



Boffa Miskell

LAKE ROTORUA CATCHMENT LANDSCAPE ASSESSMENT

:: JUNE 2010

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Note: The numbering of these landscape character types and landscape character areas follows on from the Southern Lakes / Rural Areas Landscape Assessment, with the last Landscape type in that study being unit 18.0 – Horohoro.

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EXECUTIVE SUMMARY

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Lake Rotorua Catchment Landscape Assessment

Introduction

This report documents the Lake Rotorua Catchment Landscape Assessment commissioned by Rotorua District Council in 2005 (Professional Services Contract No: 05/069). Similar assessments have been undertaken for the Northern Lakes, Southern Lakes / Rural Areas and Eastern Lakes Landscape Assessment study areas. The study area boundary for the Lake Rotorua Catchment Landscape Assessment is shown as Figure 1.

The Landscape Types and Landscape Character Areas that are described in this report represent a spatial framework of landscape character within the Lake Rotorua Catchment Landscape Assessment study area. The descriptions should be read in conjunction with the Landscape Types and Landscape Character Areas maps and the base resource maps (Appendix 1: Study Area Resource Map Book – Maps 1 – 14) that have been used to assist in defining the Landscape Types and Landscape Character Areas (refer to Methodology section below for definitions).

The assessment methodology for this study has firstly involved a Landscape Character Assessment process that then provided a framework for the second stage, which has involved identifying “Outstanding Natural Features and Landscapes” (ONFL).

The “*protection of outstanding natural features and landscapes from inappropriate subdivision use and development*” is a matter of national importance under Part II Section 6(b) of the Resource Management Act 1991 (the RMA). The identification of such features and landscapes and the provision of appropriate objectives, policies and methods for their recognition and protection is a responsibility of District Councils. The RMA does not define ‘landscape’ or ‘outstanding’. However, the standard dictionary definition of ‘outstanding’ to mean ‘eminent especially by excellence’, and ‘conspicuous’ are generally adopted to provide guidance to the determination of outstanding natural features and landscapes.

Section 6(b) relates to other matters of national importance such as Section 6(a) in regard to the preservation of the natural character of wetlands and lakes and rivers and their margins and the protection of them from inappropriate subdivision, use and development.

Cultural landscapes of significance to Maori were also identified through a consultative process. These have been mapped and are referred to throughout this assessment and in the section on cultural landscapes.

Landscape Management Issues are also identified for each of the thirty-seven (37) Landscape Character Areas. These issues identify specific landscape management outcomes that are desirable within each Landscape Character Area. When an application for resource consent is made in a specific Landscape Character Area, it is intended that an applicant will refer to these issues and incorporate measures into the design of the proposal or assessment of effects that align with the management of these issues where these are relevant to the site and / or application.

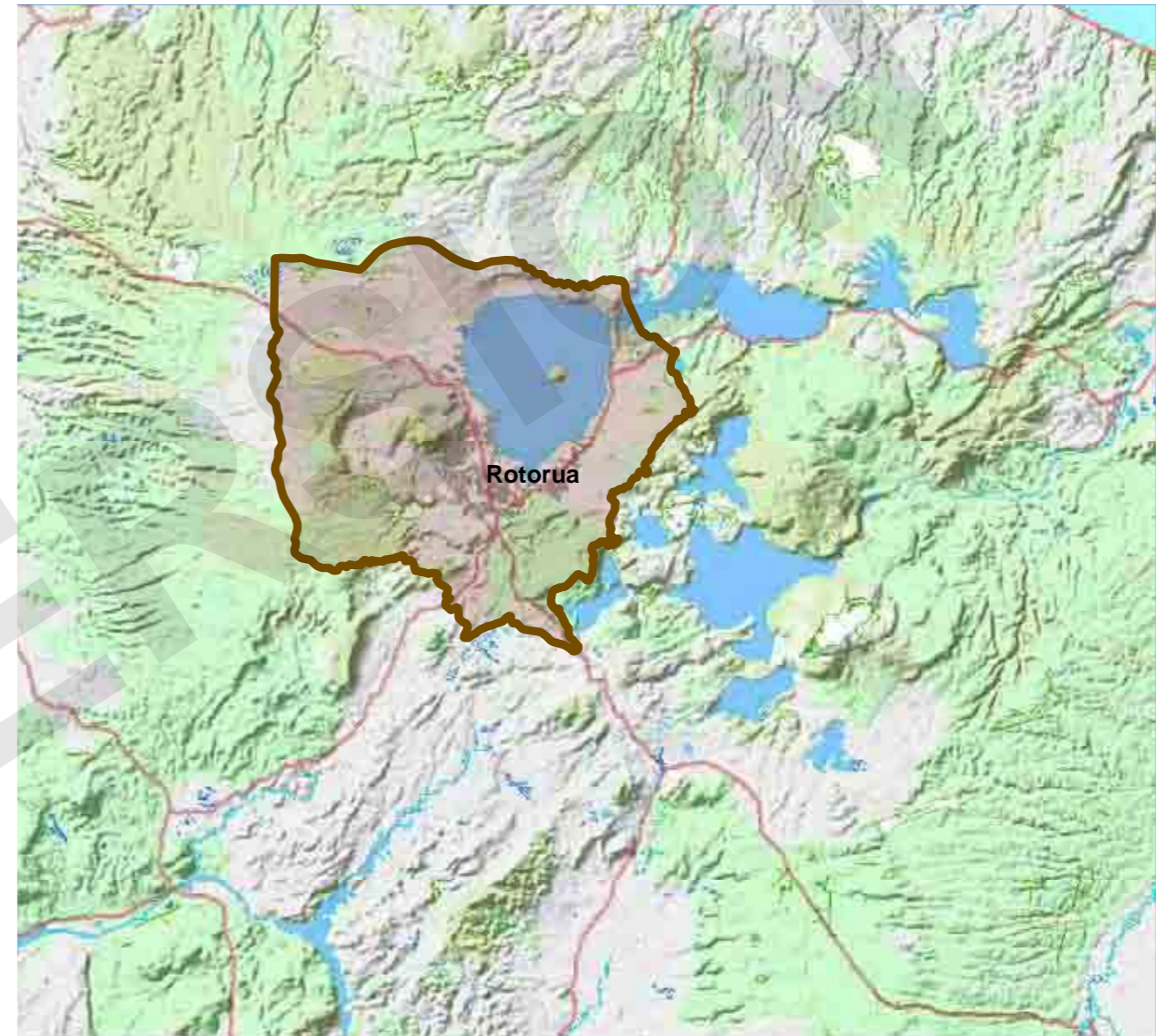


Figure 1: Study area boundary for the Lake Rotorua Catchment Landscape Assessment

Uses of Landscape Character Assessment

Landscape Character Assessment is a means of enabling Council, landowners and communities to understand what the landscape is like now, how it came to be the way it is and how it may change in the future.

In this way the Lake Rotorua Catchment Landscape Assessment aims to assist Council, landowners and communities to understand landscape change, its drivers and the threats and vulnerabilities to the existing landscape. Once the landscape characteristics and values of the Lake Rotorua catchment landscape are understood, guidance in relation to appropriate forms of protection, productive land use, development, enhancement or rehabilitation can be provided.

Ways in which Landscape Character Assessment can help achieve integrated land use planning and management include:

Land Use Planning

- Providing a spatial framework for informing strategic policy development at the District wide (District Plan and LTCCP), structure planning, community planning and asset management planning at the local level.
- Studies of development potential, i.e. to help in identifying appropriate areas for managed development / growth on the urban fringes and in rural environments.
- Informing the siting, scale and design of particular forms of development, such as cluster housing or rural residential development.
- Contributing to landscape capacity studies relating to the supply of land for housing, rural activities and forestry use.
- Providing a cohesive integrated landscape resource document to assist landowners/applicants in preparing assessments of environmental effects and applications for resource consent.
- Providing a spatial framework for planning consistency with wider regional and national policy instruments and initiatives such as Rotorua Lakes Protection and Restoration Action Programme.
- Providing a base line against which future landscape change and the affect of landscape protection and management measures in the District Plan can be monitored.

Landscape Management

- Providing a basis for the identification of landscape management issues, objectives and the preparation of appropriate landscape management strategies including protection, development, altered forms of production, enhancement or rehabilitation.
- Providing a strategic spatial framework for inter-agency co-operation and initiatives (Environment Bay of Plenty [EBOP], Department of Conservation [DoC]).
- Informing work on special areas including areas for designation, mapping of boundaries, justifications for special application of policies.
- Helping to guide land use in positive integrated ways to ensure the efficient use of natural and physical resources and to promote landscape integrity - the idea of integrated land use planning and management within the context of sustainable management and the RMA.

The principal expected outcomes of this Lake Rotorua Catchment Landscape Evaluation project are therefore:

- To inform decision making at Council, landowner stakeholder and community levels,
- To provide for the recognition and appropriate protection of outstanding natural features and landscapes (RMA Section 6(b)),
- To assist in the formulation of strategic landscape policy provisions,
- To guide land use change, and the siting, carrying capacity and form of future development,
- To provide a basis for the formulation of landscape management strategies and plans,
- To facilitate community landscape enhancement initiatives, and
- To provide a framework and basis for ongoing studies.

What is “Landscape”?

Landscape is a physical resource that is the result of natural and cultural processes occurring over time. All landscape has undergone past change and will continue to be modified by both natural processes and cultural activities. The landscape that we see is influenced by our own individual cultural heritage and perceptions. People with an urban upbringing will see and experience rural landscapes or the relative wilderness of natural areas differently to the people who live within and make their living from the rural landscape.

Councils have a statutory responsibility to protect outstanding natural landscapes and features (Section 6 RMA) as well as the more general amenity values of landscape (Section 7 RMA). It is, however, landowners who have the ultimate responsibility for land management and the husbandry or stewardship of the landscape resource.

Landscape in its broadest context incorporates a range of characteristics and attributes including the following:

- Geomorphological – underlying geological processes, structure and resultant topography,
- Hydrological – the patterns of water movement and collection,
- Ecological – dynamic organic components and processes,
- Transient – ephemeral, seasonal, temporal and atmospheric,
- Aesthetic – coherence, vividness, naturalness,
- Legal / Economic – patterns of ownership, use and productivity,
- Community/Social – scenic, shared and recognised values,
- Cultural – tangata whenua values and associations,
- Historic – sites, areas, buildings, features, elements and events.

These attributes together contribute to our perception, understanding and appreciation of landscapes.

Landscape Change in the Lake Rotorua Catchment

The Landscape character assessment methodology described above recognises the fundamental role that land use plays in influencing how modified landscapes are structured and how natural landscape processes function in relation to human activities, landscape modification and change.

Relationships between landscape structure and landscape function change over time across different spatial scales; all landscapes are dynamic and undergo continual natural and induced change.

Te Rotoruanui a kahumatamomoe (Lake Rotorua) is a source of identity and mana for the people of Te Arawa. The patupaiarahe and migration waka descent groups have occupied the area for centuries. The evidence of this occupation is the preservation of earthworks, proximity of marae and kainga to the lake, and the continued use and enjoyment of the natural resources – puia, punawai, forests, soils, mountains and rivers.

Missionaries and pakeha settlers brought new technologies that saw significant changes to land use activities and the establishment of an urban centre around Ohinemutu. The contrasting urban environment and infrastructure, lake, geothermal resources and communal villages around the lake contribute to the make up of the cultural landscape that continues to change over time.

The Rotorua Growth Model (November 2005) identifies areas of high, moderate and stable key growth components over a range of spatial planning units that will result in further future landscape change. This model also identifies a number of key drivers for growth such as the Eastern Wastewater Scheme, potential for rural residential land in Hamurana, rural residential opportunities, demand for lakeside settlement locations, and demand for development opportunities on elevated plateau areas.

The Rotorua District Council has a community interest in seeking to avoid conflict between private and community aspirations where landscape change is likely and to manage the nature, extent and effects of change. The Environmental Perceptions Study (Rotorua District Council, May 2006) identifies a number of issues in relation to landscape change including concerns about the change in relation to the subdivision of land, amenity and general character issues including wider environmental concerns such as lake water quality.

The Resource Management Act also requires councils to recognise and provide for, or have particular regard to, the preservation of the natural character of the District's water bodies including lakes (Section 6(a)), the protection of outstanding natural features and landscapes (Section 6(b)), the maintenance and enhancement of amenity values (Section 7(c)), and of the quality of the environment (Section 7(f)).

The rate of recent landscape change within the Lake Rotorua catchment has led Council to undertake a comprehensive assessment of the study area's landscape to provide a basis for better informed and more appropriate long term strategic landscape policy provisions and the management of landscape values and the effects of landscape change.

Methodology

The Landscape Type and Landscape Character Area definitions represent the first stage in a two-stage Landscape Character Assessment process. The delineation of homogeneous landscape types and character areas provides a framework for the second stage of landscape assessment; being to identify landscape values and qualities including identification of outstanding natural features and landscapes.

The methodology is summarised in the adjacent diagram which documents the two parts of this project which are documented in two separate reports; the first setting out the landscape resource description and evaluation; and the second providing advice and recommendations for Council in terms of landscape protection and management mechanisms. In this way the 'factual' description is separated from the opinion in terms of recommendations.

This landscape framework can be thought of as a number of ordered sets of interconnected landscape areas from large or broad scale to small or site-specific, each with their own distinct landscape characteristics.

Landscape Types are:

- Generic
- Exhibit similar characteristics in different physical locations
- Allow different landscapes to be compared

Landscape Character Areas are:

- Unique
- Geographically / spatially specific
- Have individual identity but share generic character with other areas of the same landscape type

In applying this method of landscape assessment the smaller the scale the greater the level of assessment detail needed. The following diagram illustrates the concept of a nested hierarchy of landscape types and areas, and the landscape management techniques that can be applied at each level.

This approach and methodology is based on desktop analysis and field surveys. The methodology makes extensive use of GIS factor map layers which assists in the analysis of more remote or inaccessible (publicly) areas of the landscape. The GIS data sets and other desk top evaluation material are documented in the Resource Map Book (refer Appendix 1).

Many landscape assessment methodologies have in the past been based primarily on visual and/or scenic quality evaluations and the ranking of landscapes according to their aesthetic value. The outcome of these studies has often tended to focus on the identification of the "best" or "unique" landscapes that warrant some form of acknowledgment, protection or special management.

While this Lake Rotorua Catchment Landscape Assessment seeks to identify significant landscapes, including outstanding natural features and landscapes, the study also identifies the distinctive characteristics of the study area landscape and what makes particular areas different from each other, rather than better or more scenic than each other. The study also acknowledges and seeks to understand landscape change, its drivers and the threats to the existing landscape.

Summary of Results

This report identifies and describes 11 Landscape Types and 37 individual Landscape Character Areas within those larger Landscape Types. These areas have been defined and mapped on the basis of:

- underlying geology and associated topography;
- existing landcover;
- land use capability;
- natural drainage patterns;
- existing cultural land uses; and
- settlement patterns.

Eight ONFLs have been identified within the study area (see Outstanding Natural Features and Landscape Assessment Criteria Worksheets and Appendix 1: Map 13). They are:

- **Lake Rotorua:** A defining landscape and feature of the district, with geothermal as well as cultural / historic values and national recognition.
- **Whakarewarewa Geothermal Area:** A modified active volcanic landscape including a variety of individual volcanic features characteristic of the geothermal qualities that define the lake catchment, wider District and Region.
- **Tikitere Geothermal Area:** A modified active volcanic landscape including a variety of individual volcanic features that are characteristic of the geothermal qualities that define the lake catchment, wider District and Region.
- **Mamaku Tors:** A range of individual landscape features of varying scale, distinctness and quality that collectively represent a distinctive geological / volcanic rural landscape.
- **Hamurana Springs:** A fresh water spring and associated amenity landscape representative of wider hydrological processes that characterise Lake Rotorua and the District.
- **Hamurana Caldera Rim:** A representative area of steep Caldera rim scarp that exemplifies the wider topographic feature of the Lake Rotorua Caldera that defines much of the Lake catchment.
- **Mt Ngongotaha:** A characteristic volcanic dome and steep vegetated landscape feature that defines the wider underlying geological processes within the Lake catchment.
- **Mokoia Island:** A defining landscape feature and vegetated island landscape that is a key component of Lake Rotorua landscape and of high cultural significance.

Integrating landscape assessment and planning processes

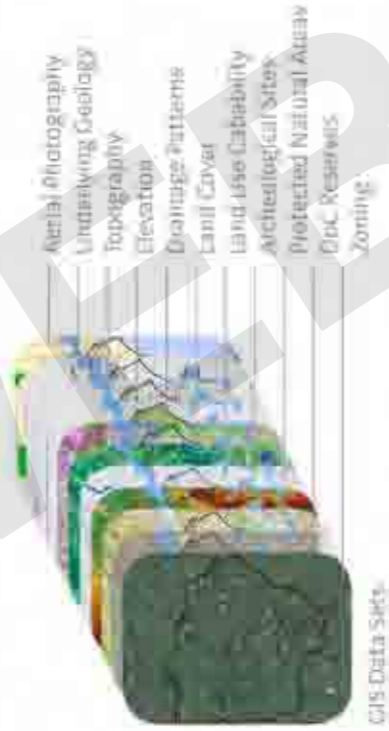
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Selected Study Area: Lake Rotorua Catchment
One of four study areas in the District.



— Lake Rotorua Catchment
— Rotorua District Council

Landscape Analysis & Assessment Process: GIS Data Sets, Fieldwork & Consultation



- Aerial Photography
- Underlying Geology
- Topography
- Elevation
- Drainage Patterns
- Land Cover
- Land Use Capability
- Archaeological Sites
- Protected Natural Areas
- DOC Reserves
- Zoning

GIS Data Sets

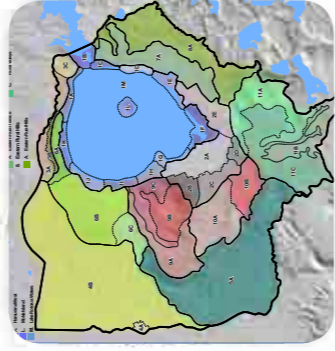


Fieldwork

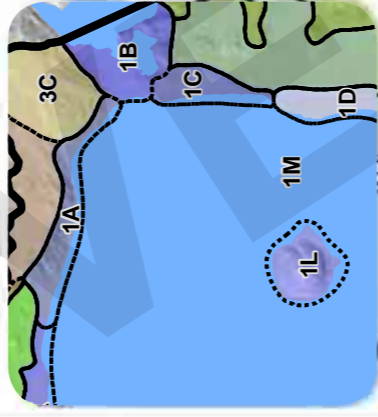


Consultation

The Development of an Integrated Spatial Framework of Landscape Areas



Identification of Landscape Types & Landscape Character Areas



- Landscape Types
 - Highly visible attributes based on geomorphology/landform
 - Define areas of homogeneity
- Landscape Character Areas
 - Represent variations in landcover and landuse
 - Homogeneous areas with distinctive landscape characteristics
 - Subdivides all a landscape type

Applying Specific Assessment Criteria



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RESOURCE EVALUATION: Document One

LANDSCAPE MANAGEMENT RECOMMENDATIONS: Document Two

Landscape Analysis & Planning at the Site Specific Scale



Development outcome that does not work with landscape attributes and character



Development outcome that works with landscape attributes and character

Structure Planning



Recognising Landscape Character at the Broader Landscape Scale to Inform...

...Design Guidelines for the Placement & Integration of Earthworks, Buildings, Access and other Infrastructure in the Landscape at the Smaller Scale...



- Contouring
- Aligning infrastructure with landform
- Using structure mitigation
- Building materials/color/visibility
- Vegetation patterns and associations



LANDSCAPE TYPES AND LANDSCAPE CHARACTER AREAS

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Landscape Types and Landscape Character Areas

Note: The numbering of these landscape character types and landscape character areas follows on from the Southern Lakes / Rural Areas Landscape Assessment, with the last Landscape type in that study being unit 18.0 – Horohoro.

- 19.0 LAKE ROTORUA AND MARGINS**
- 19.1 Hamurana East
- 19.2 Mourea / Okawa Bay
- 19.3 Pohue Bay
- 19.4 Te Ngae
- 19.5 Hannahs Bay
- 19.6 Ngapuna
- 19.7 Ohinemutu / Kawaha Point
- 19.8 Waikuta
- 19.9 Ngongotaha Lakeside
- 19.10 Awahou
- 19.11 Hamurana West
- 19.12 Mokoia Island
- 19.13 Lake Rotorua Waters

- 20.0 URBAN ROTORUA AND SETTLEMENTS**
- 20.1 Rotorua City and Suburbs
- 20.2 North-western Suburbs
- 20.3 South-western Suburbs
- 20.4 Whakarewarewa
- 20.5 South-Eastern Suburbs

- 21.0 NORTHERN CALDERA**
- 21.1 Te Waerenga
- 21.2 Northern Caldera Scarp
- 21.3 Mourea Hill

- 22.0 MAMAKU PLATEAU NORTH**
- 22.1 Mamaku Township
- 22.2 Mamaku Rural

- 23.0 MAMAKU PLATEAU SOUTH**
- 23.1 Mamaku Forestlands

- 24.0 WESTERN RURAL**
- 24.1 Hamurana North
- 24.2 Lower Plateau Slopes
- 24.3 Tarukenga East

- 25.0 EASTERN RURAL TERRACE**
- 25.1 Eastern Rural Terrace

- 26.0 EASTERN RURAL HILLS**
- 26.1 Eastern Rural Hills

- 27.0 MOUNT NGONGOTAHA**
- 27.1 Ngongotaha Valley
- 27.2 Ngongotaha Domes
- 27.3 Ngongotaha Scarp and Lower Slopes

- 28.0 UTUHINA HILLS**
- 28.1 Pukehangi
- 28.2 Tihi-o-tonga

- 29.0 PUARENGA VALLEY**
- 29.1 Waipa Hills
- 29.2 Western Kauaka Valley Hills
- 29.3 Rural Valleys



Hamurana East



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.1: Hamurana East

Area Defined by:

- Caldera scarp to the north
- Mourea to the east
- Lake edge to the south
- Te Waerenga Road to the west

Area Characterised by:

- An underlying geology of hard igneous rock types (ignimbrite) resulting in steep to very steep south facing scarps and slopes to lake edge easing to the west.
- Class 6 and 7 land use capability (LUC) (New Zealand Land Resource Inventory)* with erosion subclasses and second/ third order drainage patterns (see Map 6 and Map 8 Appendix 1)**1.
- Landcover characterised by significant areas of indigenous vegetation with exotic dominant Lake edge vegetation patterns (see Map 7 Appendix 1)
- Includes significant areas of indigenous vegetation of potential ecological value.
- Those areas not in bush are characterised by pastoral activities particularly to the east and north near Mission Bay valley system.
- Settlement patterns are characterised by either small clustered residential settlements (near Unsworth Road), or isolated rural dwellings (Mission Bay, Mourea west).
- 12 archaeological sites identified (see Map 9 Appendix 1).
- Significant areas of unprotected broadleaf indigenous forest in road reserve in the west (see Map 7 and Map 11 Appendix 1). Maori Reserve (unidentified) to the west.

Local Character Areas:

- Unsworth Road settlement
- Steep scarp bushland
- Mission Bay lakeside and valley
- Eastern lake edge

* For a definition of the Land Use Capability Assessments sourced from the New Zealand Land Resource Inventory see Appendix 2 : NZLRI Terms and explanations.

** Refer to Study Area Resource Maps, Appendix 1



Landscape Management Issues:

- Stabilisation on steep pasture slopes
- Enhancement, protection and management of Hamurana Cliffs and Mission Bay bush edge vegetation patterns
- Management of Lake margin vegetation
- Enhancement of bush road corridor and Lake side drive experience
- Lake access at Mission Bay
- Form and character of subdivision and development rural, sprawl vs. enhancement and development of existing settlements e.g. Unsworth Road / Mission Bay Valley





Mourea / Okawa Bay



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.2: Mourea / Okawa Bay

Area Defined by:

- Pastoral hill country north of Hamurana Road
- Okawa Bay and Motutawa Point to the east
- Moderately steep hill country to the south of Mourea settlement
- Lake Rotorua edge to the west

Area Characterised by:

- Underlying geology of volcanic alluvium floodplain resulting in flat to undulating topography associated with the Ohau Channel (see Map 5 Appendix 1). Class 6 LUC with wetness limitation subclass (see Map 8 Appendix 1).
- Also includes steep to very steep partially vegetated north facing topography associated with Motutawa Point (with older/harder underlying Breccia material) that surrounds and encloses southern Okawa Bay that is predominantly Class 7 LUC with erosion subclass.
- Includes Ohau channel as a distinct water course and extensive wetland areas (23 .5 ha) on the northern margin of Okawa Bay and the Ohau Channel Wetland.
- Enclosed water bodies in combination with steep surrounding topography and floodplain.
- Indented and varied shoreline that includes features of western Lake Rotoiti (Te Akau Point) and waters.
- Landcover characterised by pasture land, wetland vegetation and low density residential.
- Settlement patterns centred on Rotorua Lake edge and Okawa Bay (Lake Rotoiti). Examples include traditional bach / older residential patterns, more recent canal housing project and existing resort facility.
- Land use dominated by pastoral and residential.
- 6 archaeological sites identified (see Map 9 Appendix 1).
- Lake Rotoiti (including Okawa Bay) previously identified by Environment Bay of Plenty as an outstanding natural feature/ landscape.
- Significant areas of Reserve A (unnamed recreation reserve) and Reserve B land (see Map 11 Appendix 1).

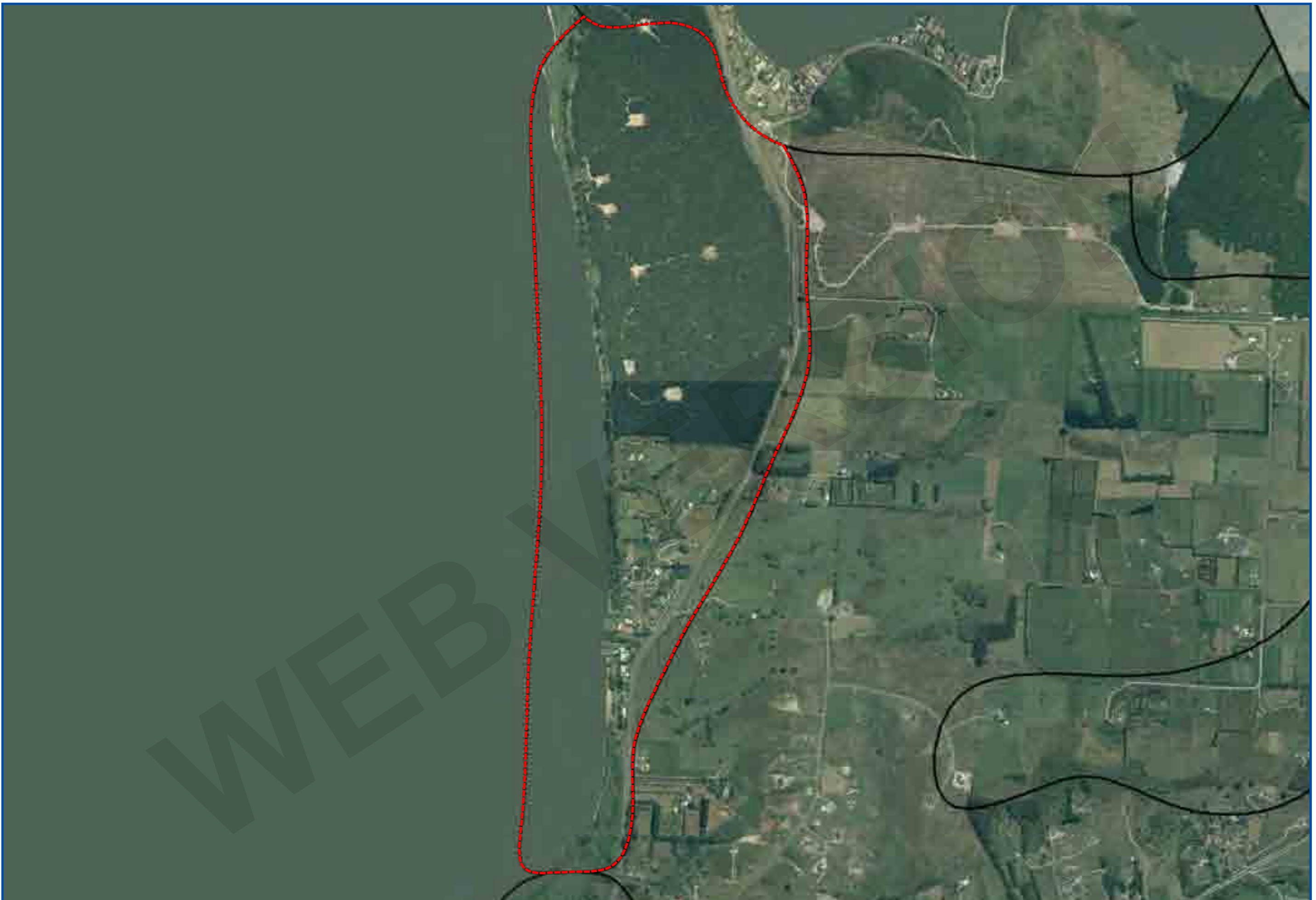
Local Character Areas:

- Northern wetlands (Ohau Channel Wetland)
- Lake edge settlements (Rotorua and Rotoiti)
- Rural plain lands
- Motutawa Point and slopes

Landscape Management Issues:

- Enhancement and protection of Ohau Channel Wetland.
- Lake water quality in relation to the Ohau Channel Diversion.
- Slope stabilisation and appropriate management of Motutawa Point as a distinct local feature.
- Enhancement and protection of remnant natural character of Okawa Bay.
- Management of Lake access including form and character of lake facilities in relation to the surrounding rural and natural character and the integrated management of Reserve A and B lands (open space).
- Preservation and enhancement of existing character of lakeside settlements in relation to surrounding rural and natural character.
- Management of part of the SH 33 road.





Pohue Bay



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.3: Pohue Bay

Area Defined by:

- Mourea floodplain to the north
- SH 33 to the east
- Pohue Bay southern headland to the south
- Lake Rotorua edge to the west

Area Characterised by:

- Landforms characterised by moderately steep to strongly rolling slopes to the north associated with unconsolidated to moderately consolidated flow tephra. Class 6 LUC with erosion subclass.
- Eases from rolling to strongly rolling slopes associated with change in geology to dominant unconsolidated to moderately consolidated material. Class 4 LUC with erosion subclass (see Map 5 Appendix 1).
- Secondary drainage patterns associated with Pohue Bay to the south (see Map 6 Appendix 1).
- Landcover characterised by exotic pine in the north fringed to the north and west by shrublands and lake edge vegetation / wetlands (Lake Rotorua Marginal Strip see below).
- Lake edge areas of indigenous vegetation including DoC reserve (Map 10), RDC Reserve Zone A lakeside network (Map 11) including Lake Rotorua Marginal Strip and Te Ngae Junction Road Reserve.
- Rural / pastoral lands to the south.
- Land use includes forestry, farming and rural residential.
- Settlement patterns characterised by rural residential pattern with larger lots to the north and smaller lots to the south. Also features a small number of west facing lakeside dwellings fronting Pohue Bay in the south.
- 1 identified archaeological site (see Map 9 Appendix 1).

Local Character Areas:

- Northern forestlands
- Southern rural residential
- Pohue Bay margins



Landscape Management Issues:

- Management of existing forestry in relation to lake water quality.
- Form and character of possible future residential development of northern forest lands.
- Riparian management and enhancement of marginal strip.
- Lake access and facilities.
- Character of existing settlements in relation to future subdivision and development.



Te Ngae



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.4: Te Ngae



Area Defined by:

- Pohue Bay headland to the north
- Te Ngae Road/SH 30 to the east
- Rotorua Airport to the south
- Lake Rotorua edge to the west

Area Characterised by:

- Flat to undulating terraces associated with underlying geology of pumiceous rock types and very loosely consolidated material (see Map 5 Appendix 1). Class 3 LUC dominant with wetness subclass.
- Drainage patterns include two extensive stream systems originating from the Eastern Hills including the Waiohewa Stream and stream mouth (see Map 6 Appendix 1).
- Land cover includes a variety of small isolated patches of indigenous vegetation throughout with a significant patch white pine (Kahikatea) bush - (13 ha identified as Te Ngae Kahikatea Stand) to the east.
- Also includes lakeside vegetation patterns Te Ngae Junction wetland, pasture lands and cropland.
- Settlement patterns include low density rural residential aligned with Te Ngae Road, Mataikotare Marae to the north and Ruamata Marae in the south.
- 2 archaeological sites (see Map 9 Appendix 1) and one geopreservation site (Te Ngae Road Tephra section).
- Te Ngae Junction road reserve (part) and significant areas of Reserve B land including white pine bush and Waiohewa Stream marginal strip.

Local Character Areas:

- Lake edge vegetation and bushland
- Pastoral / rural residential

Landscape Management Issues:

- Riparian and wetland management and associated lake water quality.
- Integration of reserves and open spaces.
- Lake access and linkages.
- Management of road corridor.
- Protection of areas of indigenous vegetation - Te Ngae kahikatea stand.



Hannahs Bay



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.5: Hannahs Bay



Area Defined by:

- Ruamata Marae to the north of the character area
- Te Ngae Road and Lake Rotokawa to the east
- Hinemoa Point to the south
- Lake Rotorua edge to the west

Area Characterised by:

- Flat pumice / volcanic alluvium terraces. Areas of Class 2 and 3 LUC identified (NZLRI “town” dominant see Map 7 Appendix 1).
- Drainage patterns include Waingaehe Stream system draining to Holdens Bay and Lake Rotokawa, Lake Rotokawa Spring (geopreservation site), Lake Rotokawa Marginal Strip DoC (see Map 10 Appendix 1) and Rotorua Airport Wetland (8.78 ha).
- Landcover includes open space, wetland vegetation patches (see Land Cover Data Base Map 7 Appendix 1), pasture land.
- Land use includes Rotorua Airport, recreational reserve (DoC), Ngunguru Point lake access and facilities, residential areas and light industrial (Eastgate business park).
- Settlement patterns include suburban residential settlement of Hannahs Bay and Holdens Bay including lake beaches and headlands including Hinemoa Point and Owhata Marae.
- Two geopreservation sites (Lake Rotokawa Spring and Hinemoa Point lava dome).
- Significant areas of Reserve A (public) land on eastern lake margin (see Map 11 Appendix 1).

Local Character Areas:

- Rotorua Airport
- Hannahs Bay lake shore including reserve land / open spaces, beaches and headland features
- Owhata Marae and Holdens Bay

Landscape Management Issues:

- Integration of wetland, lakes and riparian management including water quality and vegetation management.
- Integration of reserves and open space.
- Lake access and linkages (Rotokawa to Rotorua).
- Scale and form of lakeside development.



Ngapuna



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.6: Ngapuna

Area Defined by:

- Lake Rotorua margins and Sulphur Point embayment to the north
- Owhata Road to the east
- SH 30 and Ngapuna / Vaughan Road to the south
- Motutara Point to the west

Area Characterised by:

- Flat to undulating volcanic alluvium terraces representative of an underlying geology of loosely consolidated pumice flow material. Class 3 LUC with wetness subclass in proximity to lake edge with some Class 2 LUC in the south.
- Landforms include flat to undulating terraces and an elevated knoll with eight identified archaeological sites (see Map 9 Appendix 1) including limited indigenous vegetation.
- Features principal drainage pattern of meandering Puarenga Stream channel. Also includes unnamed second order stream channels to the east (see Map 6 Appendix 1).
- Landcover includes extensive pasture area north of Vaughans Road with a mix of vegetation types characteristic of rural farmland including some hedgerows and cropped areas.
- Also includes a limited lakeside kanuka/manuka shrubland area easing to gravel sulphur flat complexes around the Sulphur Point embayment (Motutara – Sulphur Point – Ngapuna indigenous vegetation areas).
- Land use includes pastoral grazing in the east, industrial (sewage works and heavy industry) and residential in the south and urban in the west including recreational open space (golf course) and tourist accommodation.
- Settlement patterns also include some limited suburban residential between industrial areas.
- Reserve A (Government Gardens) and Geopreservation sites include Ngapuna Spring (with Government Gardens Springs (2) adjoining to the west).
- Areas of potential ecological value including Ngapuna Wetland and Motutara Point/Sulphur Point/Ngapuna and Soccer Park as well as the Motutara Wildlife Refuge.

Local Character Areas:

- Eastern rural lakeside terraces
- Southern industrial margins
- Puarenga Stream mouth and sulphur flats
- Motutara Point

Landscape Management Issues:

- Rural character of lakeside terraces in relation to potential growth and development pressures.
- Integrated management of industrial and residential land uses in relation to significant natural resource areas including riparian, vegetation and geopreservation resources.
- Preservation and enhancement of character of Sulphur Point / Motutara Point and Puarenga Stream mouth in relation to existing open space resources and surrounding urban development.
- Management of lake margin vegetation.





Ohinemutu / Kawaha Point



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.7: Ohinemutu / Kawaha Point



Area Defined by:

- Lakeside margin between Ohinemutu Point in the east and Kawaha Point in the west

Area Characterised by:

- Flat to undulating urban and suburban lake edge.
- Landforms include lakeside terraces and the slightly elevated residential area of Kawaha Point (see Map 4 Appendix 1).
- Ohinemutu urban area includes shoreline rocky outcrops and north facing beaches, urban public open spaces and shore access including pontoons, jetties and boating facilities, geothermal features and associated facilities.
- Area also features unnamed stream mouth (fed by Utuhina and Mangakakahi stream systems) that delineates urban (eastern) from suburban (western) margins. The western area eases to shrublands and associated lakeside gravel flats in the west.
- Residential lakeside living in the west (Koutu) with indented shoreline and vegetated shore margins featuring a series of small bays and beaches with private jetties and numerous public esplanade reserves (see Map 11 Appendix 1).
- Residential suburban areas of Kawaha Point with shrubland and open space to the west defined by Waiwhero Stream.
- Three archaeological sites (see Map 9 Appendix 1) and 1 geopreservation site (Kawaha Point rhyolite dome).

Local Character Areas:

- Ohinemutu Urban
- Koutu lakeside residential
- Kawaha Point
- Historical Maori village

Landscape Management Issues:

- Management of urban lakeside margin including public access and amenity.
- Enhancement of Ohinemutu Stream mouth / wetland and associated esplanade reserve lands.
- Integration of open space linkages to the esplanade reserves to the west and Government Gardens to the east Kuirau Park to the south.
- Character of suburban development on elevated portions of Kawaha Point and surrounds.
- Integrity of Maori village / community.
- Management of lake margin vegetation.



Waikuta



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.8: Waikuta

Area Defined by:

- Ngongotaha township to the north
- Lake Rotorua to the east
- Waiwhero Stream to the south
- SH 5 to the west

Area Characterised by:

- Flat to undulating lake terrace landforms with an underlying geology of peat. Class 3 LUC with a wetness subclass (poor drainage / high water table limitations).
- Includes principal drainage channels from Fairy and Rainbow Springs of Waiwhero Stream (see Map 6 Appendix 1) and associated Local Purpose and Recreation Reserves (see Map 11 Appendix 1).
- Landcover is pasture dominant with areas of potential ecological value including Waiwhero Flat Wetland in the south and Ngongotaha Railway Kahikatea, a fragmented remnant of indigenous vegetation in the northwest. A pattern of partial shoreline vegetation also features (Reserve Zone A).
- Land use includes pastoral farming, industrial bulk storage yards (in close proximity to indigenous vegetation areas), and the Rotorua Branch Railway line.
- Settlement patterns include limited areas of shoreline ribbon residential development in the north and Waikuta Marae in the south.

Local Character Areas:

- Residential strip and lake edge to the north
- Peat land pasture and shrubland

Landscape Management Issues:

- Enhancement and protection of Waiwhero Flat wetland.
- Clearance of indigenous vegetation.
- Riparian management including field drainage and lakeside margins.
- Protection of rural character in relation to southern Ngongotaha fringes.
- Peat soil and wetness limitations.





Ngongotaha Lakeside



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.9: Ngongotaha Lakeside



Area Defined by:

- Waiteti Road to the north
- Lake Rotorua to the east
- Waikuta (Landscape Character area 19.8) to the south
- Ngongotaha Road to the west

Area Characterised by:

- Flat to undulating lake terrace landform.
- Urbanised lakeside settlement / suburban residential neighbourhoods defined by open space and pasture.
- Areas of open space and pasture to south of meandering Ngongotaha Stream corridor.
- Industrial sheds and yards next to rail line.
- Drainage patterns characterised by vegetated and meandering Waiteti and Ngongotaha Stream corridors .
- Landcover dominated by suburban residential development.
- Land use includes rail corridor, industrial, commercial residential and shoreline open space / esplanade reserves (see Map 7 and 11 Appendix 1).
- Settlement characterised by traditional suburban residential patterns.
- Three archaeological sites (see Map 9 Appendix 1).

Local Character Areas:

- Lake shoreline and stream corridors.
- Industrial.
- Pastoral / open space.

Landscape Management Issues:

- Maintenance, enhancement and strengthening of riparian corridors and esplanade reserve networks including Ngongotaha stream mouth area.
- Form and character of lakeside settlements.
- Public lake access and amenity.



Awahou



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.10: Awahou

Area Defined by:

- Fryer Road and Hauraki Stream to the north
- Lake Rotorua to the east
- Leonard Road to the south
- Hamurana Road to the west

Area Characterised by:

- A mix of underlying geology including harder volcanic, older tephra materials and rhyolitic or andesitic ashes, as well as more loose unconsolidated materials resulting in varying landforms from flat to undulating terrace areas dominant with limited undulating to rolling areas near Keith Road, Fryer Road and Leonard Road (see Map 4 and 5 Appendix 1).
- Drainage patterns are characterised by the deeply incised and steep (26 – 36 degree) Awahou and Hauraki Stream corridors reflecting the varying characteristics of the underlying geology. These corridors are identified as being Class 7 with an erosion subclass (see Map 6 and 8 Appendix 1).
- Landcover is characterised by significant areas of herbaceous freshwater vegetation surrounded by predominantly pastoral land particularly near an unnamed stream between Keith Road and Gloucester Road as well as Awahou Stream. This is a 9.2ha area identified as the Hamurana Road Wetland.
- Settlement patterns characterised by low density rural residential and small clustered settlements. Includes Awahou (Tarimano) Marae at Awahou Point.
- Four identified archaeological sites (see Map 9 Appendix 1).

Local Character Areas:

- Undulating to rolling slopes in the north of the defined area near Hauraki Stream
- Flat terrace areas
- Wetland areas

Landscape Management Issues:

- Enhancement and protection of existing wetland features.
- Integrated riparian management including streams and lake margins.
- Loss of rural character in relation to lakeside settlement and rural residential zones.





Hamurana West



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.11: Hamurana West

Area Defined by:

- Elevated Class 4 and 6 LUC lands to the north
- Te Waerenga Road in the east
- Lake Rotorua margin to the south
- Hauraki Stream corridor in the west

Area Characterised by:

- Flat to undulating lakeside terraces dominated by Class 3 land with wetness subclass limitations representative of the underlying geology of loosely consolidated pumice rock. Landforms also include gently undulating slopes to the north.
- Drainage patterns characterised by Hamurana Stream system including Hamurana Springs.
- Landcover reflective of pastoral and residential land uses.
- Recreational assets include Hamurana Springs Recreation Reserve and Hamurana Wildlife Refuge.
- Settlement patterns include Hamurana ribbon settlement pattern and low density rural residential development.
- Land use includes Golf Course and Reserve areas.
- Three archaeological sites identified near Hamurana and one geopreservation site (Hamurana Springs).

Local Character Areas:

- Lake shoreline south of Hamurana Road
- Lake side rural north of Hamurana Road

Landscape Management Issues:

- Strengthening and enhancement of existing lake margin strip of indigenous vegetation to the east.
- Riparian management and integration of riparian management with existing lake margin features.
- Form and character of rural residential development including siting, spacing, scale and design of buildings, avoidance of low density rural residential sprawl.





WEEB VERGISION

Mokoia Island



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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.12: Mokoia Island

Area Defined by:

- Lake Rotorua

Area Characterised by:

- Rhyolitic dome with moderately steep slopes in the north and steep slopes to the south with an area of undulating more gentle slopes to the east of the island.
- Landcover in indigenous remnant and regenerating vegetation over steeper slopes, pasture dominant on undulating slopes in the east.
- Slightly indented shoreline and associated shoreline vegetation – some small beaches to the east.
- Land use: previous pastoral grazing, reverting to indigenous cover.
- Settlement patterns: none current excluding historic archaeological settlements.
- Significant number of archaeological sites and 3 geopreservation sites (see Map 9 Appendix 1). Also includes Mokoia Wildlife Refuge.

Local Character Areas:

- Moderately steep northern slopes
- Steep southern slopes
- Eastern slopes and terraces

Landscape Management Issues:

- Retention, enhancement and maintenance of existing landscape characteristics in relation to natural character
- Appropriate access
- Protection and enhancement of cultural values.





Lake Rotorua Waters

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19.0 LAKE ROTORUA AND MARGINS

Landscape Character Area 19.13: Lake Rotorua Waters

Area Defined by:

- Lake Rotorua shoreline and Mokoia Island

Area Characterised by:

- Open lake waters and transient qualities of large scale waterbody.
- Indented shorelines including wider bays and smaller embayment areas.
- Beaches, rocky outcrops and steeper scarps.
- Points and headlands.
- Stream mouths, channels and wetland fringes.
- Spatial relationships and interplay of lake waters with urban fringes, more natural edges and landward backdrop.
- Geothermal activity.
- Uses include boating, fishing, and other recreational water sports.

Local Character Areas:

- Mission Bay
- Ohau Channel
- Pohue Bay
- Hannahs Bay /Holdens Bay
- Sulphur Point / Motutara Point including Motutara Wildlife Refuge
- Kawaha Point
- Western Bays (Ngongotaha)
- Hamurana Wildlife Refuge
- Mokoia Island Wildlife Refuge



Landscape Management Issues:

- The integrated management of existing local character areas to enhance natural character of the wider Lake environment.
- Strengthening of Rotorua Lakes Protection and Restoration Action Programme in regard to the integration of landscape character aspects of land use planning for rural, suburban and urban areas.
- Lake water quality management and effects of catchment land use.





Rotorua City and Suburbs



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20.0 URBAN ROTORUA AND SETTLEMENTS

Landscape Character Area 20.1: Rotorua City and Suburbs

Area Defined by:

- Waikuta to the north
- North-western and south western suburbs to the west
- Whakarewarewa to the south
- Ngapuna and Ohinemutu to Kawaha Point to the east

Area Characterised by:

- Rotorua City commercial precincts on grid roading network and main arterial routes (SH 5 and SH 30A).
- Rotorua Hospital grounds.
- City suburbs.
- Kuirau Park: Lake Kuirau , Lake Timaru areas of indigenous vegetation of potential ecological value.
- Waiwhero Stream corridor in the north.
- Utuhina Stream Reserve and corridor east.
- Mangakakahi Stream corridor east.
- Waikite Rugby Football Club and Boielle Park.
- Arawa Park Race Course.
- Geopreservation sites including Pukeroa lava dome (Hospital Hill), Ohinemutu-Kuirau geothermal area, Kuirau Lake.
- Two archaeological sites.

Local Character Areas:

- City and Kuirau Park
- Suburbs north - Koutu
- Suburbs south - Glenholme and Fenton Park



Landscape Management Issues:

- Strengthening of existing riparian management corridors.
- Integration of reserves and open space linkages.
- Enhancement and development of existing open space assets.
- Geothermal characteristics enhanced to reinforce the distinctive character of Rotorua.
- Urban residential amenity and local character enhancement.



WEB VERSION



North-Western Suburbs



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20.0 URBAN ROTORUA AND SETTLEMENTS

Landscape Character Area 20.2: North-Western Suburbs

Area Defined by:

- Mount Ngongotaha to the north
- City and suburbs to the east
- Utuhina Hills to the west
- Mangakakaki Stream and Linton Park to the south

Area Characterised by:

- Suburban subdivision patterns that relate to principal east – west roading networks (Clayton Road) on elevated undulating southern toe slopes of Mount Ngongotaha.
- Reserve A neighbourhood reserves and open spaces (schools).
- Mangakakahi Walkway and Linton Park.

Local Character Areas:

- Selwyn Heights
- Pleasant Heights
- Western Heights
- Mangakakahi

Landscape Management Issues:

- Strengthening of existing riparian management corridors.
- Integration of reserves and open space linkages.
- Suburban creep in relation to southern slopes of Mount Ngongotaha.
- Urban residential amenity and local character enhancement.





South-Western Suburbs



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20.0 URBAN ROTORUA AND SETTLEMENTS

Landscape Character Area 20.3: South-Western Suburbs

Area Defined by:

- Mangakakahi Stream corridor in the north
- Western city suburbs in the east; Mangakakahi, Utuhina and Hillcrest
- Whakarewarewa in the south
- Pukehangi Road to the west

Area Characterised by:

- Suburban subdivision patterns that relate to principal east – west roading networks (Sunset Road, Malfroy Road, Devon Street) on undulating terrain slightly more elevated and rolling terrain moving towards the western hill country.
- Suburbs to the east of Pukehangi Road include Pukehangi, Sunnybrook, Fordlands, Pomare, Springfield.
- Includes significant natural drainage patterns and associated open spaces with suburban subdivision patterns defined and characterised by Mangakakahi and Utuhina Stream systems and associated reserves and open spaces including Utuhina Stream reserve network as well as Utuhina and Otamatea walkway, Boord Park and Springfield Golf Course.

Local Character Areas:

- Pukehangi
- Sunnybrook / Fordlands
- Springfield / Pomare

Landscape Management Issues:

- Strengthening of existing riparian management corridors.
- Integration of reserves and open space linkages.
- Containment of suburban settlement patterns.
- Recognition of caldera 'faces' and backdrop to the city.
- Urban residential amenity and local character enhancement.





Whakarewarewa



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20.0 URBAN ROTORUA AND SETTLEMENTS

Landscape Character Area 20.4: Whakarewarewa



Area Defined by:

- Southern city fringes to the north (Sophia Street)
- Forest Research / Whakarewarewa Primary School to the east
- Tihi-o-tonga to the west
- Hemo Gorge to the south

Area Characterised by:

- Rolling terrain on unconsolidated parent rock material moving to volcanic material and steep slopes to the south (see Map 5 Appendix 1).
- Principal drainage pattern of meandering Puarenga Stream corridor including the Puarenga Walkway and extensive and geothermal lake complexes.
- Geopreservation areas and archaeological sites (see Map 9 Appendix 1) including but not limited to Ororea group of springs, Puapua Geyser, Kereru Geyser, Prince of Wales Feathers Geyser, Papakura Geyser and Pohutu Geyser.
- Areas of indigenous vegetation of potential ecological value including Arikikapakapa and Whakarewarewa indigenous forest areas.
- Arikikapakapa Golf Course.
- Hemo Road corridor and tourist facilities.
- Steep slopes and scarps of Hemo Gorge.
- Vegetated slopes of Whakarewarewa east including broadleaf indigenous hardwoods and shrublands (see Map 7 Appendix 1).

Landscape Management Issues:

- Management of commercial tourism development including road corridor / scenic qualities.
- Strengthening of existing riparian management corridors.
- Integration of reserves and open space linkages.
- Protection of geopreservation features.
- Vegetation protection and enhancement.
- Management of Hemo Gorge as a key “gateway” to Rotorua.

Local Character Areas:

- Arikikapakapa
- Whakarewarewa





South-Eastern Suburbs

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20.0 URBAN ROTORUA AND SETTLEMENTS

Landscape Character Area 20.5: South-Eastern Suburbs

Area Defined by:

- Vaughans Road, Ngapuna lakeside and Holdens Bay / Hannahs Bay to the north
- Rolling rural hill county to the east
- Waipa and Eastern Hills to the south
- Rotorua city and suburbs to the west

Area Characterised by:

- Undulating lake terrace terrain on unconsolidated to loosely consolidated pumice flow parent material dissected by Waingaehe Stream corridor and associated reserve land in the north.
- Forest Research lands and facilities to the south (Nursery Road forestry research / nursery area).
- Te Ngae Road straight and commercial areas.
- Suburbs to the east of Rotorua city including Lynmore and Owhata fringed by rolling and moderately steep elevated north west facing rural pasture land to the south east.
- Urban parkland and facilities including Puketawhero Park, Neil Hunt Park and Forest Research Institute grounds.

Local Character Areas:

- Lynmore
- Owhata
- Nursery Road



Landscape Management Issues:

- Management of suburban settlement patterns in relation to adjoining, more elevated, rural areas.
- Integration of residential and industrial land uses in proximity to Ngapuna Springs area.
- Enhancement of existing riparian/esplanade reserve and management of riparian corridors.
- Integration of existing open spaces and linkages.
- Urban residential amenity and local character enhancement.



Te Waerenga



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21.0 NORTHERN CALDERA

Landscape Character Area 21.1: Te Waerenga

Area Defined by:

- Study area boundary to the north
- Mission Bay Valley system to the east
- Caldera scarps to the south
- Tauranga Direct Road in the west

Area Characterised by:

- Rolling to strongly rolling pastoral hill country with limited areas of moderately steep terrain. Dominated by Class 4 LUC in the west and Class 6 in the east with erosion subclass limitations representative of the underlying geology of volcanic rock (See Map 5 Appendix 1).
- Drainage patterns characterised by higher order stream systems that drain through vegetated gully features to the south through the caldera rim edge. These systems also include numerous small tarns / lakes.
- Landcover dominated by pasture with some cropping in the west and associated windbreaks / rural vegetation patterns.
- Also includes Mission Bay bush, a significant patch of bush to the east in close proximity to the vegetated caldera scarp feature and an area of indigenous vegetation of potential ecological value to the north.
- Settlement patterns include low density (farming) residential development.
- Land use: pastoral with some forestry and cropping.
- Four archaeological sites (see Map 8, Appendix 1).

Local Character Areas:

- Western rolling farmland
- Eastern moderately steep farmland

Landscape Management Issues:

- Enhancement and maintenance of existing areas of protected indigenous vegetation.
- Riparian management and enhancement of streams and waterways.
- Rural character and caldera rim protection.
- Siting and scale of buildings.
- Enhancement of stream and waterway corridor.





Northern Caldera Scarp



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21.0 NORTHERN CALDERA

Landscape Character Area 21.2: Northern Caldera Scarp

Area Defined by:

- Te Waerenga hill country to the north
- Mission Bay Valley system to the east
- Hamurana slopes to the south
- Eastern slopes of Hauraki Stream Valley in the west

Area Characterised by:

- Very steep vegetated scarps with a harder underlying volcanic geology dominated by Class 7 LUC with erosion subclass limitations (see Map 4, 5 and 8 Appendix 1).
- Mission Bay valley the main drainage feature with a smaller vegetated gullies to the south.
- Land cover dominated by indigenous vegetation with areas of exotic species immediately east of Te Waerenga Road.
- Areas of indigenous vegetation of potential ecological value including Te Waerenga Scenic Reserve (DoC) and Te Waerenga Gorge / Scenic Reserve (see Map 10 Appendix 1).
- Five archaeological sites (see Map 9 Appendix 1) and Reserve B land (Map 11 Appendix 1) to the west.

Local Character Areas:

- Indigenous vegetation areas
- Exotic vegetation areas

Landscape Management Issues:

- Slope stabilisation.
- Rural subdivision and landscape change in relation to rural character.
- Protection of caldera topographic feature and rim / skyline.
- Protection and enhancement of existing areas of indigenous vegetation and existing vegetation patterns.
- Riparian management.
- Siting, access and scale of buildings.





Mourea Hill



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21.0 NORTHERN CALDERA

Landscape Character Area 21.3: Mourea Hill

21.3



Area Defined by:

- Study area boundary to the north
- SH 33 to the east
- Hamurana Road to the south
- Mission Bay valley system to the west

Area Characterised by:

- Strongly rolling to steep pastoral hill country with limited areas of undulating terrain. Dominated by Class 6 LUC land with erosion subclass limitations representative of a mix of underlying geology including harder volcanic rock, breccias and ash associated with undulating areas to the north (see Map 5 Appendix 1).
- Drainage patterns characterised by Mission Bay valley in the west and two vegetated secondary stream systems in the east.
- Landcover dominated by pasture with a significant area of indigenous vegetation in the south and smaller fragmented patches in the north (see Map 7 Appendix 1).
- Settlement patterns include low density rural homestead / residential development.
- Land use: pastoral with some forestry and cropping.
- One inland archaeological (pa) site.

Local Character Areas:

- Pastoral hill country
- Bush gullies and slopes

Landscape Management Issues:

- Protection of indigenous vegetation.
- Riparian management.
- Rural character and potential landscape change in relation to elevated pastoral hill slopes.
- Siting, access and scale of buildings in relation to existing topography features, drainage patterns and patterns of vegetation.



Mamaku Township



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22.0 MAMAKU PLATEAU NORTH

Landscape Character Area 22.1: Mamaku Township

Area Defined by:

- Rural suburban township
- Surrounding pastoral land use
- Principal internal and external roading patterns
- EW/EBOP Regional Council boundary to the west

Area Characterised by:

- Undulating Class 3 LUC land on volcanic parent material.
- Three bush patches on township fringes (see Map 7 and Map 11 Appendix 1) including Dansey Scenic Reserve in the east.
- Low to medium density allotment pattern based on traditional grid street network.
- Includes Rotorua Branch Railway and associated yards.
- Land use: small scale urban township with pastoral hinterland surrounds.
- No archaeological sites identified.

Local Character Areas:

- Rail corridor area
- Residential areas

Landscape Management Issues:

- East - West reserves and open space connections and linkages.
- Existing rural settlement character and amenity.
- Management of road and rail corridors.



WEB VERSION



Mamaku Rural

0 1 km



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22.0 MAMAKU PLATEAU NORTH

Landscape Character Area 22.2: Mamaku Rural

Area Defined by:

- Study area boundary to the north
- Geological boundaries between harder volcanic rock in the west and more unconsolidated material to the east
- Ohinenui Stream to the south
- Study area boundary to the west

Area Characterised by:

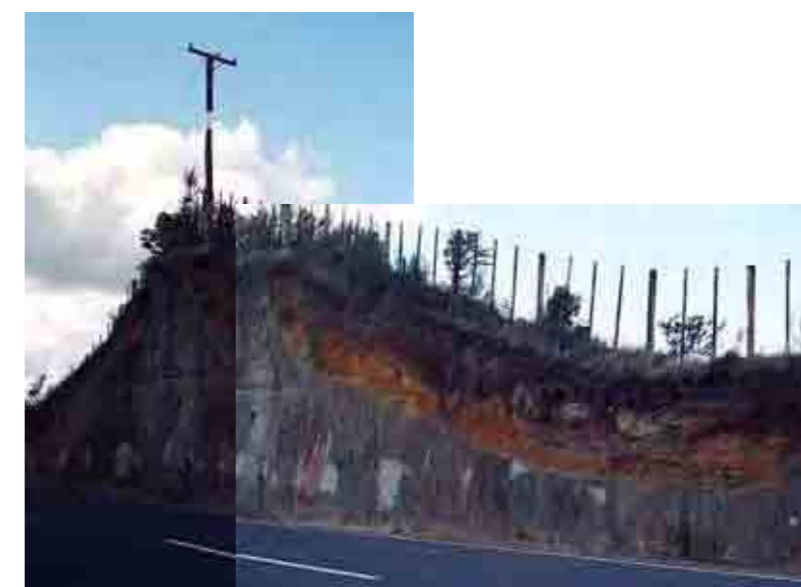
- Undulating to strongly rolling land dissected by steep to very steep incised drainage gullies with some areas of strongly rolling to moderately steep terrain in the south. Class 3, 4 and 6 land present with classes dominated by land with erosion subclass limitations.
- Copella Road Wetland in the north west.
- Harder ignimbrites dominate underlying volcanic parent material creating obvious volcanic forms of resistant plugs and “tors” that feature throughout.
- Several east draining principal plateau stream patterns all within class 7 and 8 partially vegetated gullies including the Waiteti, Komutumutu, Waiwhero, Waitetahi and Ohinenui stream systems.
- Landcover dominated by pasture with significant contiguous areas of indigenous vegetation including areas of potential ecological value such as Copella Road Wetland, Upper Waiteti Stream, Waiteti Stream, areas about the State Highway, Kumutumutu Stream, Mamaku, Waitetahi Stream, and Oturoa Road Junction.
- Settlement patterns include rural residential and farm based residential patterns often in association with elevated and sheltered tor features. Also includes Tarukenga Marae.
- Land use: pastoral farming dominant with some forestry and significant patches of indigenous vegetation.
- Four identified archaeological sites (see Map 9 Appendix 1), DoC Reserves include Tarukenga Scenic Reserve and Dansey Road Scenic Reserve.
- Previously identified by Environment Bay of Plenty as an outstanding natural feature / landscape (Mamaku Volcanic Outcrops).

Local Character Areas:

- Northern wetlands
- Incised gully systems
- Productive volcanic tor lands (farmland and forestry)
- Indigenous bush

Landscape Management Issues:

- Protection, maintenance and enhancement of wetlands.
- Protection enhancement of existing tor features and associated vegetation patterns.
- Small scale quarry activities and forestry management practices in proximity to geopreservation features.
- Riparian management in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Management of SH 5 road corridor as a western “gateway”.
- Protection, maintenance and enhancement of significant areas of existing indigenous vegetation.
- Rural character and traditional farm settlement patterns including siting, access and scale of buildings in relation to elevated tor features.





Mamaku Forestlands

0 1 km



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23.0 MAMAKU PLATEAU SOUTH

Landscape Character Area 23.1: Mamaku Forestlands

Area Defined by:

- Ohinenui Stream to the north
- Ngongotaha valley and Pukehangi Hills to the east
- Puarenga Valley / Te Kahikatea Stream and Tureporepo Stream valley to the south / southeast
- Study area boundary to the west

Area Characterised by:

- Moderately steep to steep land dissected by steep to very steep incised drainage gullies with significant areas of rolling terrain near eastern branches of Great West Road. Class 6 with erosion subclass limitations (see Map 8 Appendix 1).
- Harder ignimbrites dominate underlying volcanic parent material.
- Several north east draining principal plateau stream patterns present all within class 6 and 7 partially to fully vegetated gullies systems that include extensive upper catchment areas in indigenous forest cover including the upper Utuhina, Ngongotaha, Otamaroa and Tureporepo Stream systems.
- Landcover dominated by a pattern of indigenous bush including a high proportion of DoC reserve areas – see Map 10) with exotic forestry on surrounding upland plateau areas.
- Areas of indigenous vegetation of potential ecological value including Umurua Scenic Reserve, Horohoro Forest and Matahana indigenous forest areas.
- Production forestry and limited pastoral land uses in the north west.
- Occasional farm settlement areas.
- Land use: Indigenous forest dominant with production forestry and farming.
- One identified archaeological site (see Map 9 Appendix 1).

Local Character Areas:

- North-western and south eastern farmland
- Incised gully systems and bushland
- Forestry plateau lands
- Ngongotaha Valley western scarps

Landscape Management Issues:

- Ongoing forestry management.
- Protection maintenance and enhancement of significant areas of existing indigenous vegetation (DoC) including the Matahana Ecological Area and steep drainage gully areas.
- Riparian management in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.





Hamurana North



1:20,000 @ A3

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24.0 WESTERN RURAL

Landscape Character Area 24.1: Hamurana North

Area Defined by:

- Northern Caldera rim and scarp to the north
- Unsworth Road to the east
- Lake Rotorua and margin areas to the south
- Hauraki Stream in the west

Area Characterised by:

- Undulating to rolling Class 4 land on unconsolidated parent material in the west and strongly rolling to moderately steep Class 6 land on volcanic base rock in the east. Both Class 4 and 6 areas have an erosion subclass limitation (See Map 8 Appendix 1).
- Numerous second order stream systems drain off the caldera scarp through this area and the terrain features a complex topography of smaller partially vegetated gully systems.
- Land cover is dominated by a pattern of pastoral land use particularly in the east. To the west, landcover is characterised by a regular pattern of low density large lot rural residential or “lifestyle” residential development with a developing pattern of amenity vegetation around individual house sites.
- Four archaeological sites are identified with Reserve B land to the west.

Local Character Areas:

- Rural Lifestyle (Fryer Road / Ward Road / Kaska Road / Turner Road)
- Rural pastoral

Landscape Management Issues:

- Accommodation of rural residential growth and maintenance of rural open space amenity.
- Landscape change and loss of rural character.
- Siting, spacing, access, and built form of buildings in relation to existing topographic features and vegetation patterns including the application of low impact design principles in relation to water quality, earthworks and stormwater management.
- Riparian management and protection of streams in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Securing reserve and open space linkages.





Lower Plateau Slopes



1:30,000 @ A3

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24.0 WESTERN RURAL

Landscape Character Area 24.2: Lower Plateau Slopes

Area Defined by:

- Geological boundaries between unconsolidated material in the east and harder volcanic parent material in the west and northwest
- Hauraki Stream in the north
- SH 5 and Western Road in the south
- Rotorua Lake and margin areas in the east

Area Characterised by:

- Rolling to moderately steep land Class 6 dominant with significant areas of Class 3 and 4 all with erosion subclass limitations and featuring a series of moderately steep, steep and very steep drainage systems associated with the principal Mamaku plateau streams that drain to Lake Rotorua.
- The variety in topography reflects the underlying parent material that features all base rock types found within the study area (see Map 5 Appendix 1). Underlying base rock older than Taupo pumice and unconsolidated tephra are the dominant types. These weaker materials are prone to erosion/dissection resulting in characteristic tightly rolling terrain.
- Land cover is dominated by pastoral land uses and includes patterns of rural residential living related to principal roading and access patterns.
- Land cover includes small isolated patches of indigenous vegetation and partially vegetated stream corridors that relate to the Komutumutu, Waiteti and Awahou Stream systems and small areas of production forestry.
- Seven archaeological sites located in proximity to Waiteti Stream.

Local Character Areas:

- Rural lifestyle corridors
- Rural pastoral

Landscape Management Issues:

- Accommodation of rural residential growth in relation to landscape values / amenity.
- Landscape change and loss of rural character.
- Siting, spacing, access, and built form of buildings in relation to existing topographic features and vegetation patterns including the application of low impact design principles in relation to water quality, earthworks and stormwater management.
- Riparian management and protection of streams in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Securing reserve and open space linkages.





Tarukenga East



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24.0 WESTERN RURAL

Landscape Character Area 24.3: Tarukenga East

Area Defined by:

- Geological boundaries between unconsolidated material in the east and harder volcanic parent material in the west and north west
- SH 5 in the north
- Waitetahi Stream to the west
- Ngongotaha Stream in the south

Area Characterised by:

- Rolling to moderately steep Class 6 dominant land with smaller areas of Class 3 and 4 all with erosion subclass limitations. Terrain features dominated by unconsolidated parent material resulting in dissected and varied topography.
- Principal drainage pattern comprises Tupapakuria Stream which drains to the east through a moderately steep gorge system in partial vegetation including broadleaf indigenous hardwoods (see Map 5 and 6 that relate to indigenous forest areas to the west).
- Land cover is dominated by pastoral land use and includes patterns of rural residential living related to principal roading and access patterns.
- Land cover includes small isolated patches of indigenous vegetation and partially vegetated stream corridors as well as small areas of production forestry.

Local Character Areas:

- Rural lifestyle corridors (Tarukenga Road)
- Rural pastoral

Landscape Management Issues:

- Accommodation of rural residential growth in relation to landscape values / amenity.
- Landscape change and loss of rural character.
- Siting, spacing, access, and design form of buildings in relation to existing topographic features and vegetation patterns including the application of low impact design principles in relation to water quality, earthworks and stormwater management.
- Riparian management in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Securing reserve and open space linkages.





Eastern Caldera Terrace



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25.0 EASTERN RURAL TERRACE

Landscape Character Area 25.1: Eastern Rural Terrace

Area Defined by:

- Rotorua Lake and margin areas to the west and north
- Steeper hill country to the east
- Lynmore to the south

Area Characterised by:

- Gently undulating to rolling Class 2, 3 and 4 land with more strongly rolling areas in the north. All Classes have erosion limitations.
- Includes flat to undulating land on SH 30 / Ohaunui Stream corridor.
- Slopes are dissected by deeply incised major stream channels that are mostly steep to very steep in terrain (See Map 4, 6 and 8 Appendix 1).
- Landform features characteristic of the combination of underlying parent materials, topography and drainage patterns – with unconsolidated and loosely consolidated tephra pumiceous flow materials dominating the underlying geology (see Map 5 Appendix 1).
- Landcover is pasture dominant and features limited areas of cropping /orcharding and production forestry.
- Landcover also features small remnant patches of indigenous vegetation both in association with steeper unproductive natural drainage channels / features (e.g. Lake Maui) and in a limited number of isolated forest patches such as Te Ngae Bush.
- Low density rural settlement in the south with areas of smaller lot rural residential areas to the north in alignment with existing road / access networks extended from SH 33.
- Includes a significant recent rural residential subdivision on Brunswick Drive.
- Numerous archaeological sites particularly southeast of Ruamata Marae and east of Mataikotare Marae on Wairewarewa Stream (see Map 9 Appendix 1).

Local Character Areas:

- Northern rural residential slopes (Brunswick Drive and surrounds)
- Ohaunui Stream corridor
- Rural slopes south

Landscape Management Issues:

- Accommodation of rural residential growth and ongoing demand for Rural B elevated north west facing moderately sloping farmland (reticulated wastewater pipeline a significant growth determinant).
- Landscape change and loss of rural character.
- Loss of productive farmland.
- The limited effectiveness of minimum lot size zoning regimes as a means of providing for improved rural residential living environments.
- Opportunities for cluster development in relation to site specific physical attributes.
- Siting, access, and design of buildings in relation to existing topographic features / natural patterns including existing indigenous vegetation patterns.
- Low impact design principles in relation to water quality, earthworks and on site stormwater/wastewater management.
- Riparian management in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Securing reserve and open space linkages.
- Management of rural and natural character in relation to key road corridors - SH 30.





Eastern Rural Hills

0 1 km



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26.0 EASTERN RURAL HILLS

Landscape Character Area 26.1: Eastern Rural Hills

Area Defined by:

- Study area boundary in north and northeast
- Study area boundary in the east (eastern catchment boundary)
- Eastern rural slopes in the west (Landscape Character Area 25.1 above)
- Tarawera Road in the south

Area Characterised by:

- Moderately steep to steep Class 6 land on predominantly volcanic base rock in the south turning to unconsolidated to moderately consolidated flow tephra older than Taupo Pumice formation in the north south of Ohinenui Stream corridor.
- Drainage patterns characterised by very steep deeply incised channels that drain to the west.
- Farmland characterised by steep hill country pasture and limited production forestry with significant patches of indigenous vegetation mostly in association with stream systems and upland features including Pukepoto Hill, Opawhero Hill slopes and Whakapoungakau Hill slopes.
- Identified DoC Reserves include Tikitapu Scenic Reserve (part), Pukepoto Private Scenic Reserve (part) Lake Okataina Scenic Reserve (part), Lake Okataina Scenic Reserve Extension (part), Rotokawa Road, Cookson Road, Lake Rotokawa, Hells Gate and Tikitere Northwest (see Map 10 Appendix 1).
- Includes hill spur system north of SH 30 and includes Tikitere thermal area.

Local Character Areas:

- Tikitere geothermal field
- Eastern hills north (breccia base rock)
- Eastern hills south (harder volcanic base rock)

Landscape Management Issues:

- Protection and management of Hells Gate / Tikitere Thermal Area features (including Rotorua Lakes Protection and Restoration Action Programme

Tikitere / Waiohewa nitrogen diversion).

- Loss of rural character.
- Slope stabilisation and minimisation of earthworks.
- Avoidance of built development that may compromise sensitive ridgeline areas in particular upper catchment boundary ridgeline.
- Siting, access, and design of buildings in relation to site specific existing topographic features / natural patterns including existing indigenous vegetation patterns.
- Riparian management in alignment with Rotorua Lakes Protection and Restoration Action Programme including slope stabilisation of Class 7 and 8 steep stream gullies.
- Protection, maintenance and enhancement of significant areas of existing indigenous vegetation.
- Management of rural / natural character in relation to Tarawera Road corridor.

