that result from commercial forestry, farming or sub-division. It will also depend on the contrast of these patterns with the underlying landform. The guidelines will need to indicate a suitable calibration for this criterion.

5. *Buildings and Structures*

This criterion includes all buildings and any spot structures e.g. telecommunications towers. It excludes linear structures included under (6) Infrastructure. The number, density, scale, type and location of buildings/structures will all influence the degree to which this criterion will affect natural character. The guidelines will need to indicate a suitable calibration for this criterion. These modifications will normally require resource consents.

6. *Infrastructure*

This criterion included linear features such as roads, tracks and paths, transmission tower and pole lines and fences etc. Their number, density, scale and location will influence the degree to which this criterion will affect natural character. The guidelines will need to indicate a suitable calibration for this criterion. Unless of a major nature, many of these modifications may not require resource consents.

Whilst descriptive of the landscape component of natural character (Section 6(a) RM Act) rather than of outstanding natural features and landscapes (Section 6(b) RM Act), these criteria contribute to the discussion in relation to monitoring landscape change within the coastal environment of the Bay of Plenty, as these criteria focus on the landscape component of natural character and naturalness / intactness and contribute significantly to the values attributed to the ONF&Ls of the coastal environment.

2.3 Environment Bay of Plenty Heritage Criteria

In addition to the above relevant background studies Environment Bay of Plenty has recently developed a set of criteria for the determination of the significance of landscape. These criteria, listed below, provide the framework for the identification of outstanding natural features and landscapes within the regional and draw from both practitioner usage / experience and the direction of the Environment Court.

Set 2 *Natural Features and Landscapes*

Policies 15.3.1(b)(iv), 15.3.1(b)(vii), 15.3.1(b)(xii)

Methods 15.3.1(c)(i), 15.3.1(c)(xii)

Natural Science Factors

Representativeness

2.1 *Natural features and landscapes are clearly and recognisably characteristic of the area, district or region. The key components of the landscape will be present in a way that more generally defines the character of the place, but which distils this character and in essence;*

2.2 *Natural features in a good state of preservation are representative and characteristic of the natural geological processes and diversity of the region;*

Research and Education

2.3 *Natural features and landscapes are valued for the contribution they make to research and education;*

Rarity

2.4 *Natural features are unique or rare in the region or nationally, and few comparable examples exist.*

Aesthetic Values

Coherence

2.5 *The patterns of land cover and land use are largely in harmony with the underlying natural pattern of the landform of the area and there are no significant discordant elements of land cover or land use;*

Vividness

2.6 *Natural features and landscapes are widely recognised across the community and beyond the local area and remain clearly in the memory; striking landscapes are symbolic of an area due to their recognisable and memorable qualities;*

Naturalness

2.7 *Natural features and landscapes appear largely uncompromised by modification and appear to comprise natural systems that are functional and healthy;*

Intactness

2.8 *Natural systems are intact and aesthetically coherent and do not display significant visual signs of human modification, intervention or manipulation; visually intact and highly aesthetic natural landscapes;*

Expressiveness (Legibility)

2.9 *Natural features and landscapes clearly demonstrate the natural processes that formed them. Examples of natural process in landscape exemplify the particular processes that formed that landscape;*

Transient Values

2.10 *The consistent occurrence of transient features (for example the seasonal flowering of pohutukawa) contributes to the character, qualities and values of the landscape; landscapes are widely recognised for their transient features and the contribution these make to the landscape;*

Shared and Recognised Values

2.11 *Natural features and landscapes are widely known and valued by the immediate and wider community for their contribution to a sense of place leading to a strong community association with or high public esteem for the place;*

Maori Values

2.12 *Natural features and landscapes are clearly special or widely known and influenced by their connection to the Maori values inherent in the place;*

(Refer also to set 4 - Maori Culture and Traditions criteria).

Historical Associations

2.13 *Natural features and landscapes are clearly and widely known and influenced by their connection to the historical values inherent in the place;*

(Refer also to set 5 - Historic Heritage criteria).

3.0 Recommendation in relation to indicators for monitoring landscape change to Environment Bay of Plenty's coastal environment outstanding natural features and landscapes

The current project to review the originally (1993) identified ONF&Ls within the coastal environment of the Bay of Plenty Region has provided a good context for understanding the nature of landscape change occurring along the region's coastline, and the nature of the impact which this is having on the extent of; and the outstanding natural landscape attributes of the ONF&Ls.

In very broad terms, the nature of landscape change in the intervening 12 years can be set against the linear transect of the coastline with the predominant trend in the west being one of incremental residential subdivision, growth and the appearance of greater numbers of larger and more prominent houses. This incremental change has not tended to impinge on the identified ONF&Ls in such a way as to detract from the core values of any one ONF&L sufficiently to require redefinition of boundaries or the deletion of an ONF&L. Generally these changes have occurred to consolidate areas already established as urban and outside of those ONF&Ls defined and delineated in 1993 or alternatively where significant new development, which has the potential to degrade or significantly detract from the established outstanding natural landscape/feature attributes of an area has occurred, it has not been in a locality sufficiently proximate to any ONF&L to compromise its established significant landscape values.

In the east, particularly east of Opotiki, the trend over the intervening 12 years has been one more of landscape enhancement due to the progression of naturally occurring regeneration of indigenous coastal vegetation cover. The change in the amount of intact established vegetation cover has led to the expansion of some 1993 ONF&Ls to encompass contiguous natural landforms now supporting an intact cover of indigenous vegetation.

Having observed the nature of landscape change occurring in the coastal environment as part of the review project, the possible indicators for monitoring landscape change in the identified ONF&Ls would appear to logically comprise detractors and enhancers in relation to:

- landform;
- land cover;

- structures; and
- utilities / infrastructure.

The significant contribution to the coastal landscapes of the Bay of Plenty coastline by river mouths, tidal estuaries and harbours also suggests inclusion of

- waterform

to be appropriate.

The following table suggests a methodology for recording the beneficial and/or adverse changes to any ONF&L as a result of changes in the five areas of potential landscape change identified above.

Outstanding Natural Feature and Landscape: name and reference		
Agent of landscape change	Detractor Type	Enhancer Type
Change to landform	<ul style="list-style-type: none"> - Earthworks - Reclamation - Quarrying / borrow areas 	<ul style="list-style-type: none"> - Recontouring - Declamation - Landform restoration
Change to waterform	<ul style="list-style-type: none"> - Drainage of wetlands - Engineering works to river mouths 	<ul style="list-style-type: none"> - Wetland creation - Natural protection works
Change to vegetation cover	<ul style="list-style-type: none"> - Vegetation clearance - Predominance of exotic weed species - Artificial patterns of vegetation unrelated to landform 	<ul style="list-style-type: none"> - Natural regeneration - Assisted revegetation
Change to Structures	<ul style="list-style-type: none"> - New urban development with structures dominant - Individual large buildings dominant 	<ul style="list-style-type: none"> - Reduced dominance of development
Change to Infrastructure	<ul style="list-style-type: none"> - Prominent new power lines, telecommunications facilities, roading 	<ul style="list-style-type: none"> - Removal or reduced dominance of infrastructure

In summary, therefore, the recommended indicators for monitoring landscape change – both beneficial and adverse – are change in relation to landform, waterform, vegetation cover, structures and infrastructure.

Having identified potential indicators for monitoring landscape change – beneficial and adverse – a methodology for regularly assessing change and the overall trend of

this in relation to the ONF&Ls of the region is the next step to the implementation of state of the environment monitoring for the ONF&Ls. Such methodology needs to avoid “double counting” and enable review back to the objectives and policies of the Regional Coastal Environment Plan to determine the success of those policies in affecting the protection and enhancement of the identified outstanding natural features and landscapes. The development of a methodology for monitoring landscape change within the ONF&L’s of the Bay of Plenty (either those located only within the coastal environment or those within the region as a whole) does not form part of this brief however matters for consideration and determination include:

- a) *Time interval: How frequently should landscapes be monitored for change?* An interval of less than 2 years is unlikely to be sufficient for real change to be perceptible whilst an interval of greater than 5 years becomes too long should action be required to reverse undesirable change. 3 years is recommended balancing the resources needed to undertake the monitoring project, the opportunity for landscape change (beneficial or adverse) to ‘read’ within the landscape and the potential for policy changes to be implemented to address issues where significant adverse landscape change affecting ONF&L’s is occurring.
- b) *Who should undertake the monitoring?* Methodologies can be developed for monitoring landscape change that can be implemented either by ‘expert’ landscape architects familiar with observing and recording landscape change or by lay people using a more prescriptive methodology with less requirement for interpretation. A requirement of the brief for the Tauranga District (as it then was) landscape indicators methodology was that once developed and the baseline established any lay individual, independent of a background in landscape architecture, could undertake the ongoing monitoring.
- c) *How is observed landscape change (beneficial or adverse) related back to policy?* This step will require interpretation and the likely input of specialists both in the fields of landscape architecture / landscape planning and in statutory planning. The review of resource consent conditions or the background to factors enabling landscape change is likely to be required as well understanding of non statutory initiatives such dune care enhancement or assistance with vegetation protection.

Attached as Appendix I to this report are tables recording identified change between 1993 and 2005 in the outstanding natural features and landscapes (1993 report listed 'outstanding' and 'regionally significant' natural features and landscapes although these have been re-assessed as part of this project against the Set 2 Natural Features and Landscapes criteria and confirmed as 'outstanding natural features and landscapes' in terms of Section 6(b) of the RM Act) observed as part of the review project.

APPENDIX I

Tables recording observed landscape change in coastal environment ONF&L's

Note 1: The tables and related maps for outstanding natural features and landscapes are numbered consecutively from west to east e.g. ONFL 1, ONFL 2 etc, followed by the original identifier number from the Regional Coastal Environment Plan 2003 maps in brackets e.g. (S1) (RCEP 2003 Identifier).

Note 2: The outstanding natural features and landscapes (ONF&L's) recorded in this document are those which were identified in the RCEP 2003. Not included in this monitoring report are the following newly identified ONF&L's:

ONFL 11 Maketu Estuary

ONFL 17 Piripai Distal Spit

ONFL 28 Pehitairi Point.

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Orokawa Bay	Map Ref: 1b
--------------------------------	--------------------

ID No: ONFL 1 (S1) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

- **Some further development of natural regeneration.**
- **Further urban development within the general Waihi Beach environment including some recent subdivision / roads / earthworks extending up onto hill slopes and ridges reinforces contrast with natural character of this relatively unmodified 'outstanding natural landscape' (note this change has not impacted on the values of the ONF&L but is noted by way of general comment).**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Maturing natural regeneration
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Bowentown Heads	Map Ref: 2c
------------------------------------	--------------------

ID No: ONFL 2 (S2) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

- **Further recent subdivision and development is apparent near north Bowentown Heads. Prominent development on the elevated landform has extended since earlier 1993 assessment. White houses visually more prominent than similar elevated house with more muted colour schemes. (Note this change has not impacted on the values of the ONF&L but is noted by way of general comment).**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Maturing intact tracts of indigenous vegetation
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Tauranga Harbour, Waimapu Estuary, Welcome Bay**

Map Ref: **2c, 3c, 5c, 6c, 7c, 8c, 10c, 12c**

ID No: **ONFL 3 (01) (RCEP 2003 identifier)**

District: **Tauranga District Council**

General change since 1993

- **Subdivision (within landward context) particularly southeast of Katikati town centre - map 5c**
- **Vegetation clearance (exotic forest felling) - map 8c & 9c, 11c**
- **New Marina (adjacent to Harbour Bridge crossing)**
- **Subdivision southeast of Omanu town centre – map 12c**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover	Felling of exotic forest within visual backdrop.	
Change in Structures	Residential subdivision and development on adjacent land backdrop.	
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: North Matakana Island Wetlands	Map Ref: 2c
---	--------------------

ID No: ONFL 4 (S4) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

No apparent changes identified.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Matakana Island (South)	Map Ref: 3c, 4b, 6c, 9c, 11c
--	-------------------------------------

ID No: ONFL 5 (S3) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

- **Forest lots maturing – map 3c, 6c, 11c**
- **Forest felling - map 11c**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover	Pattern of exotic forestry (felling / replanting) and other productive landuse	Buffer vegetation around perimeter
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Tanners Point	Map Ref: 3c
----------------------------------	--------------------

ID No: ONFL 6 (S5) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

No apparent changes identified.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Ongare Point	Map Ref: 3c
---------------------------------	--------------------

ID No: ONFL 7 (S6) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

- **Recent development is apparent north of Ongare Point.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures	Changing scale of residential development.	
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Kauri Point	Map Ref: 3c
--------------------------------	--------------------

ID No: ONFL 8 (S7) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

No apparent changes identified.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Motuhua Island	Map Ref: 8c
-----------------------------------	--------------------

ID No: ONFL 9 (S8) (RCEP 2003 identifier)	District: Western Bay of Plenty
--	--

General change since 1993

No apparent changes identified.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Mauao / Mount Maunganui, Moturiki Island, Motuotau Island**

Map Ref: **9c**

ID No: **ONFL 10 (02) (RCEP 2003 identifier)**

District: **Western Bay of Plenty**

General change since 1993

- **Recent fire damage / slips and associated works to remove 'dangerous' rocks.**
- **Planting has been established to re-vegetate areas affected by fire / slips**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform	Modification to landform as result of slips and rock removal (will heal over time has impact whilst 'raw' and apparent new change to familiar feature.	
Change in Waterform		
Change in Vegetation Cover	Loss of vegetation cover due to fire.	Revegetation
Change in Structures		
Change in Infrastructure		

**Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
 Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes**

ONF&L Name: Okurei Point	Map Ref: 16c
---------------------------------	---------------------

ID No: ONFL 12 (S10) (RCEP 2003 identifier)	District: Tauranga District Council
--	--

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Waihi Estuary	Map Ref: 16c
----------------------------------	---------------------

ID No: ONFL 13 (S11) (RCEP 2003 identifier)	District: Tauranga District Council
--	--

General change since 1993

- **Further development on Pukehina Spit including some larger modern 2 storey houses.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures	More prominent structures (houses) on Pukehina Spit	
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Kohioawa Beach dunefield and wetlands	Map Ref: 18b, 19b
--	--------------------------

ID No: ONFL 14 (S14) (RCEP 2003 identifier)	District: Whakatane District Council
--	---

General change since 1993

- **Further extension of residential development to west – apparent on map 19b aerial photographs, not significant in relation to ONF&L values on ground.**
- **Presence and increase in weed species such as Pampas and Acacia degrade natural values.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover	Weeds and exotic species	
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Escarpment and Pohutukawa along Matata Straights	Map Ref: 18b
---	---------------------

ID No: ONFL 15 (S13) (RCEP 2003 identifier)	District: Whakatane District Council
--	---

General change since 1993

- **Slips and storm damage along cliff face escarpment have caused some damage to distinctive weathered pattern of cliff face.**
- **Control of weed species particularly pampas and acacia has enhanced indigenous vegetation values. However considerable areas of weed remain.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform	Natural erosion and storm damage	
Change in Waterform		
Change in Vegetation Cover		Weed control
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Matata Wetlands	Map Ref: 19b
------------------------------------	---------------------

ID No: ONFL 16 (S15) (RCEP 2003 identifier)	District: Whakatane District Council
--	---

General change since 1993

- **Increased residential development in settlement area.**
- **2005 Flood damage.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform	Partial storm damage and 'filling' of wetland with mud / rubble.	
Change in Waterform	Loss of water / wetland area - ? temporary.	
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

**Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
 Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes**

ONF&L Name: Kohi Point & Otarawairere Bay and catchment	Map Ref: 24b
--	---------------------

ID No: ONFL 18 (04) (RCEP 2003 identifier)	District: Whakatane District Council
---	---

General change since 1993

- **Exotic weed species on escarpment overlooking Whakatane.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover	Presence of weed species	Natural regeneration
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Distal Point of Ohope Spit**

Map Ref: **25c**

ID No: **ONFL 19 (S16) (RCEP 2003 identifier)**

District: **Whakatane District Council**

General change since 1993

- **Subdivision (within context of ONF&L) bordering Ohiwa Harbour / estuary.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures	Prominent residential development at times reinforced by highly reflective / contrasting colour schemes.	
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Ohiwa Harbour	Map Ref: 26c
----------------------------------	---------------------

ID No: ONFL 20 (05) (RCEP 2003 identifier)	District: Whakatane District Council
---	---

General change since 1993

- **Subdivision (context) bordering Ohiwa Harbour / estuary including more dominant housing along defining spit landform and skyline.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures	Dominant and visually contrasting development especially in proximity to harbour and / or on skyline ridges.	
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Uretara Island	Map Ref: 25c
-----------------------------------	---------------------

ID No: ONFL 21 (S17) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Pataua Island	Map Ref: 26c
----------------------------------	---------------------

ID No: ONFL 22 (S18) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Waiotahi Estuary	Map Ref: 27c
-------------------------------------	---------------------

ID No: ONFL 23 (S19) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **Slight change to river mouth - accretion.**
- **Ongoing rural landuse on low lying flats.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform	Linear drainage patterns	Natural processes accretion
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Waiotahi Spit and Estuary Mouth	Map Ref: 27c
--	---------------------

ID No: ONFL 24 (08) (RCEP 2003 identifier)	District: Opotiki District Council
---	---

General change since 1993

- **Some change to distal end of spit – accretion.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Natural accretion
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

**Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
 Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes**

ONF&L Name: Pohutukawa tunnels over State Highway 2 at Waiotahi	Map Ref: 27c
--	---------------------

ID No: ONFL 25 (S20) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change, Pohutukawa retain their tunnel effect over road carriageway.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Tarakeha (Opape)	Map Ref: 29b
-------------------------------------	---------------------

ID No: ONFL 26 (S21) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Haurere Point	Map Ref: 29b
----------------------------------	---------------------

ID No: ONFL 27 (S22) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **Indigenous vegetation cover maturing.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Intact cover of indigenous vegetation maturing
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Haumiaroa Point	Map Ref: 30
------------------------------------	--------------------

ID No: ONFL 29 (S23) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **River mouth changed through natural processes, indigenous vegetation maturing.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Natural accretion
Change in Waterform		
Change in Vegetation Cover		Intact cover of indigenous vegetation maturing
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Whituare Bay	Map Ref: 30
---------------------------------	--------------------

ID No: ONFL 30 (S24) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **No apparent change other than continuing establishment of indigenous vegetation.**
- **Seasonal cultivation of paddocks.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Regenerating vegetation
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Maraenui escarpment (Whituare Bay)	Map Ref: 30, 31
---	------------------------

ID No: ONFL 31 (S25) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **No apparent change other than ongoing establishment of indigenous regeneration.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Regenerating vegetation
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Motu River Mouth**

Map Ref: **31c**

ID No: **ONFL 32 (09) (RCEP 2003 identifier)**

District: **Opotiki District Council**

General change since 1993

- **River mouth and pattern of braided channels substantially changed through natural processes.**
- **Indigenous vegetation in catchment backdrop to north continuing to mature.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Dynamic nature and force of river system – changed profile
Change in Waterform		Braided pattern of channels – changed profile
Change in Vegetation Cover		Maturing vegetation in intact catchment backdrop to east
Change in Structures		
Change in Infrastructure		

**Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
 Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes**

ONF&L Name: Orangoihunui Point to Whitianga Bay, Whitianga Bay to Ohae Point	Map Ref: 32b
---	---------------------

ID No: ONFL 33 (S26) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **No apparent change other than continuing establishment of regenerating indigenous vegetation.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Intact cover of regenerating indigenous vegetation.
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Motunui Island and Associated Reefs	Map Ref: 32b, 33
--	-------------------------

ID No: ONFL 34 (S27) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Whanarua Bay	Map Ref: 34b
---------------------------------	---------------------

ID No: ONFL 35 (010) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change other than ongoing regeneration of indigenous vegetation.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Regenerating backdrop catchment
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Raukokere River Mouth	Map Ref: 35c, 36c
--	--------------------------

ID No: ONFL 36 (S28) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **Changes to river mouth – natural dynamic processes.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Braided dynamic river system – changed profile
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Oruaiti Beach, offshore rocks and Waikanapanapa cliffs	Map Ref: 36c, 37b
---	--------------------------

ID No: ONFL 37 (S29) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Whangaparaoa Dunefield, Wetland and Estuary	Map Ref: 37b, 38b
--	--------------------------

ID No: ONFL 38 (S30) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **River mouth changed due to natural processes.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Braided dynamic river system – changed profile
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Kopongatahi Point	Map Ref: 38b
--------------------------------------	---------------------

ID No: ONFL 39 (S31) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **No apparent change other than continuing natural regeneration.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Natural regeneration
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Cape Runaway**

Map Ref: **38b**

ID No: **ONFL 40 (011) (RCEP 2003 identifier)**

District: **Opotiki District Council**

General change since 1993

- **No apparent change other than continuing natural regeneration of indigenous vegetation.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Natural regeneration / revegetation
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Steep coastal hills between Cape Runaway and Lottin Point	Map Ref: 38b, 39b
--	--------------------------

ID No: ONFL 41 (S32) (RCEP 2003 identifier)	District: Opotiki District Council
--	---

General change since 1993

- **No apparent change other than ongoing natural regeneration.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		Natural regeneration / revegetation
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Karewa Island	Map Ref: 43
----------------------------------	--------------------

ID No: ONFL 42 (S9) (RCEP 2003 identifier)	District:
---	-----------

General change since 1993

- **No apparent change – protected landscape – wildlife sanctuary.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: Tahua (Mayor) Island	Map Ref: 40b
---	---------------------

ID No: ONFL 43 (03) (RCEP 2003 identifier)	District:
---	-----------

General change since 1993

- **No apparent change - significant protected landscape - wildlife sanctuary and marine reserve.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Motiti Island and associated islands / reefs and shoals as well as sub-tidal context**

Map Ref: **45b**

ID No: **ONFL 44 (S12) (RCEP 2003 identifier)**

District:

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

**Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
 Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes**

ONF&L Name: Moutohora (Whale Island)	Map Ref: 21b
---	---------------------

ID No: ONFL 45 (06) (RCEP 2003 identifier)	District: Western Bay of Plenty
---	--

General change since 1993

No apparent change.

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		

Bay of Plenty Coastal Environment - Outstanding Natural Features and Landscapes
Commentary on Landscape Change since 1993 affecting Outstanding Natural Features and Landscapes

ONF&L Name: **Whakaari (White) Island and associated sub-tidal and surface island features**

Map Ref: **48b**

ID No: **ONFL 46 (07) (RCEP 2003 identifier)**

District:

General change since 1993

- **Change associated with active volcanic field.**

CATEGORY	DETRACTOR	ENHANCER
Change in Landform		Complex of active volcanic features, natural change.
Change in Waterform		
Change in Vegetation Cover		
Change in Structures		
Change in Infrastructure		