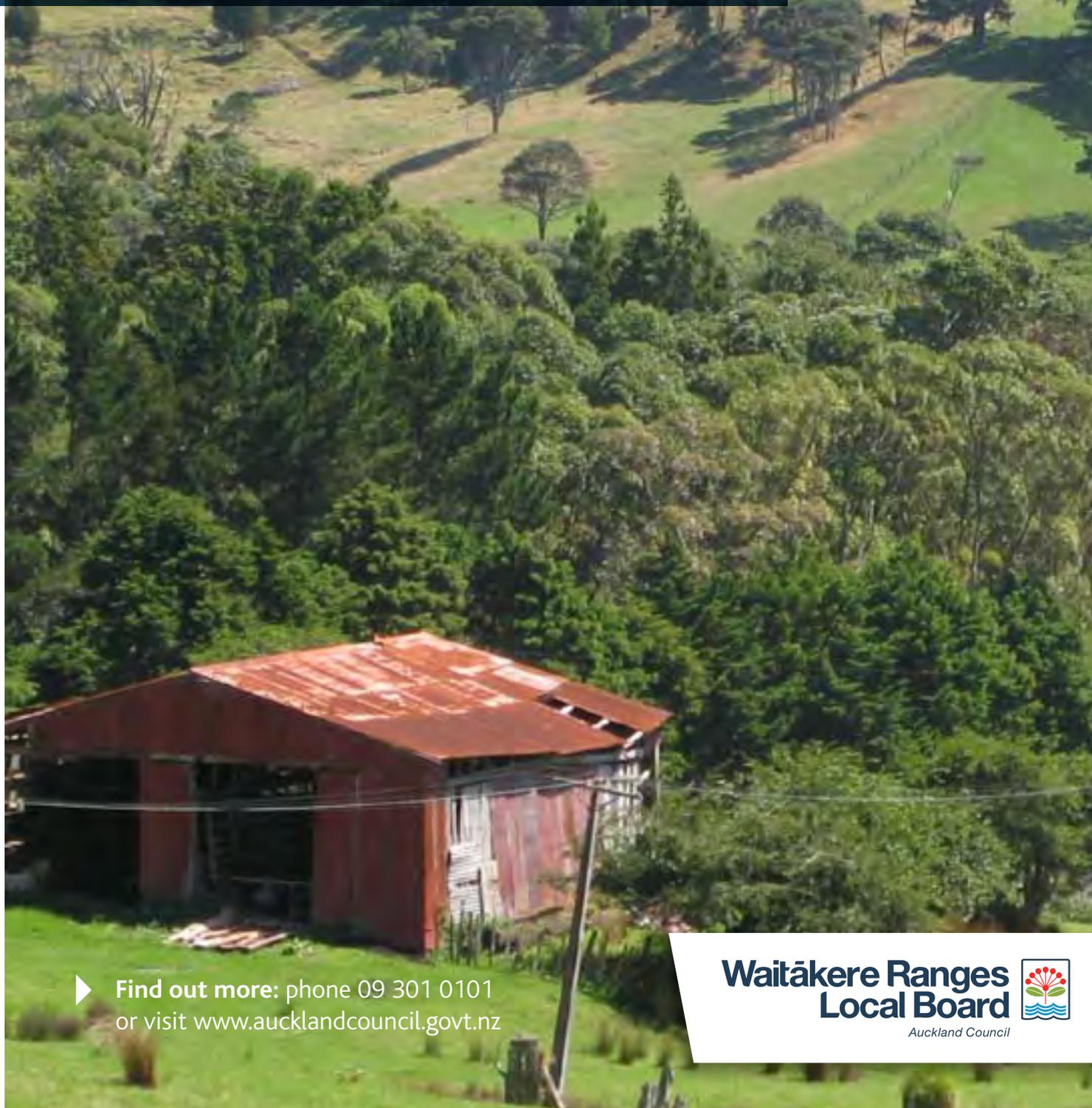


Waitākere Ranges Heritage Area Monitoring Report

Volume 2: Detailed results

June 2013



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**Waitākere Ranges
Local Board** 
Auckland Council

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List of abbreviations used in this document

- | | |
|--------------------------------|--|
| ▪ LGA | Local Government Act 2002 |
| ▪ RMA | Resource Management Act 1991 |
| ▪ RPMP | Auckland Regional Parks Management Plan 2010 |
| ▪ RPS | Auckland Regional Policy Statement |
| ▪ The Act | Waitākere Ranges Heritage Area Act 2008 |
| ▪ The council | Auckland Council |
| ▪ The District Plan | Auckland Council District Plan (Waitākere Section) |
| ▪ The heritage area | Waitākere Ranges Heritage Area |
| ▪ The Pest Management Strategy | Auckland Regional Pest Management Strategy |
| ▪ The regional park | Waitākere Ranges Regional Park |
| ▪ The Regional Plan | Auckland Regional Air Land Water Plan |

Figure 1



- Legend**
-  Waitakere Ranges Heritage Area
 -  Regional Park Boundary
 -  Local Board Boundary
 -  Metropolitan Urban Area
 -  Bulk Water Catchment

PART 1 INTRODUCTION AND APPROACH

This volume is the second part of the overall monitoring report on the Waitākere Ranges Heritage Area (heritage area). Volume 1 provides an overview and summary of the key findings from the monitoring programme. It introduces the Waitākere Ranges Heritage Area Act (the Act), the heritage area, the approach taken to monitoring and summarises the results, along with progress made towards achieving the objectives of the Act. This volume provides more specific detail and explanation regarding the requirements of the Act, the monitoring approach, the indicators and their results, along with details of progress made.

PURPOSE OF THIS MONITORING REPORT

The purposes of this monitoring report are:

- ***To bring together and summarise the available information on the state of the heritage area environment and progress towards achieving the objectives of the Act.***
Where possible, indicators have been developed to summarise trends and changes and provide baselines against which future changes can be assessed.
- ***To identify gaps and limitations in the available data and recommend improvements to the monitoring system to be considered before the preparation of the next five-yearly report.***
The report is heavily reliant on existing information and additional monitoring work may be needed over the next five years in order to meet the requirements of the Act.
- ***To report on the funding impact arising from activities undertaken specifically to give effect to the Act.***

The above matters are to be reported at least every 5 years in accordance with Section 34 of the Act.

WAITĀKERE RANGES HERITAGE AREA ACT 2008

Introduction

The Act provides a framework to recognise the national, regional and local importance of the Waitākere Ranges, foothills and coastal areas (collectively identified as the heritage area). It also promotes long-term protection and enhancement of the heritage area and its important heritage features for present and future generations, while enabling the area to be lived and worked in and supporting the strong ethic of community stewardship which is a distinctive feature of the area.

The Act responds to concerns about the adverse cumulative effects that urban growth is having on the natural, rural and coastal landscape and the ecological, historic, and cultural heritage of the Waitākere Ranges and foothills, and the difficulties in managing such effects under the current Resource Management Act framework. Over the years, the area has been under pressure from urban growth and development, largely due to its location immediately adjoining metropolitan Auckland. This results in unique pressures being placed on peripheral lands, such as the foothills, for further subdivision and development and the attendant risks of decline in landscape, amenity and environmental quality.

How does the Act work?

The Act:

- establishes the heritage area – covering 27,720 hectares of public and private land which includes the Waitākere Ranges Regional Park (regional park), urban areas of Titirangi and Laingholm, the foothills and coastal villages.
- identifies the heritage features of the area and promotes their protection, restoration and enhancement through a series of objectives;
- protects the heritage area from the adverse effects of urban sprawl;
- promotes this protection through the Resource Management Act 1991 (RMA) and Local Government Act, as well as influencing decision-making under a number of other relevant pieces of legislation;
- requires any council decisions, documents, policies and regulations or resource consent applications affecting the heritage area to be considered against the Act's objectives;
- requires that resource management policies and plans 'give effect' to the Act's purpose and objectives;
- provides long term certainty and manages cumulative adverse effects;
- provides for development of a scale and intensity suited to the heritage area;
- recognises and provides for the well-being of those who live and work in the heritage area;
- recognises the importance of the area as a place for recreation and inspiration for the people of Auckland and beyond;
- improves the management of the regional park and protects it in perpetuity;
- recognises the area's significance for tangata whenua and provides mechanisms for the recognition of ancestral association;
- provides specifically for the continuation and revitalisation of rural land use, particularly in the foothills and Te Henga valley;
- empowers local communities to create a vision for their future, through a Local Area Plan, which provides long term objectives relating to the desired future amenity and character of a local area; and
- requires monitoring and reporting on the state of the environment within the heritage area.

Overview of Heritage Features

Section 7 of the Act identifies the heritage features (refer Appendix 1), or characteristics, activities and connections that are particularly valued and that individually and in combination contribute to the significance of the heritage area. The heritage features place the purpose and principles of the RMA in a local context. The heritage features include (in summary):

- the terrestrial and aquatic ecosystems, natural landforms and landscapes and the natural functioning of streams;
- the coastal areas;
- the visual backdrop of the area to the Auckland metropolitan area;
- the eastern foothills as a buffer to, and transition from, metropolitan Auckland;
- wilderness experience, recreational, and relaxation opportunities;
- the subservience of the built environment to the natural and rural landscape;
- the quietness and darkness of the Ranges and the coast;
- the historic, traditional and cultural relationships of people, communities and tangata whenua;
- evidence of past human activities;
- the distinctive local communities;
- the origins of the regional park, its accessibility and importance as a public place; and
- the operation, maintenance and development of the public water catchment and supply system.

Heritage Area Objectives

The objectives of the Act are framed within the overall purpose of recognising the significance of the heritage area and promoting the protection, restoration and enhancement of the heritage features listed above. These objectives are included in Appendix 1.

STATUTORY PLANNING AND MANAGEMENT CONTEXT

The Act intersects with a wide range of other legislation, in particular the RMA, the Local Government Act 2002 and the Reserves Act 1977. The range of policies and plans and decision making processes that manage the resources of the heritage area all need to give cognisance or effect to the purposes and objectives of the Act.

A number of statutory plans and strategies apply to the heritage area. These contribute to the management of future growth, subdivision, use and development and the regional park. Many of these have either been developed or updated since the Act came into force, implementing its purpose and objectives to localise its effect through the planning framework.

WAITĀKERE RANGES REGIONAL PARK

Management of the regional park is through the regional parks Management Plan 2010 (RPMP), an omnibus plan covering the Waitākere Ranges and 22 other regional parks. The RPMP contains policies that apply to all regional parks and a section of specific management actions for each park. In 2008, a review of the RPMP was commenced, including the Waitākere Ranges Regional Park section, in part prompted by the Act.

The RPMP recognises the Act and reflects the emphasis placed on protecting the heritage features of the heritage area. It prescribes the management principles and techniques to be applied to ensure specific values are protected and/or enhanced. It also specifies the monitoring to be undertaken to ensure that the objectives and policies are achieved and the council can respond to changes.



Auckland Plan (Spatial Plan)

Adopted in 2012, the Auckland Plan (also known as the Spatial Plan) is the strategy to make Auckland the world's most liveable city. The Plan will have a major impact on the lives of Aucklanders over the next 30 years. Section 18 of the Act identifies that the Spatial Plan's provisions must not be inconsistent with the Act's purpose or objectives.

The Auckland Plan recognises the Act and the heritage area, identifying that the Area has outstanding natural landscapes, features and coastlines, along with significant terrestrial and aquatic ecosystems. The Plan also identifies the recreation and open space values of the regional park, along with the west coast beaches.

The Auckland Plan seeks to contain urban Auckland at the boundaries of the heritage area. It does not identify future greenfield or urban growth areas within the heritage area, seeking to protect this area as a low density bush living, coastal and foothills rural area.

Auckland Council Regional Policy Statement

The Regional Policy Statement (RPS) outlines how the region will manage the use, development and protection of its natural and physical resources. Since the document became operative in 1999, the Waitākere Ranges had been recognised as an area of outstanding natural landscapes, natural features, coastal natural character and significant ecosystems. It also recognises the Area's important water supply functions.

Important strategic directions of the Act have been included in the RPS to ensure alignment. The now operative Change 6 (2010) to the RPS recognises the heritage area, through an objective, policies, description of methods and maps. Change 8 to the RPS (subject to appeal) confirms that much of the heritage area is an outstanding natural landscape (ONL).

Auckland Council Regional Plans

The Regional Plans provide for the management of air, land, water and coastal resources in the region. Specific rules and standards manage the extent to which development, land modification and discharges affect the environment. The Plans recognise the important water supply function of the Waitākere Ranges, along with their ecosystem functions. It also acknowledges that these matters are addressed through the objectives of the Act.

Auckland Council District Plan (Waitākere Section)



The current District Plan manages subdivision and development in this part of Auckland. It will be replaced by the Unitary Plan, but has had and continues to have an important role in managing adverse effects and providing for anticipated development in the heritage area.

Overall, the District Plan aligns with the purpose and objectives of the Act. In 2009, the former Waitākere City Council notified plan changes to implement the Act, including establishing a new Section 5B which contains the objectives for the heritage area. This section also included the objectives and policies for the completed Local Area Plans and addresses community wellbeing and economic activity in the heritage area. These recent plan changes, along with other district wide amendments, were undertaken to give effect to the Act.

The District Plan provides a clear and direct approach to managing the natural environment. Management of the effects of people's activities on the natural environment is carried out through rules based on 'natural areas'. The management of the effects of people's activities on other people, and the management of the built environment, is carried out through rules based on 'human environments'.

The District Plan's rules are 'effects-based' rather than 'activities-based'. They address the individual environmental effects a proposal might have. There are a number of key rules within the heritage area that have played a significant role in managing the extent and nature of subdivision and development. These include:

- mapping of natural environments, including areas for indigenous vegetation management, restoration and protection;
- mapping of the riparian margins of streams to be protected and enhanced;
- identification of human environments based on the environmental characteristics of the local area (bush living, coastal village, Waitākere Ranges, foothills) with specific limitations placed on the extent of subdivision opportunities available;
- mapping of sensitive ridgelines/headlands and cliffs and areas of coastal influence to manage the visual effects of development, with discretions available to address the location, design, appearance and reflectivity of buildings;
- limitations placed on the size of buildings and dwellings, with a total building coverage on a site of 300 m² before resource consent becomes necessary;
- limitations on the extent of vegetation removal in the natural areas, including tree removal, pruning and limiting the extent of clearing to a total maximum area of 500 m². This rule is applied cumulatively to avoid the gradual removal of indigenous vegetation, limiting the effects that the construction of buildings, dwellings and vehicle access has on the forested Waitākere Ranges;
- limitations on the extent of earthworks and land modification;
- structure plan areas in the foothills to provide for integrated and comprehensive rural subdivision and associated environmental enhancement, and general limitations on subdivision elsewhere in the foothills to 4 hectare lots;

- the use of large lot management plan approaches to recognise unique large land holdings that remain, with these generally located in the Bethels/Te Henga valley;
- specific requirements for the future development of Titrangi Village, establishing certainty as to its future character and amenity; and
- managing the scale of home occupations, other small scale non-residential activities, along with filming activities and the values of existing commercial and community activities in the Area.

Designations

The regional park and the Waitākere water supply dams and catchments are designated by the Auckland Council and Watercare Services Ltd respectively. The designations provide certainty for the operation and management of the regional park, inclusive of its water supply function. In 2010, the former Auckland Regional Council amended the regional park designation to align with the RPMP, removing inconsistencies between the District Plan and the operation of the Park.



Local Area Plans

Local Area Plans (LAPs) have been prepared for Oratia (2009), Waiatarua (2009), and Henderson Valley/Opanuku (2010). Preliminary work has been undertaken in anticipation of a future LAP for Te Henga/Bethells, and community consultation has commenced for the development of a LAP for Laingholm.

The District Plan includes specific objectives, policies and methods to implement the LAPs for Oratia and Waiatarua, and these provisions become operative in 2012. They establish certainty as to the future character and amenity of these areas, by enabling the resource consent process to consider whether proposals assist or detract from the achievement of that future character and amenity.

APPROACH TAKEN TO MONITORING

Monitoring is essential for informed and evidence-based decision making, particularly where the subject matter is complex and the outcomes from decisions are subject to uncertainty. It should also take place against a background of clearly stated objectives so that progress can be accurately assessed and relevant indicators or descriptors are chosen. The relevant objectives are summarised in Appendix 1.

The heritage features and the objectives which relate to them in the Act have been grouped into themes according to their dominant elements, which have then been used for the topic based sections in Part 2. Each section reports on the state of environment and progress towards achieving the objectives of the Act. A summary of the indicators or other monitoring methods employed is provided in each section.

State of Environment Reporting

Monitoring and reporting on the state (extent, characteristics and condition) of the heritage features is essential for assessing the outcomes which the Act is seeking to achieve. Where appropriate, the outcomes sought by the Act have been interpreted into objective and measureable indicators. In some cases a more qualitative or descriptive approach is justified, and there are circumstances where useful data is not readily available.

An 'outcomes based' approach to monitoring also requires that the factors influencing the outcomes should be monitored. This includes both negative influences (pressures or threats) and positive trends or management interventions (response factors) which are pushing the outcomes towards or away from the stated objectives. The monitoring system is only effective to the extent that these factors are successfully identified and relevant information provided about them.

Progress Towards Achieving the Objectives of the Act

Monitoring progress towards achieving the objectives of the Act primarily relates to whether the state (extent, characteristics and condition) of the particular heritage feature is moving towards or away from the outcomes sought.

There are also objectives in the Act which relate to management of the heritage area and the ways in which decisions affecting the heritage features are made, for example consideration of cumulative effects and integrated decision making. These can best be monitored by describing how they have been incorporated into and used in decision making processes.

The Act also identifies mechanisms which can or should be used to achieve its purposes, for example preparation of LAPs and deeds of acknowledgement with tangata whenua. This report summarises the use of these mechanisms since the Act came into effect.

Funding Impact arising from Activities Undertaken Specifically to give Effect to the Act

Some funding implications can be readily distinguished from 'business as usual' activities (which could reasonably be expected to occur whether the Act had been in place or not). These include preparation of this monitoring report and the LAPs. Others are less easy to separate from 'business as usual', for example consents planners' time spent on assessing effects on heritage features, or 'enhanced' pest control programmes to protect or manage the underlying values of the heritage area. Appendix 2 provides information on the directly-attributable costs.

CHOICE OF INDICATORS

Indicators are intended to present and manage complex information in a simple and clear manner. They can then form the basis for future action and can be readily communicated, providing a common and transparent basis for measurement. The development, choice and use of indicators is an iterative and continual process – validation, review and revision are essential elements of fine-tuning the process. A risk assessment and cost-benefit approach should be central to their development, with a focus on significant features and conditions which are likely to change without active intervention.

Ideally, indicators must be able to show the effects of change (i.e. they must be dynamic). There must be clear, discernable, outcomes from the inputs made to the system. They should also be linked into a clear reporting and decision making system at the appropriate time and reporting level.

For a variety of reasons the information and monitoring systems available do not always meet all of these criteria. This is the case for this 'first round' monitoring report. The indicators used in this report are a 'best fit' between the monitoring requirements of the Act and the data which was readily available within the council's GIS and other information management systems at the time the report was prepared.

As a consequence a key part of the report is to also make recommendations on the future development of the monitoring system in order to improve the quality of this fit in future by filling information gaps and improving information gathering, storage and accessibility.



PART 2 TOPIC THEMES

The heritage features and objectives of the Act have been grouped into the following themes according to their dominant elements:

- *Landscape;*
- *Development and consenting activity;*
- *Ecosystems and ecosystem services;*
- *Cultural and built heritage;*
- *Recreation and visitor management; and*
- *People and communities.*

The landscape, ecosystems and cultural/built heritage themes relate to the general protection, restoration and enhancement of significant heritage features identified in the Act, while the sections on development and consenting activity, visitor management and community wellbeing report on specific objectives within the Act.

Each section reports on the state of environment associated with the theme, along with conclusions on the progress being made towards achieving the objectives of the Act. Strategic issues and recommendations are identified for further consideration. Many of these relate to the effectiveness of the current indicators in providing an accurate and effective means of understanding the actual state of the environment and whether the Act's objectives are being achieved. The recommendations for future monitoring, provided at the end of each section, should be considered and where appropriate acted upon prior to preparation of the 2018 monitoring report.

2.1 LANDSCAPE

INTRODUCTION - LANDSCAPE



Landscape matters are identified in eight of the Act's heritage features, along with four of the objectives. Important features that contribute to the national significance of the heritage area are its natural landforms and landscapes, natural coastal character, the visual backdrop it provides urban Auckland, along with its quietness and darkness. The built environment is subservient to these landscape elements, with the heritage area being dominated by natural and rural landscapes. Where development has occurred it is reflected in individual, contained and distinct coastal villages, low-density bush clad urban areas such as Titirangi, and the rural foothills with its pattern of farmland, cultivations and bush settings. These heritage features are to be protected, restored and enhanced, with development required to be of a scale, intensity and character appropriate to the individual areas, not adversely affect the heritage features (including cumulative adverse effects) and avoiding an urban character of development. The heritage area is also recognised as having little capacity to absorb further subdivision, establishing that only limited growth and change is anticipated in the future.

This section identifies changes to the landscape character of the heritage area that have occurred between 2008 and 2013 and establishes whether these changes have, overall, protected and enhanced the landscape-related heritage features.

SUMMARY OF INDICATORS

The key indicators addressed in this section are:

- Identification of distinctive landscape units and types and their character;
- Qualitative assessment of changes in landscape character with particular reference to the objectives of the Act; and
- Landscape Character Change Index.

No baseline study was undertaken at the time the Act came into effect. However, landscape studies were undertaken in 2004, 2005, 2006 and 2008. These identified and described the characteristic landscape units and features for much of the area and have been used as a baseline.

The 2013 Landscape Assessment Study (Melean Absolum Limited, 2013) is based on a comprehensive field assessment and review of these landscape units, carried out in late 2012 and early 2013 and provides an evaluation of the cumulative effects of development and a baseline for future monitoring. The findings are summarised in this section.

Figure 2



- Legend**
- | | |
|-----------------------|--------------------------------|
| Landscape Type | Landscape Unit |
| Coastal | Coastal Landscape Units |
| Bush Living | Waitakere Ranges Heritage Area |
| Parkland | Local Board Boundary |
| Foothills | |

The methodology developed for the 2013 landscape study built on those used in the earlier assessments for the former Waitākere City Council and recognition that there is a tripartite definition of the natural and rural landscapes of the heritage area. Three main landscape types have been identified - foothills, bush living and coastal. Each landscape type is further subdivided into landscape units based on local landscape characteristics such as topography and settlement pattern (Figure 2 and Table 1). Changes to each landscape unit that had an impact on its overall character and qualities (with particular reference to the features identified in the Act) were assessed. An overall rating of the scale and direction of change (positive and negative) was given to each unit (Landscape Character Change – Figure 3). This enables results to be aggregated and compared across the whole heritage area.

Much of the heritage area falls within the regional park or conservation land where landscape change is likely to be extremely limited and localised. For this reason a field based assessment was not necessary and the regional park was excluded from the main part of the study.

Table 1 Landscape units and location names

LANDSCAPE UNIT	LOCATION NAME	LANDSCAPE UNIT	LOCATION NAME
19	Long Road	LF1	Awhiorangi
20	Bethells Valley	LF2	Anzac Valley
21	Te Aute Ridge	LF3	Waiomoko
22	Te Henga North	LF4	Paremuka
23a	Wigmore Bay	LF5	Seibel
23b + A18	Anawhata	LF6	Hannibal
23c	Whites Beach	LF7	Anamata
23d	Kohunui	LF8	Holdens
23e,f,g,h,j,k,l,m,n,o,q	Ranges properties	LF9	Oratia South
23p	La Trobe	UF1	Jonkers
A1	Aio Wira	UF2	Cassel
A2	Pukematekeo	UF3	Pipeline
A5	Oratia	UF4	Welsh Hills
A8	Green Bay	UF5	Driving
UF6	Waiatarua	UF6	Potter
A13	Opanuku	UF7	Cochrane
A14	Turanga	UF8	Scenic ridge
A15	Te Waharoa	UF9	Titirangi
A16	Matuku Bush	UF10	Symonds
A17	Te Henga South		
A20	Piha South		Cornwallis A-B
A25	Parau South		Huia A-J
A26	Parau North		Karekare A-E
			Parau A-B
			Piha A-N

Photographic comparisons

Using pairs of photographs, such as those below, it is possible to make direct comparisons of any visible changes in the landscape. This, together with the field assessments, enables a clear understanding of changes to heritage features within the heritage area.

Photograph 1 From Piha Domain looking south-eastwards. Taken July 2007



Photograph 2 Part of a panorama taken from the same location in November 2012, showing only minor changes



LANDSCAPE TYPES – CHARACTERISTICS AND CHANGE SINCE 2008

FOOTHILLS

The foothills are comprised of a complex matrix of landform, vegetation and land uses, including remnant native vegetation, residential development along ridge top roads and areas of pasture, grazing and horticultural landuses. In the earlier studies, the foothills landscape units identified were seen to be in two bands, upper and lower.



Upper Foothills

The upper foothills landscape units fall from the Scenic Drive ridge eastwards down the various valleys falling to the Jonkers, Swanson, Opanuku and Oratia Streams. The north facing slopes of these valleys tend to have been largely cleared of native forest in the past and used for a range of agricultural uses. The south facing slopes and the more complex landform around Titirangi and Laingholm have retained a greater level of native vegetation and are now characterised by residential development within a bush setting. These areas are Bush Living landscape units and are dealt with below. All the Upper Foothills units are elevated well above the urban parts of the city.

Lower Foothills

The lower foothills are generally less steep than the upper foothills with pockets of native vegetation, particularly in steeper gullies and open rolling hillsides. Rural activities such as orcharding, vineyards and grazing are extensive and concentrated on the lower flatter land and on the flatter ridge tops in the upper parts of the valleys. Some of the horticultural uses, such as orcharding, are now in decline. Remnant shelterbelts criss-cross the flatter parts of the landscape in many places, but are becoming increasingly senescent.

FOOTHILLS DESIGN GUIDELINES

In terms of assessment of changes within the landscapes of the heritage area, an important document is the Waitākere Foothills Design Guideline. This non-statutory booklet published by the Auckland Council provides a comprehensive guide to the design and location of built development within the foothills. It is intended to be used by property owners and their consultants when designing any development within the foothills. It should also be referred to by council in the consideration of resource consent applications.

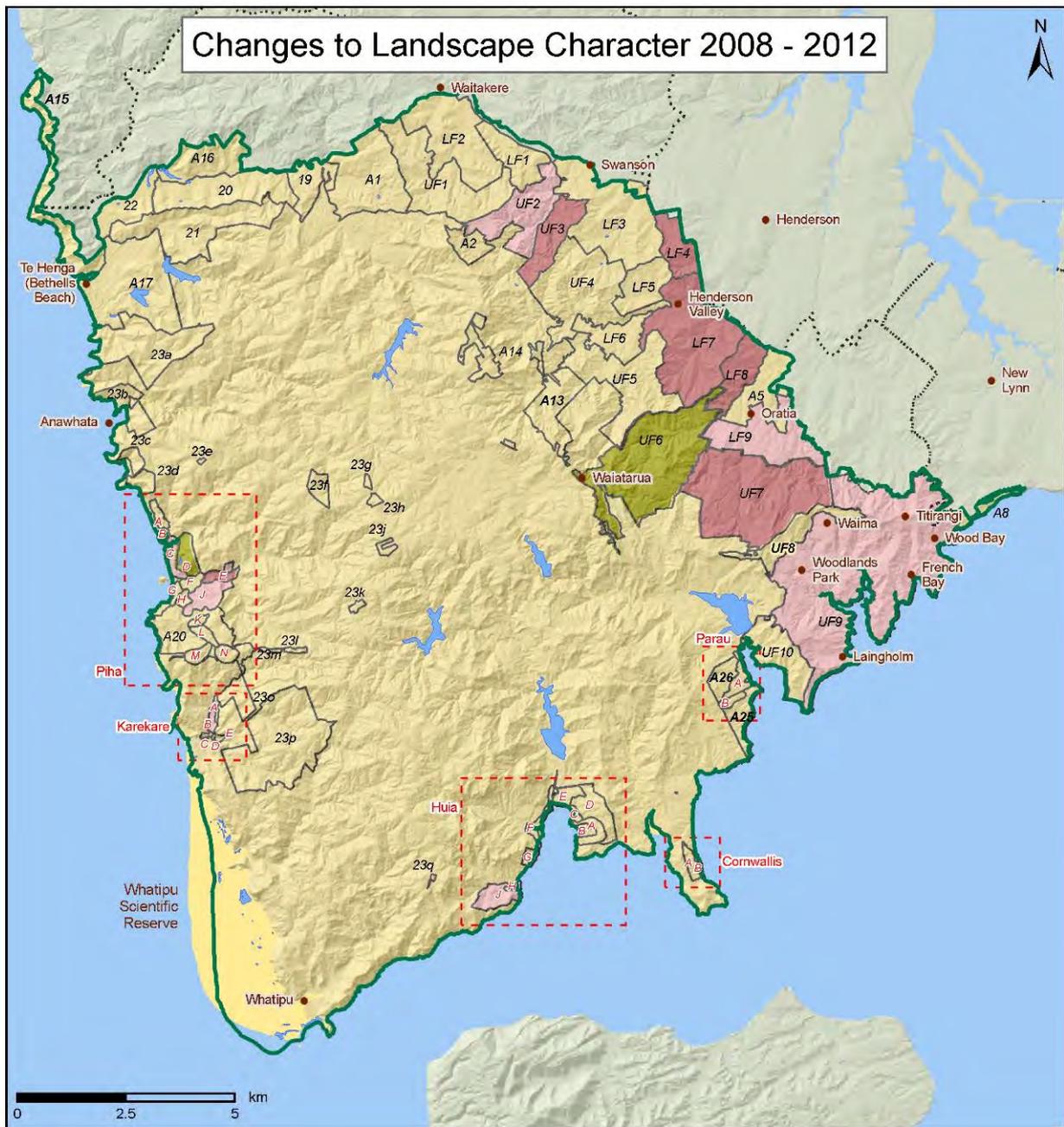
Field Assessment of Foothills Landscape Units

The majority of the 18 foothills type landscape units saw no identifiable change in the landscape character. Several landscape units were recorded as having either minor or very minor adverse changes, being the result of localised development. These included, UF3, UF7, LF4, LF7, LF8 and LF9. The changes were more widespread in UF7 (Cochrane), and were associated with residential development and the introduction of built elements.

Increasing residential development in the foothills has brought with it threats to the foothills character in terms of built elements potentially dominating the natural environment and more open rural character. Increased levels of development in some areas has revealed examples of bulky, poorly sited, designed and coloured structures that are not well integrated into the landscape. These examples are few and far between at present.

Those changes that have occurred have seen a change in the subservience of the built elements to natural elements and in some cases, particularly UF7 and LF7 (Anamata), the construction of very substantial buildings with insufficient consideration of the scale, bulk, or location, and potential cumulative effects has occurred. It is acknowledged that the development that has taken place along Carter Road (UF7) that is visible from Parker Road, occurred between the 2004 assessment and prior to the passing of the Act in 2008.

Figure 3



Legend

Change

-  Major Negative
-  Minor Negative
-  Very Minor Negative
-  Neutral/No change
-  Very Minor Positive
-  Minor Positive
-  Major Positive

-  Landscape Unit
-  Coastal Landscape Units
-  Waitakere Ranges Heritage Area
-  Local Board Boundary

Photographs 3 & 4 Carter Road as seen from Parker Road in 2014 and 2012



BUSH LIVING

The 16 bush living type landscape units are those parts of the heritage area, close to and including the Ranges proper, where native forest is still dominant. Where development occurs, it is nestled amongst the vegetation. Bush living landscapes include Titirangi, Laingholm, parts of the upper Oratia and Opanuku valleys and along the south-eastern flanks of Scenic Drive North.

The bush living type landscape units vary across a broad spectrum, in terms of the level of development within the bush setting. They range from very little development close to the regional park, to strongly suburban settings in parts of eastern Titirangi. Within these landscape units there are a range of vegetation management approaches, from properties where the bush is left to take care of itself, to those where the native vegetation is managed, manipulated or removed.

The most significant pressure affecting these landscape units is that of subdivision for residential activity with its associated earthworks and or vegetation removal posing a threat to existing character and heritage features. Some of the more recent (and one or two older) subdivisions within the bush living landscape units clearly display a number of characteristics which undermine the landscape character of those units. These include the use of urban/suburban elements, mostly on public land, such as kerb and channelling, street lighting, retaining walls, concrete paths and other infrastructure.

Similarly, if the trend towards the creation of flat sections to accommodate concrete floor slabs were to spread into the bush living landscape units, the landscape character would be undermined still further by the extensive earthworks, retaining and vegetation removal required. However, if earthworks and vegetation removal are minimised, the bush-clad areas of the bush living units clearly demonstrate they are able to accommodate reasonable densities with only minor effects on landscape character.

Field Assessment of Bush Living Landscape Units

The field assessments noted little change overall in the bush living landscape units.

Landscape unit UF9, encompassing much of Titirangi and Laingholm, was the area where the most resource consents and visible changes in aerial photography were identified prior to the field work. Despite this, it appears the majority of these changes have occurred within existing clearings in the bush or as immediate extensions or alterations to existing buildings. The changes that were identified and which caused some minor adverse changes to the unit's character were all associated with roading infrastructure and included the introduction of new white concrete footpaths on Laingholm Drive, similar footpaths and a block retaining wall at one of the bus stops on South Titirangi Road and a new motorway style entry sign to Titirangi on Scenic Drive. Despite their small scale and relative insignificance within the heritage area as a whole, these are just the type of incremental change that can, over a period of time, undermine the special character of the heritage area.

Photographs 5 & 6 **Examples of inappropriately designed urban infrastructure introduced into UF9**



On a more positive note, the growth of planting, particularly that associated with roading infrastructure, as at the corner of West Coast and Bush Roads and Bendalls Lane (UF6) has seen a very minor positive change in the landscape character in these areas.

COASTAL

The 36 coastal landscape units encompass the villages of Parau, Cornwallis, Huia, Karekare, Piha and Bethells from the earlier assessments and have been supplemented with the addition of other coastal landscape units.

While there is a great diversity within these villages and coastal areas, there are some common issues and potential changes to the landscape character of them. These changes occur primarily through development, including vegetation removal and landform modification and the introduction of new buildings.



Additionally, there appears to be a great deal of re-development potential within the coastal villages themselves. This has already occurred in large parts of Piha where older smaller bach type dwellings have been replaced by bulkier modern homes. Elsewhere, such as at Huia, Karekare and Bethells replacement of small or old dwellings with more substantial dwellings, either by building a new one or the conversion of an existing dwelling, is currently less common but may well occur in the future.

Each of the villages is dealt with in turn, followed by a discussion of the other coastal units.

Parau

This village is located along Huia Road. Generally, the steep vegetated slopes in Unit A have smaller houses and gardens with some unsympathetic retaining structures. Unit B generally has larger lots with houses which have good views, including some to the coast. Urban elements introduced in roadside treatments in Unit B could, if they were to be replicated, undermine the heritage features and landscape character. Overall, however no real changes have been observed in Units A and B since the 2008 assessment.

Cornwallis

Cornwallis Units A and B have an informal character, lacking much of the urban infrastructure of some of the other villages. The village is contained by the edges of the regional park and many of the houses are not easily seen from the road, being obscured by native and exotic garden vegetation. However, in Unit B there are some open areas enabling coastal views from recently completed larger houses. Apart from this, there has been no change since the 2008 assessment.

Huia & Little Huia

The attractive seaside villages of Huia and Little Huia, with their stunning views of the Manukau Heads and Cornwallis, have escaped much of the re-development pressure experienced in some of the other coastal villages. A couple of larger houses have been constructed on the edges of the Huia village, although the one on Upland Road was built prior to 2008. The one above Huia Road appears to be the re-development of an existing building that has occurred since 2008.

In Little Huia, a new house is under construction up the hill within Unit A22. Although visible from the road, the steeply rising land behind it provides a suitable backdrop.

Vegetation removal and the introduction of urban type infrastructure, or road widening is a real threat to maintaining the heritage features and landscape character of these landscape units.

Overall, there has been very little change in the landscape character of Huia and Little Huia.

Karekare

The extensive bush cover and narrow steep sided valley of Karekare give this coastal village a particular character. Overall, there was only very minor negative change identified in the landscape character. This arose from a combination of urban infrastructure introduced into the road carriageway and the re-development of a lot which has resulted in a long and rather dominant structure close to the road.

Photograph 7 Inappropriate urban kerb treatment in Karekare Road



Piha

Piha is the largest and most popular of the coastal villages and has the most development and re-development over recent years. The village developed in a manner which was a direct response to the landform of the area. Early baches were built on flat land close to the shore and within the valley, extending eastwards at both Glenesk and Garden Roads and along flatter ridge tops, such as Pendrell and Te Ahuahu Roads. As a result, the earlier housing was generally strung parallel to the beach, up the main access road and along the floor of the valleys.

The earlier assessment identified the importance of vegetation to the character of the village. This included both the large pohutukawas found along much of the shoreline, both in public and private property, and importantly the significant areas of steep, vegetated land which demarcate separate housing clusters within Piha.

These are of particular significance to the character of Piha as it is these slopes that demarcate the edge of Piha, providing a dramatic, enclosing landform, as well as a strongly contrasting, totally undeveloped backdrop, against which the developed parts of the village are seen. The vast majority of this steep enclosing landform around the northern and eastern sides of the settlement are part of the regional park.

At the southern end of the village, where the settlement extends to higher slopes, the majority of the steep vegetated land defining the edge of the settlement is in private ownership. Its continued existence as the delineation of the settlement is thus much more vulnerable, being constrained only by the provisions of the District Plan and the longer-term plans of the landowners.

Overall the field assessment found only minor and very minor changes to the landscape character of the various units within Piha. This includes both positive and negative changes and includes the introduction of urban style footpaths and fencing along Piha and Glenesk Roads and the re-development a visually prominent dwelling. On the positive side, it is clear that vegetation growth has assisted with integrating a number of dwellings and infrastructure elements into their setting and that changes in external colour on some buildings has reduced their discordant appearance.

Bethells / Te Henga

The Bethells / Te Henga settlement comprises a group of larger properties clustered around Lake Waiataru and two small cul-de-sac extending eastwards from Bethells Road on the flatter land at the foot of the hills. All these elements are included in landscape unit A17. Another cluster of residential settlement is on the bush clad slopes above the original Maori settlement, extending along the west-facing slopes above Bethells Road and because of its vegetated character has been included in the bush living landscape Unit 21. Finally, a group of larger rural residential properties have been developed at the hairpin bend where Bethells Road turns sharply southwards and views of the sea are first seen and this area is encompassed by the foothills landscape Unit 22.

Overall there has been very little change to the landscape character of this landscape Unit. Vegetation growth within the beach reserve has assisted in integrating both the parking area and the buildings.

REGIONAL PARK



There are three separate areas within the regional park landscape type.

Most of the regional park is covered in regenerating native forest of various ages and stages of development. There are also carefully managed farms within the Park, including Pae o Te Rangi Farm in the Bethells Valley, where grazing land continues to be used as a land management tool, as well as bush regeneration.

Development within the regional park has been limited to maintenance of visitors' facilities and tracks. The outbreak of kauri dieback disease has seen some areas with an obvious loss of kauri trees, such as above Unit F at Huia. Fortunately this has not changed the landscape character of those areas where it has struck.

Overall, there has been no change to the landscape character or heritage features of the regional park.

SUMMARY OF FIELD ASSESSMENT FINDINGS

It is clear from the field assessment findings that overall, there have been only minor changes to the landscape character and heritage features of the heritage area. Only minor or very minor negative changes were found within individual landscape units, with the majority recording neutral findings in respect to whether changes are adverse or positive. These are summarised in Table 2 below. The negative changes identified were often the result of infrastructure development by either the council or Auckland Transport.

Table 2 Findings of Field Assessments

SUMMARY	MAJOR NEGATIVE	MINOR NEGATIVE	V MINOR NEGATIVE	NEUTRAL (No CHANGE)	V MINOR POSITIVE	MINOR POSITIVE	MAJOR POSITIVE	TOTAL
Foothills	0 0%	5 28%	1 5.5%	12 66.5%	0 0%	0 0%	0 0%	18
Bush Living	0 0%	0 0%	2 12.5%	13 81.5%	1 6%	0 0%	0 0%	16
Coastal	0 0%	1 2.5%	5 14%	29 81%	1 2.5%	0 0%	0 0%	36
Parkland	0 0%	0 0%	0 0%	3 100%	0 0%	0 0%	0 0%	3
TOTAL	0	6	8	57	2	0	0	73

Table 2 above illustrates the findings of the field assessments for each landscape unit. See also Figure 3.

Adverse changes to the heritage features of individual landscape units were greatest within the foothills landscape units. These changes have arisen as a result of development within the landscape units, including new subdivision and new buildings, as well as changes occurring at the boundary of the heritage area, where adjoining suburban development and shelterbelt and other vegetation removal affects the landscape character of the landscape unit beyond.

Some changes within the foothills landscape units have occurred between the earlier assessment work and the passing of the Act. Nevertheless, the ongoing implementation of the Oratia Structure Plan, for example, means that further change is likely to occur within the foothills landscape units. It is clear from both the objectives and heritage features of the Act, that the retention of rural character within the rural foothills is important and must be ensured when development occurs.

For both residents and visitors alike, a significant part of their appreciation of the landscape's rural character and amenity within the heritage area comes from the vistas and views obtained whilst travelling along the road network, particularly from those roads which occupy the higher ridge-tops. The perception of rural amenity is determined by the relationship of visible expanses of the 'natural' landscape, both 'wild' and 'managed', and the balance of this natural landscape with the manmade structures and elements within it.

In some instances the extent of landscape actually visible from the road (the view corridor) is limited by foreground topography or vegetation. In other instances views of the rural landscape extend well beyond the road. The maintenance of a view from the road corridor which has a low ratio of man-made structures to expanses of natural landscape, particularly a landscape which maintains the potential for rural activities, is critical to the maintenance of the perception of a rural character in the foothills landscape units. As further development occurs, so the ratio of man-made elements to open, green areas within the landscape becomes even more critical and the potential for non-compliance with the requirements of the Act increases.

There are areas within the foothills landscape units where lineal development has already occurred along the road network, such as parts of Scenic Drive North. This type of development close to the road encroaches on the most sensitive portion of the view corridor. As a result, the economic benefits to the individual, of building near the road, cumulatively erode the amenity benefit to the wider community of retaining rural open space. On some of the smaller sites, rural activities are also less evident and they have a much more domestic character. Further, development of this sort has the potential to conflict with the requirements of the Act to protect, restore and enhance the "*intricate pattern of farmland, orchards, vineyards, uncultivated areas, indigenous vegetation and dispersed low density settlement*" (Section 7 (2) (i) (iii) of the Act).

These are all matters that are addressed in the Waitākere Ranges Foothills Design Guidelines. The guidelines contain a variety of techniques to assist all parties involved the consenting process for developments within the foothills landscape units to achieve appropriate development that not only complies with District Plan requirements but also helps to achieve the objectives of the Act.

FACTORS CONTRIBUTING TO FINDINGS

The rules within the District Plan, in terms of vegetation removal, earthworks, building heights, coverage, subdivision potential and so on, seem to be ensuring that only appropriate development is occurring, in most situations. It will be important to ensure that the same level of control on development within the heritage area flows through to the future Unitary Plan.

FUTURE VULNERABILITY

As well as monitoring the extent of change over the last five years within the heritage area, the field assessments also considered the extent of vulnerability and sensitivity to change within the various landscape units. Here a slightly different picture emerged with the greatest sensitivity being within the coastal units, although sensitivity to inappropriate development still exists within the foothills landscape units and to vegetation removal in the Bush Living landscape units.

It was also clear from the field assessment how important vegetation is to the successful integration of development into the coastal (and other) landscape units. Just as one example, a rather brightly coloured house in Piha, noted in 2005, has now, seven years later, been screened from the road by vegetation, but without the loss of on-site amenity. Of particular importance are the mature coastal pohutukawa trees within the various coastal villages which provide a sense of cohesion at a suitable scale amongst the often disparate styles of buildings.

Photographs 8 & 9 A brightly coloured house in Piha in 2005 and again in 2012



VIEWPOINTS

The District Plan contains a list of 61 publicly available views. The majority of these views are from locations within the heritage area, (45 of the 61) and most of these include views across parts of the Area.

Of the 45 views within the heritage area, seven were found to be obscured by vegetation, while another, at Cornwallis was inaccessible because the access track was closed as a safety measure. Of the seven views no longer available, similar nearby views were identified for three of them. Additionally, one of the views from Scenic Drive could not be identified at the location indicated, although a similar view was found further along the road.

It is important to ensure that publicly accessible viewpoints within the heritage area are identified and maintained, to ensure that the general public have the opportunity to see and understand the landform and vegetation patterns. The Act recognise that vistas and views are an important heritage feature.

CONCLUSIONS

OVERVIEW OF FINDINGS

The overall effect of development on the heritage area's landscape quality since the assessments carried out between 2004 and 2008 were either neutral or positive across 59 of the 73 landscape units assessed, and minor/negative across the remainder, with the greatest change occurring in the foothills. Importantly, there were no major (ie significant) changes to any of the individual landscape units.

It appears from the results of the field assessment work, that the District Plan provisions are on the whole ensuring minimal adverse change to the landscape character and heritage features of the majority of the landscape units.

The areas where development does appear to have the potential to undermine the landscape character are the more open foothills landscape units and the coastal landscape units (predominantly associated with the villages). In both locations the potential exists for numerous small changes, either by way of more built development or reduced natural elements, to cumulatively create significant adverse effects. Where this potential exists, a precautionary approach to small infringements of District Plan provisions is advisable.



Local adverse effects on landscape character have been identified and attributed to unsympathetic siting and design of new dwellings or infrastructure works by the council and Auckland Transport within the road corridor. The assessment has also identified that sometimes there is limited ability to manage the adverse effects of permitted development. Unsympathetic development and vegetation removal adjacent to the heritage area boundary is also a source of concern.

In addition, the Act's objectives for retaining a rural landscape character may be affected in the long term by cumulative loss of shelter belts, screening vegetation and 'traditional' land uses such as orcharding and viticulture in the foothills.

PROGRESS IN ACHIEVING THE OBJECTIVES OF THE ACT

The purpose and objectives of the Act are generally being met. There is some concern that over a period of time cumulative adverse effects may result from both permitted and consented development. Poorly located and designed development can alter the landscape in a negative manner. This is a matter which requires on going consideration through the resource consent process, the preparation of the Unitary Plan, along with education of the community as to the techniques that can be employed to reduce these adverse effects that may be an unforeseen consequence of existing rules in the District Plan.

Overall, the built environment is subservient to the natural and rural landscapes. While there are some individual examples of minor negative changes in landscape values, these areas still clearly reflect the outcomes envisaged in the Act.

STRATEGIC ISSUES FOR CONSIDERATION

Local Area Plans (LAPs) can be an effective long term tool for the management of adverse effects, and particularly cumulative effects on landscape character and amenity. However, the most recently produced LAPs have only just become operative so it is too early to evaluate their success. Further, to be effective, this process is dependent on the preparation of LAPs across the heritage area, requiring a sustained programme of LAP development. With the Unitary Plan, the existing and future LAPs will need to be given specific recognition or else under the Act they will have no effect on resource consent applications.

There is room for improvement in the siting, scale and design of new subdivision, development and infrastructure. This can be addressed through the council and community considering in the Unitary Plan whether there is a better way to manage potential adverse effects from development, and what rule based thresholds will provide an acceptable level of intervention. There may also be a need to consider non-regulatory methods.

The wider use of the Waitākere Ranges Foothills Design Guideline can assist landowners, their professionals and the council in considering better ways to provide for anticipated development within the heritage area, while managing its effects.

Recent infrastructure projects have introduced an urban style road corridor design. More awareness is required by council and Auckland Transport of the effects of infrastructure on these landscape values. This may warrant reconsideration of the infrastructure design specifications used in the heritage area.

Many changes to rural character and amenity in the foothills can result from permitted activities, such as the removal of exotic shelter belts and changes to land management practices. These are often driven by economic factors. The Act describes this rural character in terms of an intricate pattern of rural land uses, including orchards, vineyards, farmland and indigenous vegetation, which all have historic heritage as well as amenity values. Very little data is available on the current trends or what factors may influence change towards or away from the Act's objectives in the short or long term or what type of change or transition would be consistent with the Act. Pre-Act examples of the transition in rural land uses include the use of land for visitor attractions such as Artisan Wines and Kiwi Valley.

There is also a need to consider whether more active approaches are required to supporting existing 'iconic' activities or the transition to future rural uses in the foothills which are consistent with the Act. The council needs to consider whether, for example, more support for landowners is warranted.

The preparation of the Unitary Plan will need to consider whether the above matters warrant a reconsideration of the existing rules and thresholds of the District Plan or the introduction of new incentives or other methods and expected environmental results.

RECOMMENDATIONS FOR FUTURE MONITORING

More accurate methods are required to assess the extent of ongoing vegetation removal.

Methods for evaluating changes in rural activities and their effects, both positive and negative, on rural character should be developed

The potential to develop indicators for landscape objectives which are difficult to measure (for example quietness and darkness) should be explored.



2.2 DEVELOPMENT AND CONSENT ACTIVITY

This section identifies the extent of development and consent activity in the heritage area since 2008. It provides details on building consents and resource consents, and compares this information with data for the period before and after the Act came into effect. This data assists in understanding the scale and types of activities and development occurring in the heritage area.



This section also provides a baseline assessment of the 'urban footprint' and quantitative analysis of the extent of physical changes in terms of building coverage and vegetation cover in the heritage area. This information, along with that for consenting, assists in illustrating the degree of change that has occurred within the landscapes identified in section 2.1, and the relative dominance of urban and rural land cover.

The analysis also provides an estimate of the level of potential subdivision available through the District Plan (but not yet realised) and the number of vacant lots that exist and may be available for development (latent potential for additional growth). This assists in understanding which landscape units could be subject to future change.

One of the purposes of the Act is to provide additional matters for the council to consider when making decisions or exercising powers, which includes the consideration of resource consents. Objectives of the Act require a consideration of the areas as a whole (a holistic approach) when making decisions, and also following a precautionary approach where decisions could result in serious or irreversible damage to a heritage feature. Many of the objectives require the avoidance of adverse effects, including cumulative adverse effects on heritage features. The process to achieve these objectives is through the development and implementation of the District Plan, along with the consideration of the objectives through the resource consent process.

SUMMARY OF THE INDICATORS

A range of indicators were used to assess development pressures, responses to those pressures through the consents process and physical changes occurring as a result of development.

The development and consent decision indicators are:

- Number of subdivision and land use consent and building permit applications;
- Number of fee simple subdivision consents applied for and granted and number of new dwellings applied for;
- Approval rate for land use consents;
- Number of consents for new buildings, extensions /ancillary buildings and vegetation removal or modification granted and implemented;
- Land use consents granted on sensitive ridgelines; and
- Frequency of use of conditions to mitigate adverse effects of development consistent with the objectives of the Act.

These were derived from secondary analysis of data held in the council's Pathways Record System.

The physical change indicators are:

- Rate of change to area of vegetation cover (consented or unconsented);
- Baseline building and impervious surface cover (urban footprint) and annual rate of change;
- Density of urban footprint in foothills, bush living and Regional park compared with adjacent parts of metropolitan West Auckland; and
- Future development potential index (potential for new subdivision and number of vacant lots).

These were derived from analysis of high resolution aerial photographs taken in early 2008 and late 2010 (an interval of approximately 3 years) and 2012 data on building footprints and impervious surface cover held in council's GIS system for stormwater management purposes.

SUBDIVISION CONSENTS, LAND USE CONSENTS AND BUILDING PERMITS

The data in Table 3 reflects all types of applications, from simple boundary adjustments and relatively minor building works to more significant subdivision, residential development and vegetation removal. Since April 2000, the numbers of subdivision, land use consents and building permits sought within the heritage area have all decreased.

Table 3 Subdivision, land use and building consent applications as an indicator of development pressures, 2000 to 2012

PERIOD LODGED	SUBDIVISION (ALL TYPES)	LAND USE CONSENTS (ALL TYPES)	BUILDING PERMITS (ALL TYPES)	VEHICLE CROSSING PERMITS
April 2000- March 2004	150	1643	1929	1140
April 2004- March 2008	167	1387	1703	956
April 2008- March 2012	70	1155	1209	690

SUBDIVISION

The creation of new fee simple lots and boundary adjustments are the most common forms of subdivision activity in the heritage area. Between 2008 and 2012, 22 of the 29 applications for new lots (involving 76 new lots) were approved (Figure 4), while the other applications did not proceed.

Table 4 Subdivision consent applications 2004-2012

PERIOD LODGED	APPLICATIONS FOR FEE SIMPLE SUBDIVISION	NUMBER OF NEW FEE SIMPLE LOTS	BOUNDARY ADJUSTMENTS
April 2004- March 2008	75	164	47
April 2008- March 2012	41	108	20

LAND USE CONSENTS

Decisions on land use consents

The approval rate for land use consents has not noticeably changed since the Act came into effect.

Table 5 Decisions on land use consents, 2004-2012

LAND USE CONSENTS	GRANTED	DECLINED	LAPSED, WITHDRAWN OR CLOSED
April 2004- March 2008	1075	12	34
April 2008- March 2012	873	0	173

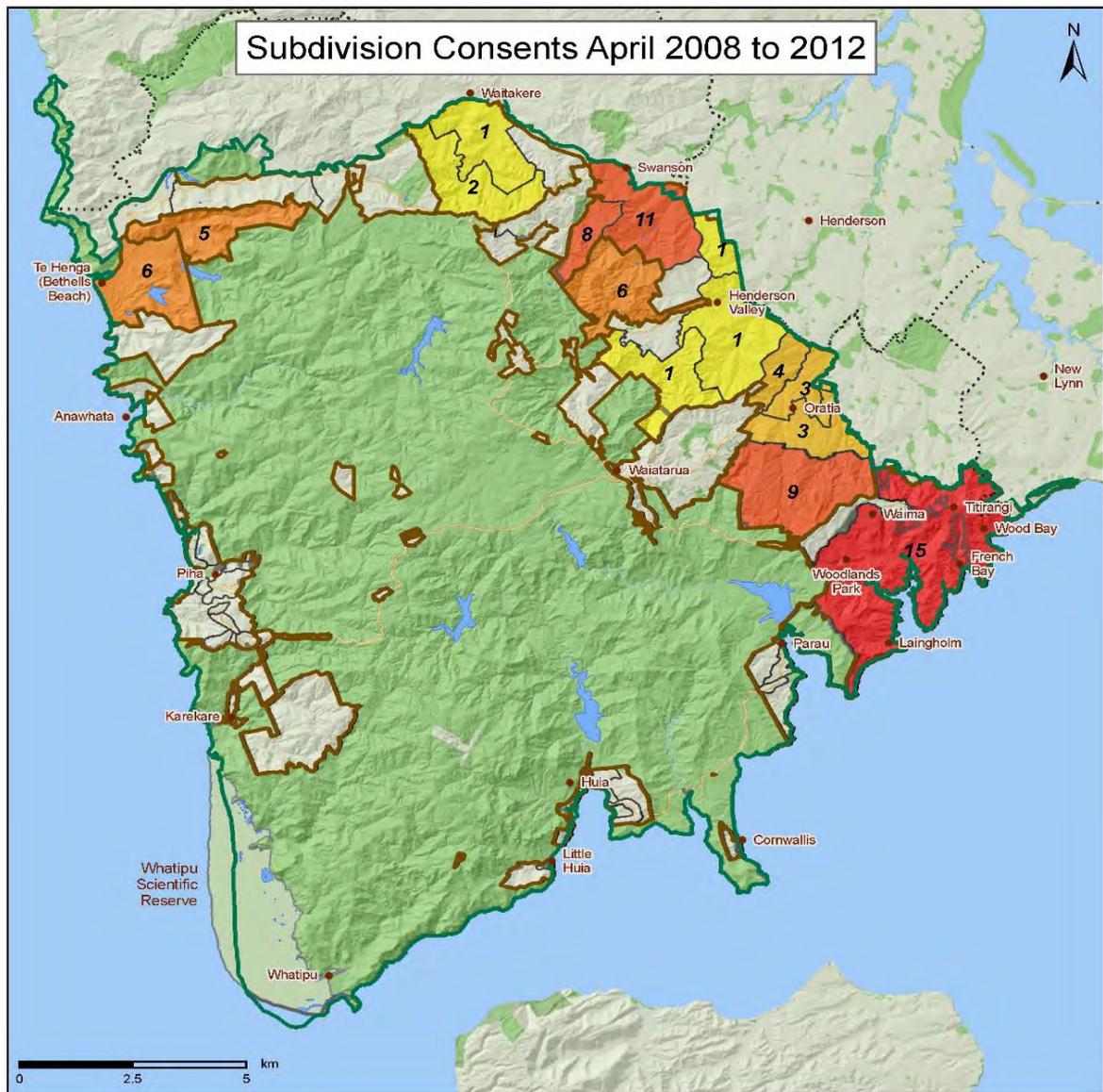
Types of Land Use Consents – 2008 to 2012

The land use consent data is further broken into the main types of consents sought, along with the landscape type in which the application site is located. The distribution of new buildings (all of which were dwellings) is shown for each landscape unit in Figure 5 and for all consents in each landscape type in Table 6 below. By far the greatest number of new dwelling construction occurred in the Bush Living urban area, particularly the Titirangi/Laingholm, landscape unit (UF9).

Table 6 Types of land use consents granted and implemented, 2008-2012

LANDSCAPE TYPE	NEW BUILDINGS	EXTENSIONS TO EXISTING BUILDINGS/ANCILLARY BUILDINGS	TREE/VEGETATION REMOVAL	TOTAL
Bush Living	69	135	295	499
Coastal (incl villages)	20	20	41	81
Foothills	36	41	69	146
Total	125	196	405	726

Figure 4



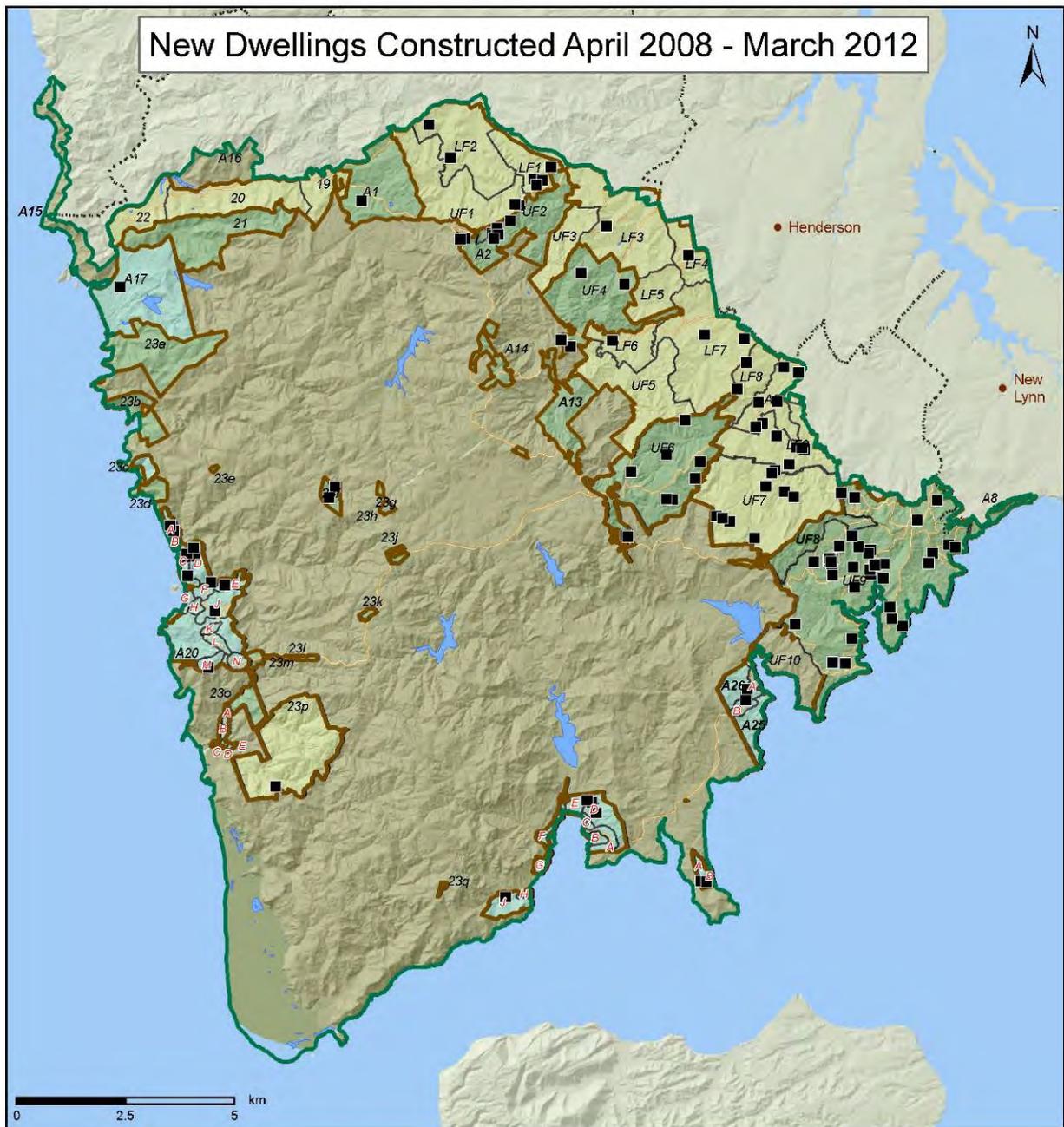
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Number of new lots consented

- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 11
- 12 - 15

- Landscape Unit
- Landscape Type
- Waitakere Ranges Heritage Area
- Regional Park Boundary
- Local Board Boundary

Figure 5



Legend

Landscape Type

- Coastal
- Dense Bush Living
- Parkland
- Foothills

Landscape Unit

New Dwellings

Waitakere Ranges Heritage Area

Local Board Boundary

Land Use Consents for Activities (Including Buildings) on Sensitive Ridgelines – 2008 to 2012

Between April 2008 and March 2012, 87 consents were granted for activities on sensitive ridgelines, the vast majority in the Bush Living landscapes.

LANDSCAPE TYPE	LAND USE CONSENTS SENSITIVE RIDGELINES
Bush Living	63
Coastal Villages	5
Foothills	19
Total	87

Land Use Consents to Clear Vegetation – 2008 to 2012

Since April 2008, approximately 100 resource consents were granted annually to clear vegetation. For applications involving indigenous vegetation, an estimated 71% were for a single tree, and 88% for four trees or fewer. In addition, 54 applications to carry out pruning or works within the drip line of trees were consented between April 2008 and March 2012. Most of the larger consented clearances involved exotic trees (particularly pines and eucalypts).

	INDIGENOUS	EXOTIC	BOTH OR NOT DEFINED	TOTAL
Single tree	83	61	2	146
2-4 trees	26	28	5	59
5-15 trees	6	14	3	23
15-50 trees	3	2	2	7
>50 trees	0	4	0	4
500-2000 m2	2	0	0	2
>2000m2	1	0	0	1

Conditions of Land Use Consent

An analysis of the conditions imposed on a sample of 100 land use consents highlights that a range of mitigation conditions are utilised by the council and applicants to avoid, remedy or mitigate potential adverse effects. These are summarised below.

CONDITION	NEW DWELLINGS %	DEVELOPMENT ON SENSITIVE RIDGE LINE %	TREE OR VEGETATION CLEARANCE %
Use of recessive colours	42	20	N/A
Use of non-reflective glazing	42	16	N/A
Planting or replanting of indigenous tree species	42	36	41
Unspecified planting or replanting	17	0	13
Weed management	33	16	17
No specific conditions	25	48	33

CHANGES TO VEGETATION COVER AND THE URBAN FOOTPRINT

Protecting, enhancing and restoring the dominance of natural and rural landscape elements over the built environment is an important objective of the Act. This is also linked to the objectives for the eastern foothills to act as a buffer and transition between metropolitan Auckland and the forested ranges and coast, and seeking the retention of rural character for the northern and eastern foothills.

Measurement of the density of 'urban footprint' (i.e. the area covered by buildings and impervious surfaces) has been undertaken by the council for stormwater management purposes. The estimated 2012 baseline for the heritage area is shown in Table 7.

Urban Footprint

Table 7 Urban Footprint in the heritage area 2012

LANDSCAPE TYPE	URBAN FOOTPRINT 2012 (HA)	PERCENTAGE OF LANDSCAPE TYPE – URBAN FOOTPRINT %	M ² PER HA IN URBAN FOOTPRINT
Bush Living	230	6.4	638.4
Coastal (incl villages)	51.3	4.4	443.5
Foothills	141.2	3.6	363.3
Regional Park	13.9	0.1	7.9

The recent rate of change in urban footprint was also estimated from the aerial photographic analysis (Table 8). Between April 2008 and April 2012 an estimated 2.2 hectares of new buildings and impervious surfaces were added annually to the urban footprint of the heritage area. This is a fraction of a percent of the total area or the landscapes within it.

Additions to Urban Footprint (Buildings and Impervious Surfaces) - 2008 to 2012

Table 8 Changes in urban footprint in heritage area - 2008 to 2012

LANDSCAPE TYPE	ADDITIONAL URBAN FOOTPRINT DEVELOPED PER ANNUM (HA)	PERCENTAGE CHANGE IN THE DEVELOPMENT OF URBAN FOOTPRINT PER ANNUM (%)	M ² PER HECTARE PER ANNUM
Bush Living	+ 0.8	+ 0.0001	+ 2.2
Coastal	+ 0.4	+ 0.0001	+ 3.5
Foothills	+ 0.9	+ 0.0001	+ 2.4
Parkland	0	0	0
Total	+ 2.2	0	+ 0.8

Vegetation Coverage (all types)

Removal of vegetation

The rate of removal of vegetation cover and regeneration was also estimated from aerial photographs. An estimated 14 hectares per annum is being removed across the heritage area as whole, relatively evenly across the landscapes outside the regional park (Table 9 and Figure 6)

Table 9 Estimated rate of removal of vegetation (all types) in heritage area – 2008 to 2012

LANDSCAPE TYPE	CHANGE PER ANNUM (HA)	% CHANGE FOR AREA OF LANDSCAPE TYPE PER ANNUM	M ² PER HECTARE PER ANNUM
Bush Living	-5.2	- 0.001	- 4.8
Coastal	-1.3	- 0.001	- 3.7
Foothills	-7.5	0	-6.4
Parkland	0.1	0	0
Total	-14.1	0	-1.8

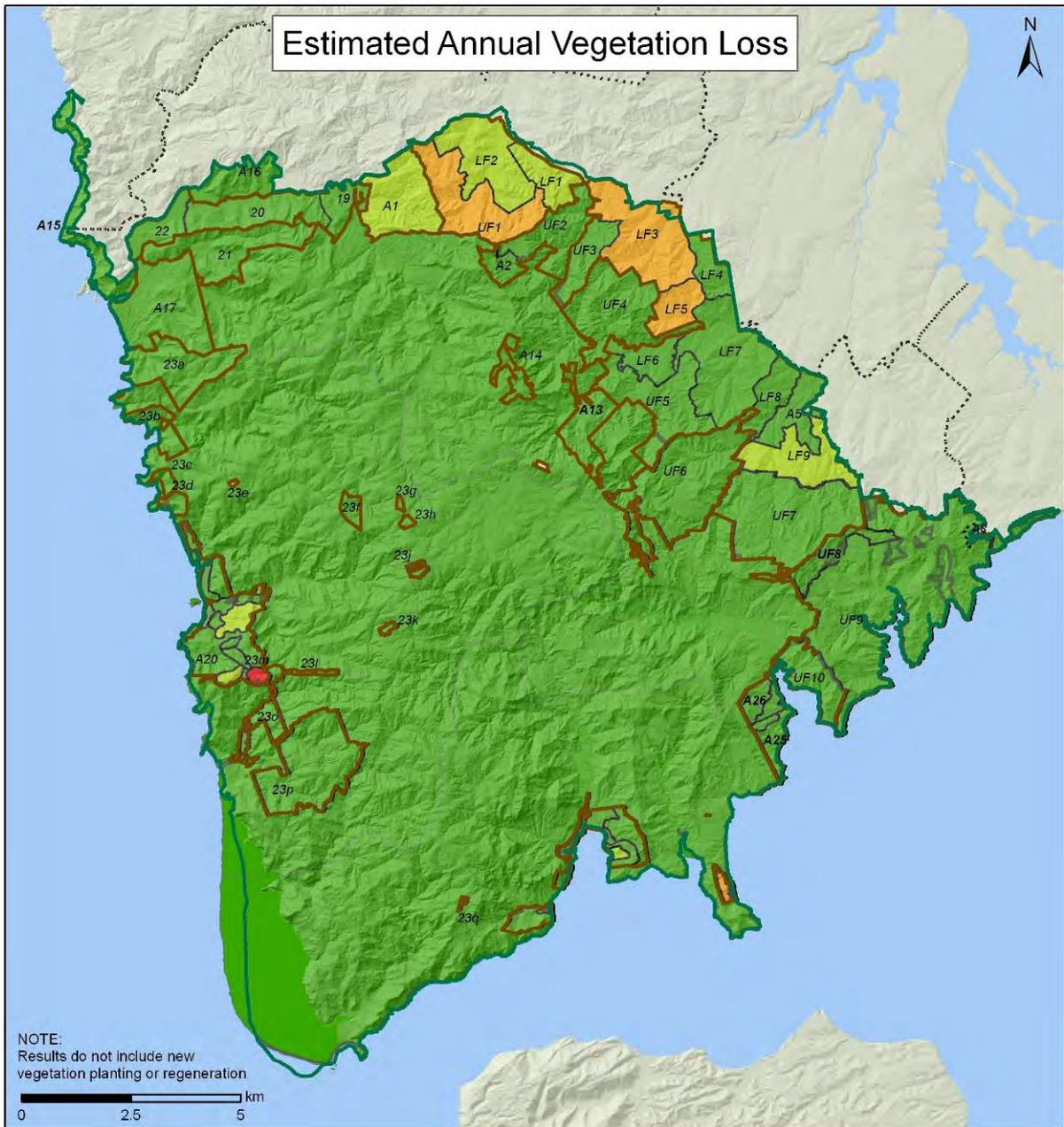
A comparison of vegetation clearance against resource consents (for all activities) on the same property suggests that a significant proportion (estimated at around 60%) of clearance takes place either as a permitted activity or without resource consent. The analysis is based on all vegetation types, so it has also identified pest weed (trees and shrubs) and exotic species clearance. The removal of pine woodlots has also contributed to the results.

About three quarters of instances of the permitted or unconsented clearance identified was for small areas of 100m² or less and less than 1 % involved clearance of more than a hectare.

Table 10 Instances of vegetation clearance of all types carried out annually between 2008 and 2010 with and without a land use consent on the same parcel of land. Consents, existing use rights etc established before April 2004 are not included

EXTENT OF VEGETATION CLEARANCE	<50m ²	50 TO <100m ²	100-1000m ²	>1000 TO 10,000m ²	>10,000m ²	TOTAL
Consent						
Number of cases	88	43	78	9	>1	218
Area cleared (Ha)	0.2	0.3	2.3	2.0	0.5	5.4
No Consent						
Number of cases	334	117	120	16	>1	586
Area cleared (Ha)	0.7	0.8	3.3	3.4	0.4	8.7
Total						
Number of cases	422	160	198	25	1	804
Area cleared (Ha)	0.9	1.1	5.6	5.4	0.9	14.1

Figure 6



Legend

Vegetation Loss

Square metres removed per hectare per year

- < 20
- 20 - 40
- 40 - 100
- 100 - 150

- Regional Park Boundary
- Landscape Unit
- Landscape Type
- Waitakere Ranges Heritage Area
- Local Board Boundary

Regeneration of Vegetation Cover

Community groups are actively undertaking replanting and restoration of native vegetation across the heritage area (see Section 2.6). The District Plan also provides for restoration and regeneration plantings to mitigate potential adverse effects from development, including specific provisions within the foothills structure plan areas.

Between early 2008 and late 2010 regeneration occurred (actively or passively) on 233 recorded sites, with larger areas (over 500m²) accounting for a disproportionate share (77%) of the total regenerating area. There were clusters of regeneration sites in the foothills (UF4, 5 and 6).

Overall the figures show that, apart from instances of small scale vegetation clearance, there has not been any significant changes in the vegetation patterns in the heritage area. The most obvious changes have been in the foothills where exotic vegetation patterns, including orchards and shelter belts have altered in recent years. However, the data available from aerial photographs and Land Cover Database is not adequate enough for a full analysis.

Estimated extent and type of revegetation occurring annually across the heritage area, based on aerial photographic analysis, is shown in the table below. This includes both active revegetation through replanting and natural succession (e.g. of ungrazed and uncultivated grassland or crop land). "Shrubs" includes recent plantings of exotic and native tree species as well as natural regeneration (e.g. of manuka and shrubby exotic species).

TYPE AND STATURE	M ² /YR	HA/YR
Trees or Trees/Shrubs	343	0.03
Shrubs	28499	2.85
Grassland	2286	0.23
Indeterminate planting or other	344	0.03
Total	31472	3.14

SETTLEMENT PATTERN AND DENSITY

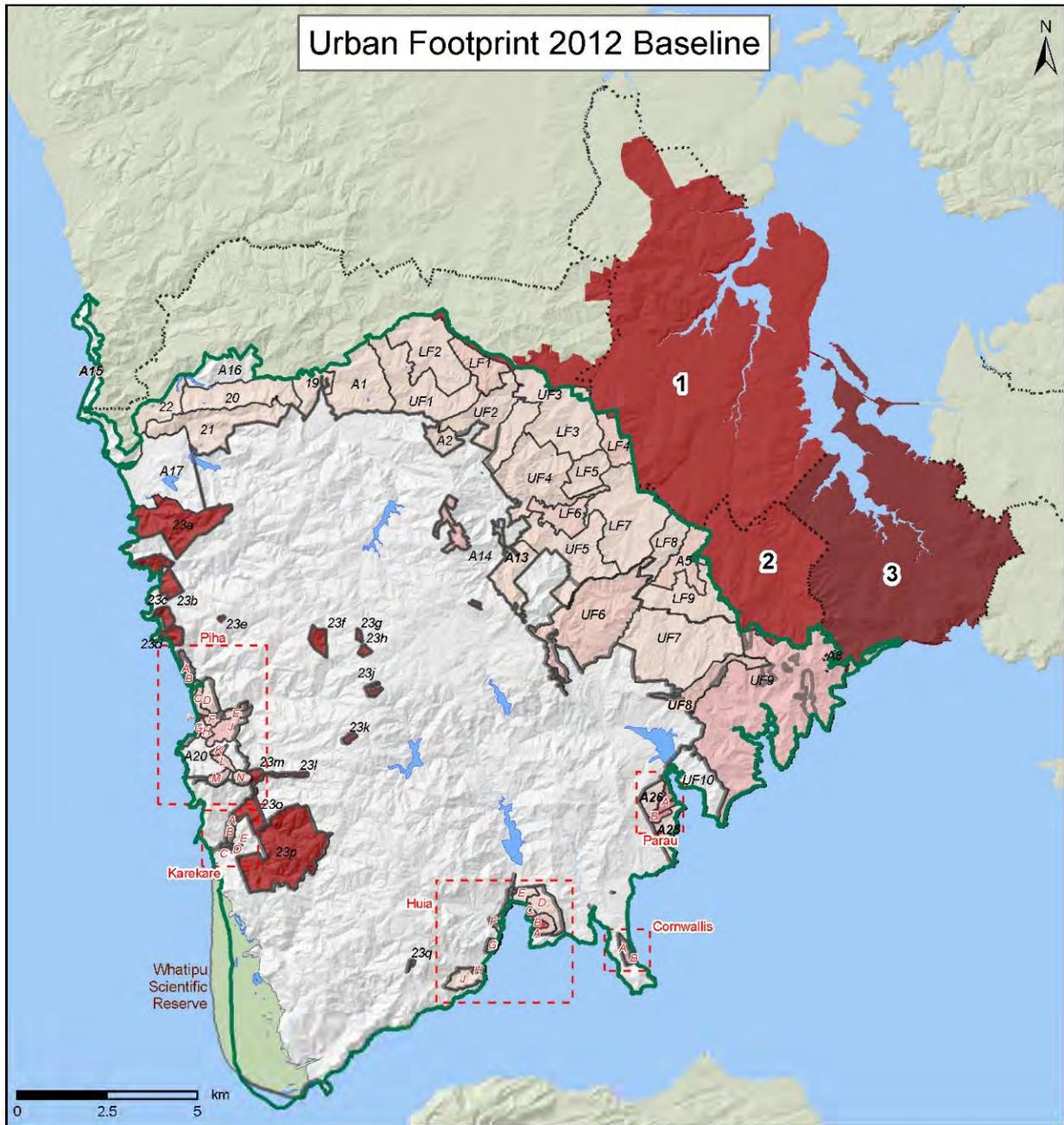
The 'Buffer' Effect of the Foothills

In addition to its qualitative differences from the adjacent urban areas, the role of the foothills as a buffer between metropolitan Auckland and the Waitākere Ranges can be assessed through comparison of its urban footprint with adjacent landscape areas on either side of the heritage area boundary and the existing Metropolitan Urban Limit (MUL), as shown in Table 10 and Figure 7. This demonstrates the marked transition and provides a baseline indicator for assessing future change.

Table 11 Density (2012) of urban footprint (buildings and impervious surfaces) in adjacent metropolitan administrative areas and the heritage area (see also Figure 7)

REF (FIG 7)	NAME OF AREA	% URBAN FOOTPRINT COVERAGE
1	Henderson-Massey - urban area	38.1%
2	Waitākere Ranges Local Board (east of heritage area)	30.3%
3	Whau Local Board	44.8%
	Heritage Area Foothills	3.6%
	Heritage Area Bush Living	6.4%
	Heritage Area – Parkland	0.1%

Figure 7



Legend

% Building and Impervious Surface Cover



- Waitakere Ranges Heritage Area
- Regional Park Boundary
- Local Board Boundary

Adjacent metropolitan areas
(within Metropolitan Urban Limit)

- 1 - Henderson / Massey Local Board
- 2 - Waitakere Ranges Local Board
- 3 - Whau Local Board

FUTURE DEVELOPMENT POTENTIAL

The District Plan contains general subdivision rules along with specific subdivision provisions for the foothills structure plan areas and Titirangi-Laingholm. The Auckland Council Capacity for Growth Study 2012 (Auckland Council, 2013) has identified the potential number and extent of subdivision possible. This is a desktop GIS exercise (no site-based has been undertaken for example providing for geotechnical, landscape, access, and servicing considerations). The nature of the subdivision rules in the Waitākere District Plan (with the Human Environments zoning linkage to the Natural Areas and Riparian Margins) does mean that vegetation protection issues (where vegetation is accurately captured by the Natural Areas) are considered.

Because of the lack of consideration of geotechnical, slope and access issues, the study is likely to over estimate the potential, but provides an accurate assessment of the 'land area' based potential. Additionally the study does not consider potential for development via consent applications at a category above that modelled (including Non-Complying Activities), nor amalgamation or multi-site applications. These two issues are however considered to be 'compensating errors' – in effect they balance each other out.

This information is considered to provide an indication of the current theoretical potential for change in the heritage area, and identifies subdivision opportunities for up to approximately 700 additional lots at the lowest modelled consent category, and is repeatable and comparable with previous studies

The council also maintains information of the number of existing certificates of title that are vacant (i.e. they do not currently contain a dwelling or a building larger than 50m²). This so called 'latent potential' should be considered in terms of the existing ability for change to occur through the development of these sites, many of which are the result of historic subdivision practices, and have had rates collected on them for many years. Again, some of these sites may have limitations and constraints which can not be understood through initial desk top analysis (i.e. ownership, size, dimensions, geotechnical, access, protected vegetation, all of which can be overlaid in the future), so the outcome is likely to be an over reporting of the actual uptake of this latent development opportunity. However, as the supply of newly subdivided sites within the heritage area reduces over time in accordance with the Act, and District Plan policy, the likelihood of the more difficult existing vacant sites being developed will increase.

The table below identifies a potential of 900 vacant lots based on the above analyses and the potential arising from the Operative Swanson and Oratia Structure Plans.

Table 12 Subdivision potential (source: Auckland Council)

	VACANT LOTS	NEW LOTS FROM SUBDIVISION	TOTAL POTENTIAL FOR NEW DEVELOPMENT
Bush Living	575	386	961
Foothills	250	249	499
Coastal	108	57	165
Total for heritage area	933	692	1625



CONCLUSION

OVERVIEW OF FINDINGS

Over the past decade there has been a gradual reduction in consent activity within the heritage area. The rate and scale of development and change within the heritage area has in recent years been low relative to the size of the Area.

Since 2008, data suggests the following level of new consents and development in the heritage area:

- 22 subdivision consents involving 76 new lots were granted consent;
- 125 new dwellings and 196 extensions were implemented;
- an estimated annual increase in 'urban footprint' (buildings and impermeable surfaces) of 2 hectares per annum;
- an estimated clearance of vegetation cover (indigenous and exotic trees and shrubs) of 14 hectares per annum. Some of this vegetation removal can be attributed to the felling of exotic pine woodlots and weed removal in the foothills.

There is still a significant number of vacant sites and land with subdivision potential in the heritage area. With the development of this land, some locations would experience change in the urban footprint and their landscape qualities.

The analysis of decisions on consent applications suggests that the Act and District Plan have enabled cumulative effects to be addressed, along with the appropriate use of conditions of consent to manage adverse effects.

PROGRESS IN ACHIEVING THE OBJECTIVES OF THE ACT

The purpose and objectives of the Act are generally being met. The relatively low level of development since the Act came into effect has in itself served to limit potential adverse effects, and those applications which have been received have generally been processed in a manner which has helped to achieve the objectives of the Act.

There have been no applications for activities within the heritage area of a scale or character which would:

- adversely effect the intrinsic landscape character of any part of the area;
- impact the undeveloped coast;
- introduce significant elements of urbanisation; or
- threaten the quietness and darkness of the Ranges or the coast.



The planning and consents system which has operated between 2008 and 2012 was, for the most part, already in place when the Act came into effect. The framework recognises that there is limited scope for new subdivision in the heritage area and incorporates management of adverse effects, including cumulative effects, in ways which assist with achieving the objectives of the Act. The framework also promotes enhancement and restoration of landscapes and ecosystems and has facilitated the achievement of net gains in habitat quality in some instances.

STRATEGIC ISSUES FOR CONSIDERATION

It will be important for the Unitary Plan to give effect to the Act and take account of the unique character of the heritage area and its heritage features, as well as promoting their protection, restoration and enhancement. Those aspects of the planning and consenting framework which contribute to the achievement of the Act's objectives should be identified, retained and incorporated into the Unitary Plan framework, along with appropriate methods which help to address the issues identified in this report.

The consents monitoring and reporting system has not been designed or managed to provide efficient and reliable access to the data required for this and future monitoring reports. In particular, the description of applications is not consistent and specific information such as the extent of vegetation clearance or the numbers of new lots established is not easily accessible.

RECOMMENDATIONS FOR FUTURE MONITORING

Modifications to the consents monitoring and reporting system (Pathways) should be considered and put into effect to provide more efficient monitoring and reporting to better meet the monitoring requirements of the Act.

Improved monitoring of vegetation growth and regeneration and the effectiveness of planting and weed management conditions and covenants should be undertaken so that their contribution to landscape and ecosystem enhancement and restoration can be properly assessed.

'Snapshot' records of the urban footprint (buildings and impervious surfaces) for the heritage area and adjacent urban areas should be created and maintained, preferably on a regular basis.



2.3 ECOSYSTEMS AND ECOSYSTEM SERVICES

INTRODUCTION

The Waitākere Ranges is ecologically significant as one of the largest areas of coastal and lowland forest with intact sequences from wetlands and dunelands to coastal and inland lowland forest remaining in the region. It supports a wide diversity of habitats including forest, shrub land, freshwater streams and rivers, sand flats, dunes, coastal turfs and wetlands including the Whatipu Scientific Reserve, the largest wetland complex in the region. The forest types reflect the history of forest clearance and milling but include remnant kauri and podocarp broadleaf forest, coastal forest and large areas of regenerating manuka and kanuka shrub land. These are also identified as heritage features which are to be protected, restored and enhanced.



The regional park is known to support 540 species of indigenous plants, several thousand insect species, over 100 snail species, 71 bird species, six lizards and two skinks, the long-tailed bat and Hochstetter's frog (Waitākere City Council, 2007).

The heritage area as a whole is the home of 93 nationally threatened species, comprising of 58 vascular plants (including one endemic shrub), one species of moss, 27 birds (with Whatipu being a particular spot for threatened birds) 3 reptiles, one species of frog, one species of bat, and at least three invertebrates. 148 plant species are considered to be regionally threatened.

The heritage area (particularly its 'core' forested area) is included within Auckland Council's regional forest, wetland and freshwater monitoring programmes (Figure 8), which are based on a network of monitoring sites and plots (predominantly located in the regional park). Additional data has been gathered from a range of other sources such as satellite imagery and aerial photographic surveys, inventories, and field work such as bird counts and community volunteers' surveys. Regional biosecurity programmes also gather relevant data as part of their operations.

Ecosystem services include the role of the heritage area in providing part of Auckland's municipal water supply. The dams and water supply system are identified as a heritage feature and objectives seek to protect these features and their important function. Whilst some ecosystem services (such as recreational benefits) are covered elsewhere in the report, others, such as carbon sequestration have not been included.

SUMMARY OF THE INDICATORS

The indicators included in this report are listed below. Additional indicators have also been included in the accompanying topic report prepared by the council. Some of these are either under development or have not been applied for long enough to provide useful results.

General ecosystem/species management

- Percentage cover of indigenous ecosystems.
- Total area of ecosystems (area and percent) protected in reserves.
- Proportion of threatened species under active conservation management.
- Change in avian conspicuousness in forest, scrub and wetland habitat.

Forests and other terrestrial ecosystems

- Spatial extent of kauri dieback disease.
- Biomass and dominance of weedy exotic plants in forests.
- Expenditure on weed control by council.
- Possum residual trap catch.
- Loss or gain of forest and scrub habitat through clearance and replanting (area and %).

Rivers Streams and Riparian margins

- Proportion of riparian area with indigenous wetland, forest and/or scrub land cover.
- Ecological Quality (Rivers): Macroinvertebrate Community Index (MCI); Index of Biotic Integrity (IBI) core.
- Fish species diversity.
- Physical/chemical water quality indicators.

Figure 8



Legend

- | | | | |
|---|-----------------------------|---|--------------------------------|
|  | Groundwater Monitoring Site |  | Wetland |
|  | Forest Monitoring Sites |  | Waitakere Ranges Heritage Area |
|  | Freshwater Monitoring Sites |  | Regional Park Boundary |
|  | Wetland Monitoring Sites |  | Local Board Boundary |

Wetlands and lakes

- Wetland and wetland perimeter condition index.
- Rotifer Index.
- Lake SPI (Submerged Plant Indicators).

Dunelands

- Total duneland area.
- Proportion of duneland with indigenous/urban or production agriculture land cover.

Most state of the environment indicators were derived from the council's established (and developing) field based ecosystem and biodiversity monitoring programmes for forests, wetlands and other freshwater habitats (which samples sites across the whole region as well as the heritage area). This was supplemented by aerial photographic analysis and limited field work for wetland and dune land indicators and data accessed directly from the Land Cover Database (LCDB) and council's property records (e.g. for land held in Reserves or under covenants).

Data on operational issues (e.g. kauri dieback) and management activities was provided from systems held by council's Biosecurity unit, Regional and Local Parks and Environmental Partnerships and information supplied by community groups such as Sustainable Neighbourhoods groups.

INDIGENOUS HABITAT AND SPECIES (GENERAL)

There are approximately 22,000 ha of indigenous habitat within the heritage area, which is 82 to 83% of its total area. This comprises the following broad scale vegetation and land cover types across each of the heritage area landscape types (source: LCDB 3). This has not significantly changed in the last 5 years.

INDICATOR	2008 VALUE	2010 VALUE	CHANGE
Percentage/Area cover of indigenous ecosystems (all)	83%	>82.95% - < 83%	>0% - <0.05%

Habitat Protection

There has been an overall increase in the size of land protected through public reserves and covenants since 2008.

	2008 VALUE	2012 VALUE	CHANGE
Total area of ecosystems (area and %) protected (reserves and covenants)	18,785 ha (69%)	18,963 ha (70%)	+178 ha (+1%)
Total area of indigenous ecosystems (area and %) protected (reserves and covenants)	17,567 (79%)	17,737 (79%)	+170 ha (+0%)

Loss or Gain of Indigenous Ecosystems (area and %)

Results from the most recent Land Cover Database are based on 2008 data and only provide an indication of gross changes over large and relatively homogeneous habitat areas. Figure 8 and the table below illustrate the general distribution of habitat types and change across the heritage area but cannot be reliably used as a quantitative tool to assess local detail or cumulative small scale changes. Results from aerial photographic assessments and field based surveys of changes to dune land and wetland extent are covered in the sections below. Change in vegetation cover in general is also considered in Section 2.2.

Summary of Main Changes in Vegetation Land Cover Classes for the Heritage Area Between LCDB2 (2001) and LCDB3 (2008).

LAND COVER CLASS	2001 AREA IN HA	2008 AREA IN HA	AREA CHANGE (HA)	% CHANGE
Indigenous forest	14,658	14,656	- 2.71	- 0.018
Manuka and kanuka	5,854	5,853	- 0.96	- 0.016
High producing exotic grassland	2,375	2,375	- 0.41	- 0.017
Regenerating indigenous short forest and scrub	1,233	1,234	+ 0.96	+ 0.078
Exotic forest, including production pine plantations	284	284	0	0
Low producing exotic grassland	347	347	0	0
Orchards, vineyards and other perennial crops	205	205	0	0
Gorse and broom	0.1	0.1	0	0
Other ecosystems	1,438	1,440	+ 2.57	+ 0.178

SPECIES MANAGEMENT

PROPORTION OF THREATENED SPECIES UNDER ACTIVE CONSERVATION MANAGEMENT

Within the heritage area most species management occurs as part of wider habitat management activities described in this report. Exceptions include, for example, kōkako monitoring through Ark in the Park, fern bird monitoring at Whatipu and regional and local long-tailed bat monitoring.



Of the 27 threatened bird species known to occur in the heritage area, at least 12 species (44%) are likely to occur in areas under active conservation management. In addition, of the 59 nationally threatened plants, at least 14 (24%) of those that are highly vulnerable to animal browsers and 28 (48%) of threatened plants that are highly vulnerable to weed invasions, are also likely to occur in areas under active conservation management. Populations of other threatened fauna, including long-tailed bat, Hochstetter's frog, two geckos, one skink, three fish, and at least three invertebrates will almost certainly occur in areas under active conservation management and benefit from such activities.

Change in Avian Conspicuousness in Forest, Scrub and Wetland Habitat

Annual summer monitoring of indigenous bird species is undertaken, using five-minute bird counts at all the forest monitoring plots. Bird counts of the most commonly identified indigenous species, have remained relatively static between 2008 and 2011, although caution must be applied to these numbers as they need to be confirmed over a longer time period. Baseline counts have also taken place at wetland monitoring sites which have confirmed that they provide a stronghold for the nationally threatened fernbird and spotless crane.

Figure 9
Results of five-minute bird counts in forest plots, 2008 to 2011

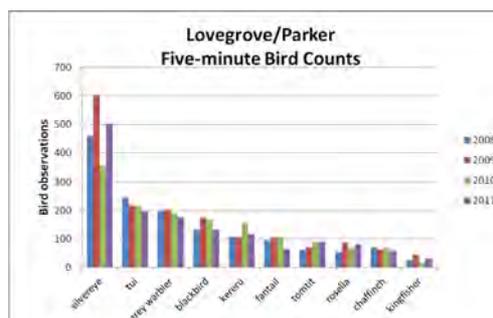
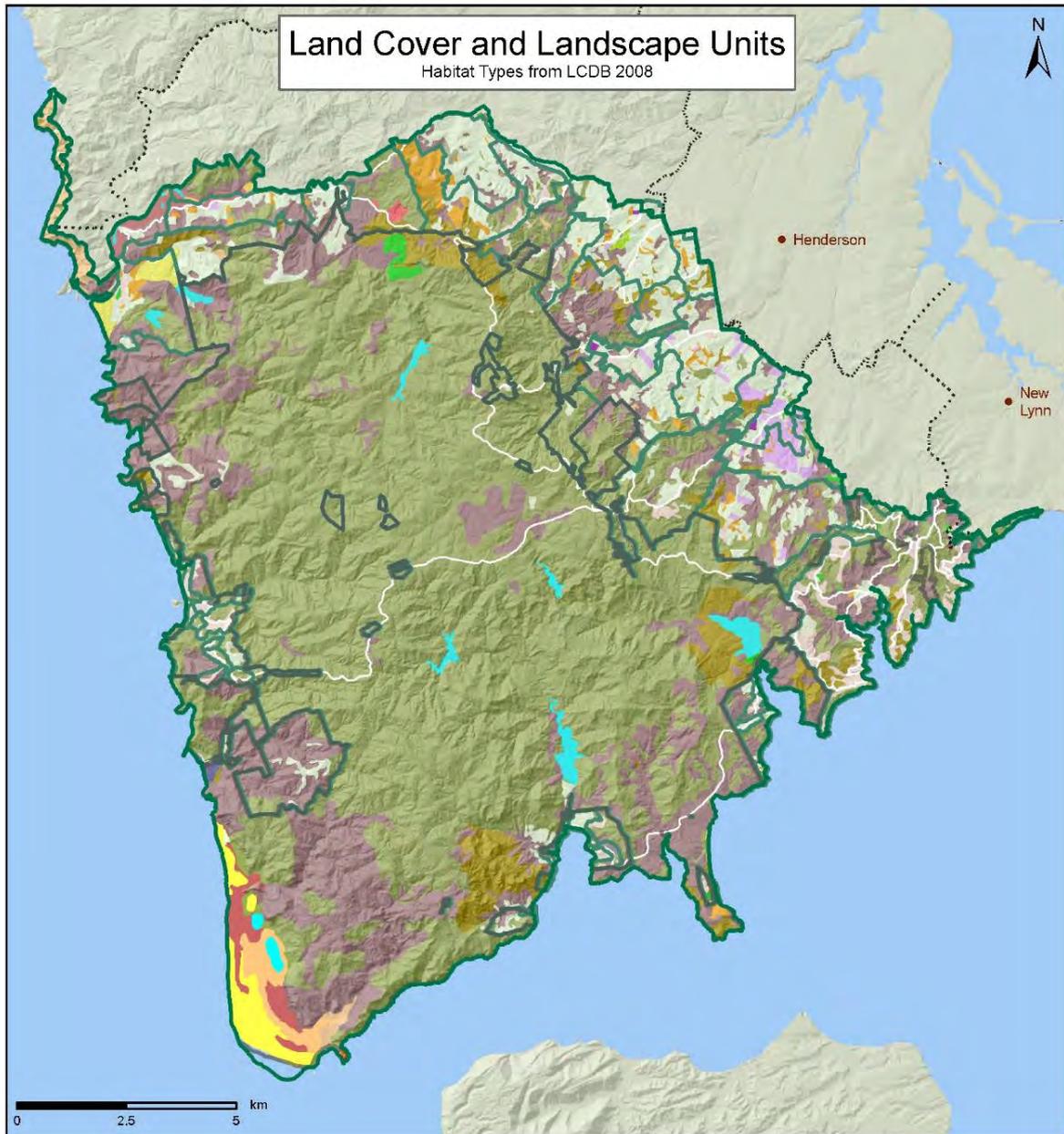


Figure 10

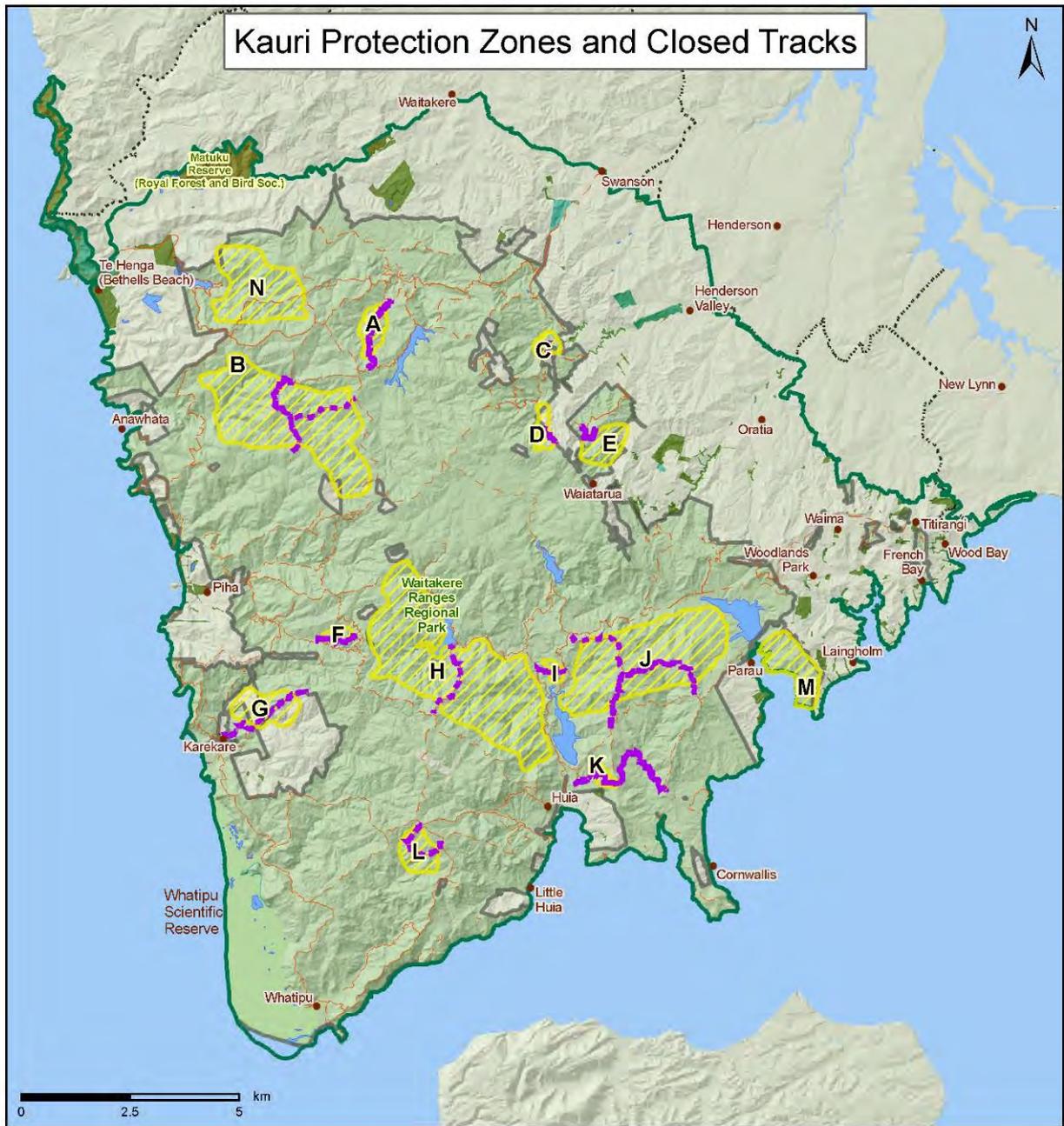


Legend

LCDBIII - Auckland Region

- | | | | |
|----------------------------|--|----------------------------------|--------------------------------|
| Built-up Area (settlement) | Orchard Vineyard & Other Perennial Crops | Broadleaved Indigenous Hardwoods | Landscape Unit |
| Urban Parkland/Open Space | High Producing Exotic Grassland | Mixed Exotic Shrubland | Waitakere Ranges Heritage Area |
| Surface Mines and Dumps | Low Producing Grassland | Matagouri or Grey Scrub | Regional Park Boundary |
| Coastal Sand and Gravel | Herbaceous Freshwater Vegetation | Forest - Harvested | Local Board Boundary |
| Landslide | Herbaceous Saline Vegetation | Deciduous Hardwoods | |
| Lake and Pond | Flaxland | Indigenous Forest | |
| River | Fernland | Exotic Forest | |
| Short-rotation Cropland | Gorse and/or Broom | | |
| | Manuka and/or Kanuka | | |

Figure 11



Legend

- | | | |
|--|---|--|
|  Kauri Protection Areas |  Department of Conservation |  Waitakere Ranges Heritage Area |
|  Track Closure |  Local Parks |  Regional Park Boundary |
|  Tracks |  Matuku Reserve (Royal Forest and Bird Soc.) |  Local Board Boundary |
| |  Regional Parks | |

KAURI DIEBACK

Kauri Dieback Indicator Results

In addition to its significance in its own right, kauri is a key 'ecosystem driver' through its influence on soil chemistry and local plant diversity. For example, certain species of indigenous orchids and ferns are only found growing under kauri. Kauri dieback therefore has the potential to destroy a forest ecosystem.

As a result of the surveillance and survey programme initiated in 2008 it is now known that kauri dieback occurs on public and private land throughout the Waitākere Ranges, with an estimate of at least 8% of dense areas of kauri forest known to be affected, and an additional 3% probably affected. All kauri forest within the entire Waitākere Ranges is at very high risk of infection.

There is a very strong positive correlation between the track network and kauri dieback zones, with areas such as Piha and Cascades being the most affected. Almost 70% of known kauri dieback sites are within 0- 50m to the track network. In 2012 council created 13 Protection Areas within the Ranges, in zones where kauri dieback has not been detected. Tracks were closed in a trial to determine if this will assist to prevent or slow the spread of infection.

Feral pigs are also likely to spread the disease, as monitoring has shown a strong correlation between infected soil and pig disturbance.

IMPACT OF PEST PLANTS



The Auckland Regional Pest Management Strategy includes 272 taxa as declared pest plants, over 180 of which occur in the heritage area. These have been identified as actual threats to the Waitākere Ranges. A further 100 or so species were identified by Waitākere City Council as actual or potential threats within the local area. These figures are likely to increase as other species invade from surrounding areas, or additional exotic plant species naturalise and form self-sustaining wild populations through vectors such as dumped household vegetation. The impacts of invasive plants, animals and pathogens pose the greatest current threats to the ecological

values of the heritage area and are being actively managed by council and volunteers, in accordance with the Auckland Regional Pest Management Strategy (see Figures 12 and 13).

Invasion is occurring at a low level across the heritage area as a whole, and in only a small proportion of forest plots. Exotic plant biomass and dominance of weedy saplings is relatively low at the sample sites, but these are mainly within the regional park.

INDICATOR	2012 VALUE
Overall percentage biomass of weedy exotic plants in forest plots	0.10%
Average biomass of exotic weeds in forest plots	0.20%
Proportion of forest plots with no exotic trees or saplings	84%
Average percentage dominance of weedy exotic saplings	0.3 %
Average percentage dominance of weedy exotic seedlings	0.2%
Species diversity (different woody native plant species)	144
Average # different indigenous plant species per plot	31

The results suggest that the core areas of undisturbed native forest are generally quite resistant to invasion by weed species. However, relatively few sites were sampled within 'edge' habitats, particularly along bush margins, roads and around houses, where there are known to be extensive weed problems.

WEED MANAGEMENT – CHANGE IN EXPENDITURES ON WEED CONTROL

Expenditure by the council on weed management through its biosecurity operations did not change significantly between 2008 and 2012. This does not include work carried out by local voluntary groups funded regionally or through the Waitākere Local Board (see below and Section 2.6).

2008 VALUE	2012 VALUE
\$247,090 (2007-08 financial year)	\$248,631 (2011-12 financial year)

PEST ANIMALS – IMPACTS

The primary focus for pest animal management programmes within the heritage area is on intensive feral pig and possum control, with stoats, feral cats and rodents also managed in the intensive management zones such as Ark in the Park shown on Figure 13. (See Section 2.6 for further descriptions of these initiatives). In addition, locals working alongside the council are controlling stoats, hedgehogs and rabbits, for example in the dunes at Whatipu, Piha, Bethells/Te Henga and Karekare.

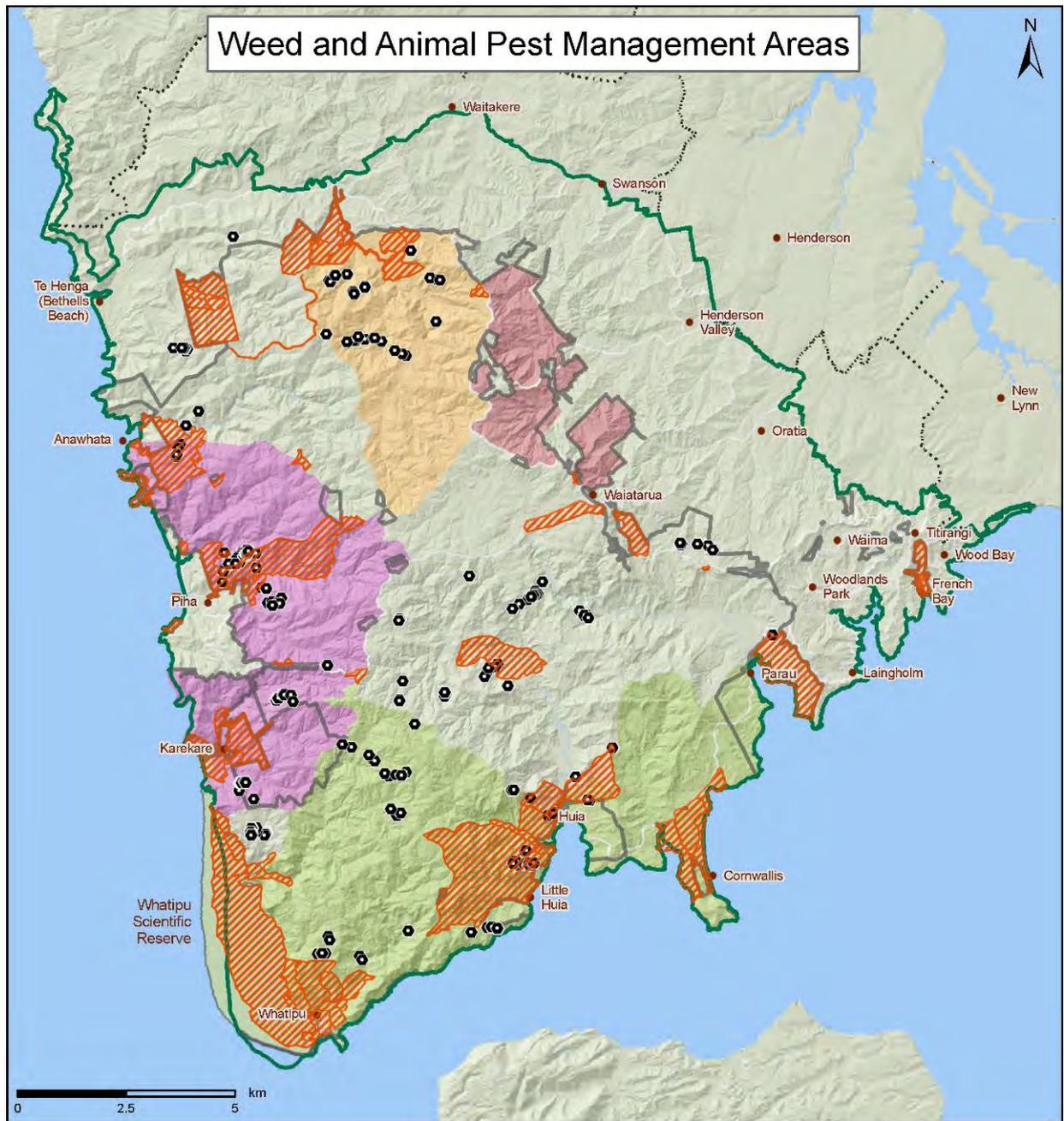
Volunteers also check traplines at the Arataki Gateway Sanctuary, and private landowners have established two mainland islands at Karekare, where collectively, they control pests over an area of approximately 400 hectares. Biosecurity programmes to exclude deer and goats from the heritage area are also operating.



ARK IN THE PARK

The project started in January 2003 with the aim to restore functioning native ecosystems through pest control and re-introduction of native animals and plants lost from the Waitakere Ranges. The community-based project is a partnership between Forest and Bird (Waitakere Branch) and the council. The project area encompasses 1,750 ha of Park with an additional 600 ha buffer zone on adjacent private land added in 2007. Main predators targeted are ship rat and other rodents, mustelids (stoat, ferret and weasel), possums and feral cats. Some weed control is also included. The success of the project has led the Department of Conservation (DoC) to approve the re-introduction of whitehead, North Island robin and hihi. Most recently, re-introduction of North Island kokako to the 'Ark' was approved by the Kokako Recovery Group (which is led by DoC) and eight birds have already been released (de Porter 2010).

Figure 12



Legend

- Pig Disturbance
- ▨ 2012 Weed Project Areas

Possum Control Areas (PCAs)

- 2008-09
- 2009-10
- 2011-12
- Annually

- ▭ Waitakere Ranges Heritage Area
- ▭ Regional Park Boundary
- ▭ Local Board Boundary

Figure 13



Legend

Community Driven Projects

- ARK in the Park
- EIF Recipient
- La Trobe Forest Ecosystem Restoration
- Lone Kauri Restoration Group

- Matuku Reserve
- Project Twin Streams
- Restoration Projects
- Sustainable Neighbourhoods

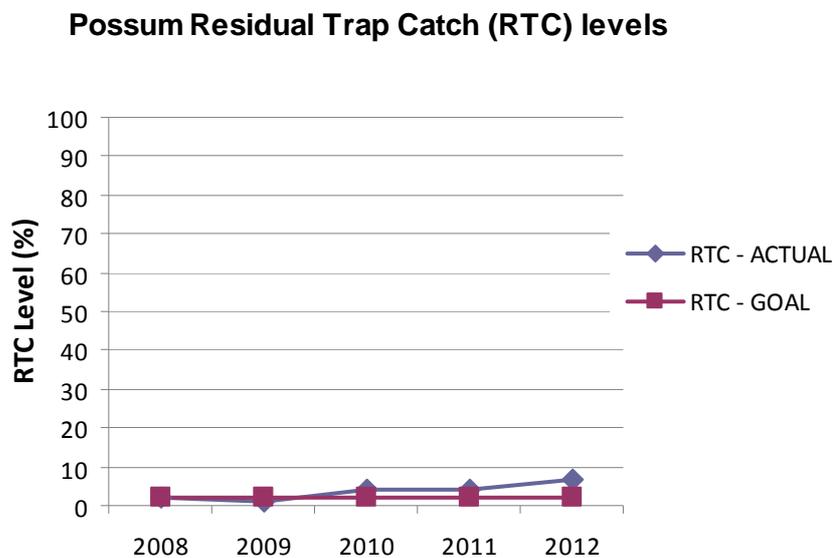
- Enviro School
- Waitakere Ranges Heritage Area
- Regional Park Boundary
- Local Board Boundary

Possum Residual Trap Catch levels

The Regional Possum Control programme has the goal to keep Residual Trap Catch (RTC) levels of possums below 2% in the heritage area. The entire heritage area is monitored annually and areas significantly above 2% RTC are targeted for control

2008 VALUE	2012 VALUE
1.87%	6.58%

Figure 14
Residual Trap Catch (RTC) levels of possums caught in monitoring programmes in Auckland Council parkland within the heritage area.



Occasional increased RTC values tend to be localised to particular 'hot spots' to which the Auckland Council quickly responds to reduce the RTC level back below the 2% RTC goal. For example, in 2010 the RTC level reached 4.19% due to high possum numbers in the Whatipu and Cornwallis area. Possum control was implemented and reduced the RTC below 1% in these two areas

FERAL PIG CONTROL

Feral pig control has been undertaken on an annual programmed basis throughout the heritage area since 2004. In 2008, this programme was significantly intensified following the detection of kauri dieback disease, as pigs are known to be a primary vector for *Phytophthora* species in other countries. heritage area wide feral pig control was increased from 1200 hours annually in 2007 to 2000 hours in 2012. Soil disturbance due to pig activity was monitored and fell over 90% in that period.

RIVERS, STREAMS, AND RIPARIAN MARGINS

Watercourses within the heritage area are classified into Zone 1 (draining west into the Tasman Sea and south into the Manukau Harbour and Zone 2 (draining north and north-east into the Waitemata and Kaipara Harbours (including Oratia, Opanuku, Swanson, Kumeu and Whau catchments), Little Muddy Creek and the Green Bay coastal strip).

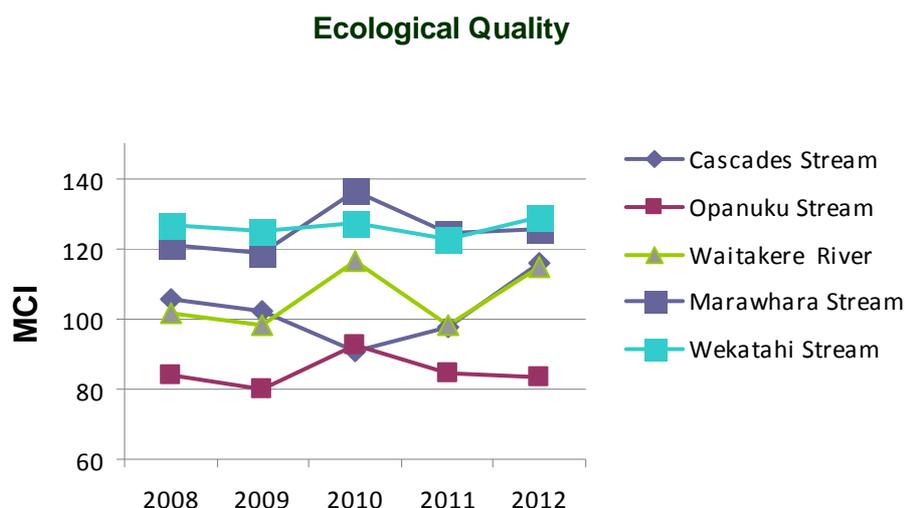
Zone 1 watercourses are generally located in the regional park and are relatively unmodified, largely stony bottom streams with high levels of riparian buffering and shading, and excellent hydrological heterogeneity. Zone 2 watercourses have headwaters that are well buffered by indigenous vegetation, although lower down in the foothills the watercourses are subjected to a combination of rural and urban impacts together with a marked decrease in riparian buffering. Despite their relatively modified status, these watercourses support an abundance of indigenous fish.

RIPARIAN VEGETATION COVER ZONES I AND II		2008 VALUE	2012 VALUE
Proportion of riparian area (20 metres each side) around streams with indigenous wetland, forest and/or scrub land cover	Zone I	94%	94%
	Zone II	64%	64%

Water Quality

The macroinvertebrate communities of streams are sampled at five sites to provide an assessment of the ecological condition of the stream (Macroinvertebrate Community Index - MCI). The higher the MCI count, the better the quality of the stream ecosystem.

Figure 15
Macroinvertebrate Community Index (MCI) ecological quality data from river sites in the heritage area



2008 VALUE	2012 VALUE	CHANGE
Cascades = 105.4 (GOOD)	Cascades = 115.9 (GOOD)	There must be far greater than 5 years (potentially up to 10 years) of data to interpret any changes
Opanuku = 84.0 (FAIR)	Opanuku = 83.6 (FAIR)	
Waitākere = 101.8 (GOOD)	Waitākere = 114.7 (GOOD)	
Marawhara = 121.0 (EXCELLENT)	Marawhara = 125.6 (EXCELLENT)	
Wekatahi = 126.8 (EXCELLENT)	Wekatahi = 128.9 (EXCELLENT)	

Fish monitoring was also carried out in 2009 at the same five sample sites, using the Index of Biotic Integrity (IBI). Results (Table 10) show that four of the streams sampled were in 'Very good' to 'Excellent' condition with only the Waitākere River having a lower score, in the 'Fair' class. This provides a baseline for future monitoring.

Table 13 Native fish monitoring in the heritage area

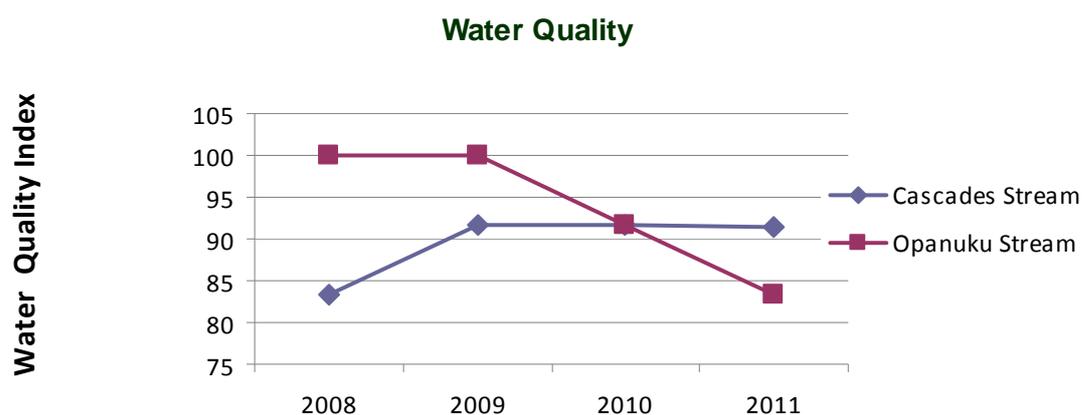
SITE NAME	YEAR SAMPLED	FISH SPECIES FOUND	IBI SCORE	IBI CLASS
Waitākere River	2009	Longfin eel Crans bully Common bully Perch	32	Fair
Cascades Stream	2009	Longfin eel Koaro Crans bully Redfin bully	48	Very good
Opanuku Stream	2009	Longfin eel, Torrentfish Banded kokopu Inanga Common bully Redfin bully	52	Excellent
Marawhara Stream	2009	Banded kokopu Redfin bully	46	Very good
Wekatahi Stream	2009	Longfin eel Koaro Banded kokopu Redfin bully	52	Excellent

In addition to the above native fish monitoring, lamprey (*Geotria australis*) is monitored at a number of sites within the heritage area (Waitākere River, Marawhara Stream, Glen Esk Stream, Karekare Stream, and Karamautura Stream) using in-stream passive pheromone samplers. Only the Glen Esk site tested positive for the presence of lamprey and hence it is likely that there is only a small population of lamprey within this stream. Future surveys will be able to clarify this.

Water Quality (Rivers)

There are two physical/chemical water quality monitoring sites (Cascades Stream and Opanuku Stream). The length of the data record precludes robust analysis of any trend. However, compared with the 25 sites throughout Auckland, the streams are ranked 1st and 5th respectively, and both classified as in the good to excellent water quality range.

Figure 16 Water Quality Index data from river sites in the Heritage area



WETLANDS AND LAKES

Between 2008 and 2012 there were no significant changes in the total area of wetland in the heritage area. There was a small loss of wetland habitat through marginal drying to a total area of 0.2 ha. Further details of changes to individual wetlands are provided in the technical report (Auckland Council, 2013).

Weeds

Crack willow, grey willow, pampas and Mercer grass or reed sweet grass have a much greater impact on the indigenous component of wetlands than other weed species occurring. Te Henga wetland comprises large areas of willow. Lake Wainamu and Lake Kawaupaku have been progressively degraded by the growth of oxygen weed *Egeria densa*.

WETLAND HABITAT CONDITION

The Wetland Condition Index assesses the overall condition of a specific wetland based on measures of major threats and stress factors known to damage wetland health. An overall score of 25 represents the unmodified or best condition and 0 the most degraded condition.

Based on observations, there is no evidence to suggest there has been an increase in the 'weediness' of wetlands in the heritage area since 2008. There are no records of new wetland weed introductions in the period 2008 to 2012.

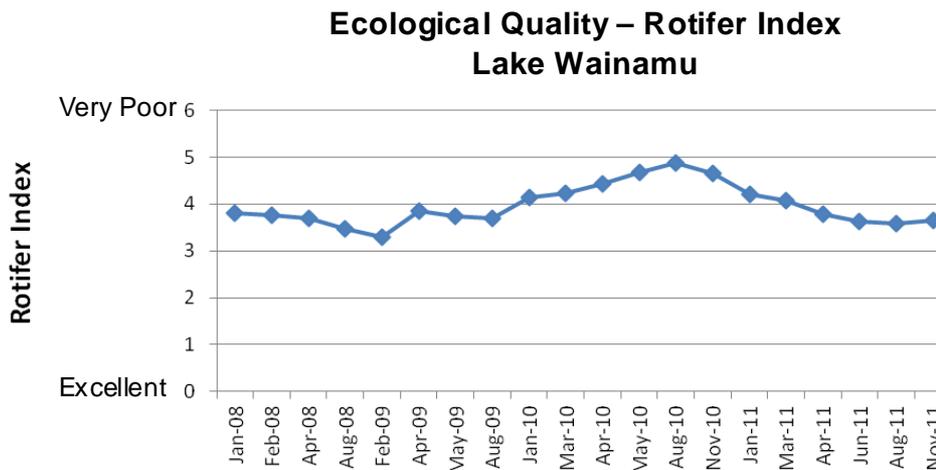
	2012 VALUE
Native: exotic plant biomass ratio in monitored wetlands	81%
Average native: exotic plant biomass ratio in monitored wetlands	85%
Average native: exotic plant frequency in monitored wetlands	60%
Average native: exotic weed plant frequency in monitored wetlands	6%
Wetland condition index	21.9
Wetland perimeter condition index	21.7

Ecological Quality – Lake Wainamu and Lake Kawaupaku

	2008 VALUE	2012 VALUE
Ecological Quality (Lakes): Rotifer Index	~3.7 (Mesotrophic)	Not available

Rotifers are microscopic animals and are natural components of lake zooplankton communities and useful indicators of ecological quality due to their high abundance, diversity, and sensitivity to environmental impacts. The rotifer community of Lake Wainamu in the heritage area is sampled several times each year, and indicates that it has one of the lowest levels of water quality in the region.

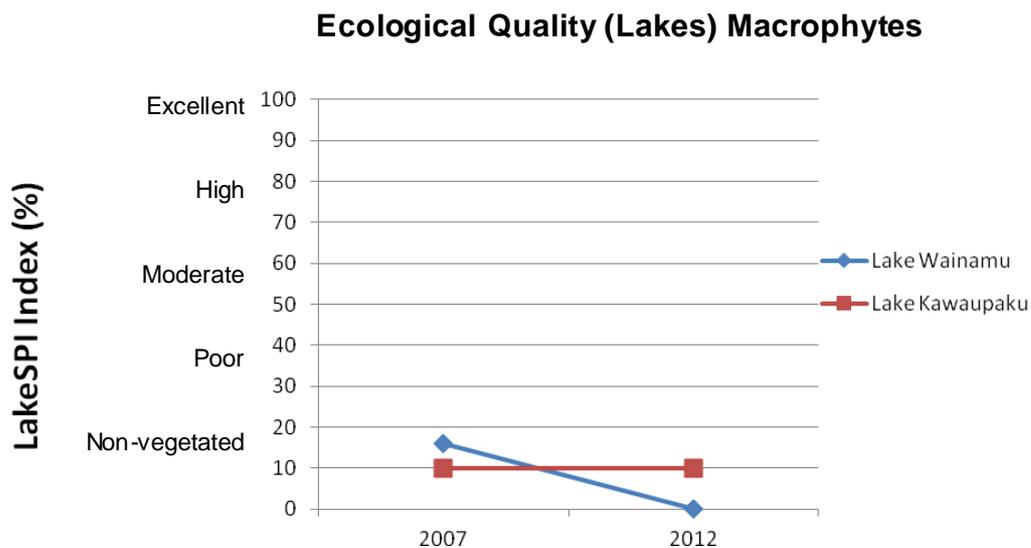
Figure 17 Ecological Quality Rotifer Index data from Lake Wainamu in the heritage area



The LakeSPI (Submerged Plant Indicators) index is also an indicator of ecological quality and has also been measured at Lakes Wainamu and Kawaupaku in 2007 and 2012. This time period is too short to reliably detect changes in ecological quality using the Macrophyte LakeSPI Index. The non-vegetated state detected in Lake Wainamu in 2012 is directly the result of the introduction of grass carp (*Ctenopharyngodon idella*) in 2009, and consequently the 2012 LakeSPI score is not indicative of lake ecological condition. However, the general trend for the two monitored lakes is in the ‘poor’ range.

2008 VALUE	2012 VALUE	CHANGE
N/A	Lake Kawaupaku 10% (poor) Lake Wainamu 0% (poor)	There must be far greater than 5 years (potentially up to 10 years) of data to interpret any changes.

Figure 18 Ecological Quality LakeSPI (macrophyte) Index data from lake Wainamu and Kawaupaku in the heritage area



DUNELAND COSYSTEMS

Indigenous duneland ecosystems in the heritage area are characterised by extensive spinifex grassland on foredunes and mid-dunes, locally common karo-dominant dune forest and shrubland, and sedge-dominant freshwater wetland systems. A description of individual dunelands within the heritage area is provided in the technical report. Much of the Whatipu wetland system, by far the largest in the heritage area, remains under natural cover (including open water and bare sand). However the much smaller patches of duneland habitat of Whatipu have been more severely affected by built structures and replacement of native with exotic vegetation. The dunelands at Piha and Te Henga/ Bethell's are the most highly modified..

TOTAL DUNELAND HABITAT AREA

	2012 VALUE
Total duneland area	922 ha

Table 14 General vegetation cover of duneland habitat in the heritage area

VEGETATION/ LANDCOVER TYPE	AREA IN HA (% OF TOTAL)
Indigenous dune vegetation	750
Degraded dune vegetation	89.4
Exotic grassland and scattered shrubs	38.7
Exotic pine forest and treeland	29.7
Exotic grassland and residential buildings	13.7
TOTAL	921.5

Table 15 Residential and agricultural land on duneland substrate in the heritage area

NAME	APPROX SIZE
Te Henga - urban	33.4 ha
Piha/ Karekare - urban	13.7 ha
Whatipu – exotic grassland & some buildings	5.1 ha
Anawhata – small area of grass and several built structures	0.2 ha
Te Henga – pine forest	29.7 ha
TOTAL	82.1 ha

WATER SUPPLY QUALITY INDICATORS

As part of the resource consent conditions for the operation of the five major water supply reservoirs operated by Watercare Service Limited. Watercare undertake water quality monitoring upstream and downstream of reservoirs. The Index of Biological Integrity (IBI) scoring criteria is used to measure differences in microinvertebrate communities between sample sites. In general it appears that each of the dams has remained fairly consistent in level of impairment, with most reservoir dams falling into the non-impairment category, and no reservoir receiving the lowest impairment score 'severely impaired'.

Regular monitoring and physical/chemical analysis of reservoir water quality suggests that water quality is good according to the parameters measured.

Management of Visitor Impacts

The dams and their catchment areas are generally open for recreational use, including tracks such as Exhibition Drive track and the two small gauge trains that run public excursions in the catchment areas. Visitors are required to stay on tracks in the water catchment areas and are prohibited from a 50 meter buffer zone around the dams and contact with the water in the dams.

Discretionary activities in the regional park are not permitted by the RPMP in water catchment land without Watercare's written approval, and the Auckland Council dog control policy and bylaw prohibits dogs from all water supply buffer lands and reservoirs.

CONCLUSION

OVERVIEW OF FINDINGS

The most significant and serious change in the ecosystems of the heritage area is due to the emergence of kauri dieback disease. This has the potential to threaten the ecosystems of the Area, and has required considerable effort by council and the community to manage its effects and restrict its spread, particularly in the regional park.

The heritage area supports approximately 93 nationally threatened species, comprising of 58 vascular plants (including one endemic shrub), one species of moss, 27 birds, 3 reptiles, one species of frog, one species of bat, and at least three invertebrates. Whilst some are subject to species recovery plans, most are reliant on general habitat management and their populations are not specifically monitored.



Almost 80% of the heritage area's forest, scrub and wetlands have statutory protection under the RMA and through public ownership, which should ensure the long-term protection of the forests and natural ecosystems in the area. In 2008, based on Land Cover Database information, indigenous vegetation was dominant across approximately 83% of the heritage area (ranging from 94% in the regional park and conservation land to 42% in the foothills). There appears to have been little or no change since then. In some places (particularly associated with the streams of the foothills) restoration, enhancement and weed removal has increased the scale and viability of ecosystems.

Apart from kauri dieback disease, results from the regional forest, wetland and freshwater habitat monitoring programmes suggest that indigenous ecosystems in the heritage area are in relatively good health on a wide range of indicators. However lake quality in a number of locations (particularly Lake Wainamu) is degraded.

Most indicators are based on monitoring sites within the regional park and threats such as pest weeds and animals are likely to be greater in the foothills and around the edges of the Park. It is unknown whether the extent and nature of weeds has changed in private land since the inception of the Act.



Five minute bird counts undertaken in forest monitoring plots in 2008 and 2011 indicate that commonly identified species numbers have remained relatively static, with wetland monitoring sites confirming that these habitats provide a stronghold for nationally threatened fernbird and spotless crane.

Important habitat management initiatives such as Ark in the Park are demonstrating the importance and value of private, public and voluntary sector initiatives for both the heritage area and the wider region.

Expenditure on weed control through council's biosecurity operations has stayed about the same between 2008 and 2012.

Residual Trap Catch levels of possums have fluctuated, with a peak in 2012 of 6.58%, above the 2% target threshold set by the council. This was identified as a consequence of a periodic localised hotspot in the north-west of the regional park which is currently being addressed by a specific possum control programme.

Streams draining into the foothills have 64% riparian cover along their length, while those in draining to the Tasman Sea and Manukau Harbour have 94%.

Stream ecosystem health and water quality for the monitored streams show good results. For example, microinvertebrate community indicators show that high quality aquatic ecosystems are maintained at the five monitored streams, with the highest counts within the Wekatahi and Marawhara Streams. Native fish monitoring indicated excellent and very good results for all monitored streams except the Waitākere River which scored a 'fair' result. Two streams (Cascades and Opanuku) are monitored for water quality, scoring 1st and 5th respectively when compared with the 25 sites monitored throughout the region.

The condition of the heritage area's wetlands scored well against the indicators for habitat condition, although there is a high proportion of exotic plant biomass in the monitored sites.

Ecosystem quality in Lake Wainamu and Lake Kawaupaku is of concern, with zooplankton counts in Lake Wainamu being one of the lowest scores in the region. Submerged plant indicators illustrate that the general trend for both lakes is in the poor range.

PROGRESS IN ACHIEVING THE OBJECTIVES OF ACT

The wide range of council and community initiatives that are being undertaken across the heritage area, are contributing strongly to the protection and enhancement of its aquatic and terrestrial ecosystems.

The heritage area has experienced only limited modification to its ecosystems a result of development and activities since the Act took effect and most of the area is adequately protected through public ownership and/or District Plan provisions.

The potential impacts of threatening biological processes (in particular kauri dieback, and the spread of exotic plants in wetlands and some forests) remain as significant challenges.

STRATEGIC ISSUES FOR CONSIDERATION

The long term ecological implications of kauri dieback disease is already a focus of concern. The heritage area will form an important part of the regional response. The extension of local initiatives, to avoid and manage the risks, needs to be considered.

Uptake of heritage area covenants and other forms of active stewardship on private land has been relatively low. The growing success of the Sustainable Neighbourhoods programme suggests that there is potential for this to increase with appropriate support, encouragement and incentives. There is a need to integrate such an initiative with existing community and council-based programmes, for example building on the recent trial projects to establish weed free buffer areas around the edge of the regional park.



The role of the heritage area in species-based monitoring and management programmes at national, regional and local needs to be identified more clearly, particularly in the context of the Biodiversity Strategy for the Auckland Region, the Auckland Plan targets to reduce the number of threatened species, and the heritage area's potential contribution to the North West Wild Link. This could include, for example, increased support for monitoring and management of biodiversity 'hot spots' such as Whatipu, Te Henga Wetland and Ark in the Park, species-specific initiatives across a wider area (e.g. for long tailed bats) and targeted/prioritised habitat restoration projects linked into Local Area Plans.

The Land Cover Database is a high level policy tool, and lacks site-based detail for property based assessment of cumulative changes to habitat condition and vegetation cover. Results are also only available on a 7-10 year cycle which does not align well with the monitoring requirements of the Act.

Methods for addressing degraded water quality in Lake Wainamu and other degraded aquatic habitats should continue to be investigated and appropriate management responses considered.

RECOMMENDATIONS FOR FUTURE MONITORING

Better baseline information should be established on a full range of threatened species and ecosystem types, giving priority to those which contribute to achievement of national, regional and local biodiversity targets and objectives.

Continue to support collection of long term environmental and ecological datasets in order to provide outcome-based measures of ecosystem health and integrity.

Acquire high resolution aerial photography and digitizing of key data on a regular basis to provide a more adequate method for assessing habitat and landscape quality and change. This should be linked to a programme of field-based survey work. Priority should be given to fragmented/mosaic habitats around the periphery of the regional park and in the foothills, together with wetlands and dunelands.

Establish processes and invest in technology to allow easier and more timely collection/comparison of environmental, resource consent and community group data.

Introduce better recording and follow up systems for covenants established through planning consent processes, along with monitoring of resource consent conditions regarding ecosystems and restoration.

Provide for better monitoring of habitat quality outside the regional park, particularly in areas of existing or potential ecological value in the bush living landscapes and foothills, including an extension of the network of monitoring sites.

Consideration should be given to reporting on sites in the heritage area which are included in the national Land Use and Carbon Analysis System (LUCAS) programme.

2.4 CULTURAL AND BUILT HERITAGE

INTRODUCTION

Cultural and built heritage includes the physical evidence of both pre-European Maori settlement and European settlement activity. This section relates primarily to protection, enhancement and restoration of this physical evidence. However for tangata whenua in particular the physical and spiritual realms are intimately linked, along with their continuing role in the care and management of the area. These latter aspects are also covered in Section 2.6 (Kaitiakitanga).

The heritage area has a human history that dates back approximately a thousand years and physical evidence of that occupation remains. Many areas along the Manukau and Tasman coasts contain middens and pa related to Maori occupation, and both Te Kawerau ā Maki and Ngāti Whātua have identified the location of a range of key wāhi tapu. These are heritage features to be protected, restored and enhanced.

Significance to Tangata Whenua

The historical and continuing connections between tangata whenua (Te Kawerau ā Maki and Ngāti Whātua) and the heritage area are recognised in the Act and introduced at the beginning of Volume I.

Te Kawerau ā Maki: Te Kawerau ā Maki have prepared a summary of their interests in the heritage area in a background report - "Waitākere Ranges Heritage Update Report" (Te Kawerau ā Maki, 2013). A summary is provided here.

Te Kawerau control of Hikurangi (West Auckland) was established in the late 1600's after battles at Waitetura (North Piha), Waihuna (Pararaha Valley) and Te Rauotehuia (Huia Bay). Following these battles Maki stamped his mana on the area by naming a hill in the north 'Te Pou a Maki' (inland of Taupaki) and a hill in the south 'Te Kaa a Maki' (Jackies Peak, Huia). The many peaks extending down the Waitākere Ranges from Muriwai to the Manukau Harbour entrance became known as 'Nga Rau Pou a Maki', or 'the many posts of Maki'

However the mid-1820s brought disaster to the inhabitants of the Waitākere area when they were decimated by Ngapuhi raiding parties armed with muskets. This devastation led to a major depletion in tribal numbers and a period of exile. In the mid-1830s, the Tainui rangatira Te Wherowhero established himself at Awhitu in order to bring stability to the Tamaki region. Under his protection Te Kawerau returned to Kakamatua on the Manukau coast while Te Taou hapu of Ngāti Whātua and Ngaoho established themselves at the Karangahape pa on Puponga Point. Soon after they moved to Mangere and Onehunga and by 1838 they had settled at Okahu and Orakei on the Waitemata Harbour.

Te Kawerau ā Maki re-established themselves in pa and kainga throughout West Auckland. At Te Henga they built a musket pa as a precaution against further attack from Ngapuhi. Other settlements included Ngongetepara (Brighams Creek), Waikotukatuku (near Hobsonville), Waipareira, Kopupaka and Maanu Te Whau near the mouth of the Henderson Creek, Orukuwai (Te Atatu), Oratia and Pukeruhe (Henderson Valley). On the northern Manukau they lived at Motukaraka (near Green Bay), Waikumete (Little Muddy Creek), Kakamatua and Te Rau o Te Huia. They were secure and comfortable and continued to move across their tribal domain in the seasonal cycle that had been followed by their ancestors.

Photograph 10
Auckland Mayor Len Brown, The Maori King Kingi Tuheitia, and Eru Thompson, Te Kawerau ā Maki kaumatua at pou unveiling, May 2011



Following purchase by the Crown of much of the Waitākere Ranges area in the mid 1850's Te Kawerau ā Maki remained primarily in the Waitākere River and Piha areas, and maintained the only papatipu settlements in the West. However, following the death of their chief Te Utika Te Aroha in 1912 most of those remaining moved to the settlements of their close relatives at Orakei and Pukaki. They still retained land at Te Henga and returned intermittently to occupy it until the 1960s,

Te Kawerau ā Maki ancestral associations with West Auckland are expressed in many different ways including whakapapa or genealogy, purakau or traditions, waiata or songs, and tohu or place-names and landmarks that cover all parts of the land and surrounding seas. Te Kawerau mana whenua in West Auckland is also symbolised by the many carved pou that have been erected throughout the region from Whatipu in the south to Te Awa Kotuku (Cascade Kauri Park) in the north

Ngāti Whātua. Ngāti Whātua have strong ancestral associations with the heritage area derived from their extensive occupation of the wider Auckland region (see Volume 1 and Paterson, 2009). Key sites of special importance to Ngāti Whātua in the Waitākere Ranges Heritage Area are the former battle grounds of Paruroa (Big Muddy Creek) and Paturoa, and the pā at Karangahape.

Post European Settlement

The early history of the Waitākere Ranges, post European settlement was primarily associated with industries focused on the abundant natural resources of the region. Kauri logging and saw milling began in the 1830s. Gum digging, an industry closely linked to the timber trade followed with the introduction of the railway in 1881. Flax milling was another early industry that capitalised on the abundant resources of the areas swamp and marsh lands. These industries required the production of additional resources to service their demands which in turn shaped the landscape of the Waitākere Ranges. These included driving dams, sawpits, timber tramways and roads.

Photograph 11 Karangahape Pa



Despite the burning off of limited enclaves to create pasture, farming never established beyond the foothills of the heritage area. The foothills were important for horticulture and orcharding and provided the foundation for New Zealand's wine industry and apple co-operatives. These have left a strong imprint on the physical and cultural landscape.

SUMMARY OF THE INDICATORS

The indicators utilised below are:

- Extent of coverage and comprehensiveness of historic heritage surveys and record systems.
- Damage and destruction of historic heritage sites (consented and unconsented).
- Level of Protection of Sites.
- Number and extent of sites under active management (and co-management with tangata whenua).
- Condition of known historic heritage sites.

The primary source of information was the council's Cultural Heritage Inventory (CHI), together with records from council's Pathways consents recording system, New Zealand Historic Places Trust records and council's management plans for sites which it administers.

CULTURAL AND BUILT HERITAGE INDICATOR RESULTS

Extent and Quality of Historic Heritage Records

There are 1,238 historic heritage items located within the heritage area currently recorded in the CHI (Figures 19 and 20). Post-European settlement features dominate the sites recorded (64%). These are comprised primarily of built heritage sites (36.5%) that relate to European settlement, and economic and industrial activities such as timber extraction (13%), farming (3.5%) water impoundment (2%) and infrastructure (8%). However, a range of pre-European Maori settlement sites are recorded comprising (30%) of the total CHI sites. Approximately 40% (502) of the sites recorded in the CHI are also recorded in the New Zealand Archaeological Association (NZAA).

Seventy percent of sites recorded in the CHI result from field survey conducted by Haywood and Diamond in the 1970s (published 1978). No comprehensive survey has been undertaken since then, and as a result, there is minimal information regarding survey of historic heritage in the interior of the heritage area.

Table 16 Percentage of historic heritage sites in the CHI, by assigned thematic category

SITE CATEGORY	NUMBER OF SITES	% OF TOTAL
Flax Milling	6	<1%
Built Heritage	452	36.5%
Water Impoundment	24	2%
Timber Extraction	164	13%
Pre-European	376	31%
Farming	44	4%
Historic Botanical	67	5%
Infrastructure	92	8%
Unidentified/mixed class	13	1%
Total	1238	100%

Figure 19 Percentage of historic sites in the CHI, by assigned thematic category





Protection of Sites in the Heritage Area

Historic heritage sites are protected via both statutory and non-statutory measures to inhibit further damage or destruction from development. These include the Historic Places Act 1993 (HPA), the Resource Management Act 1991, the Conservation Act 1987 and Regional and District Plan rules.

Of the total 1238 historic heritage sites, approximately half are afforded some form of statutory protection through the above statutes and rules. 502 sites (or 40.5% of the total) are classified as archaeological sites under the HPA. Of the 502, 376 or 75% are categorised as pre-European Maori settlement sites. Protection under the HPA also extends to all pre-1900 sites in the WRHA that are currently unknown/undiscovered.

117 sites are scheduled for protection under either the Auckland Regional Coastal or the District Plan (Figure 21). All of these sites relate to European settlement activity. Four built heritage sites are listed in the NZHPT Register as sites of regional significance. None of the historic heritage sites are gazetted or covenanted.

28 historic European sites are recognised in LAPs completed to date. For protection of these sites to have legal effect under the Resource Management Act, a plan change would be required.

Changes to Site Protection

The historic heritage data set is dynamic and changes with the discovery of unknown sites, investigation leading to increased site information and significance, and changing values of the community in which it resides. The available data indicates that only six instances of change to the protection status of heritage sites within the heritage area have occurred since the passing of the Act in 2008. All of these examples involve an increase in protection status through the District Plan.

Active Management of Sites

Historic heritage is a finite resource. Very often the need to monitor, protect, modify or investigate historic heritage is a reactive response to pressures such as property and subdivision developments, infrastructure works and other developments that impact on the environment. Active management of historic heritage through the formulation of site covenants (e.g., NZHPT or QEII), Conservation Plans and associated Management Plans are primary mechanisms utilised by councils, heritage practitioners and local body groups to ensure long term site preservation, site integrity and enhancement.

17 conservation plans for historic heritage sites within the heritage area have been identified from the CHI, five of which have been commissioned since 2008. There is no evidence of conservation plans for pre-European and archaeological sites.

Consents Granted to Carry out Work Affecting Historic Heritage Sites

Since 2000, there have been 1016 resource consents granted in the heritage area for a variety of reasons. 510 of these consents make reference to a historic heritage site; however, a review of consents granted under the District Plan noted that only thirteen resource consents directly affected historic heritage sites. None of the consents granted related to scheduled sites, or sites registered with the NZHPT.

Damage to and Destruction of Historic Heritage Sites

720 of the sites located within the heritage area which are recorded in the CHI (58%) have information, albeit minimal, that relates to site condition and damage or destruction of sites. In the majority of these instances (365 out of 720), those affected are classified as pre-European Maori settlement sites. The primary causes of site modification are reported to be either natural processes such as land or tidal erosion, or land use modification.

Following a review of CHI records, there is no clear evidence of site vandalism or graffiti in the last decade. The exception is one recorded instance of unlawful damage in 2006 to the Nihotupu Filter Station (CHI 3419).

Impact by Controlled Activities

Seven NZHPT authorities to modify damage or destroy archaeological sites have been granted under the HPA between 2005 and 2010. 13 consents approved by Auckland Council and former legacy councils have affected historic heritage sites listed in CHI.

Site Condition

Historic heritage site condition is the result of a number of accumulative forces such as geographical location, environmental influences, land use and development activities. All of these individually and at times collectively combine to compromise historic heritage sites which are inherently fragile due to their often considerable age.

Potentially, the most reliable data sets to establish baseline information and to monitor site condition are the CHI database and the NZAA ArchSite. However, condition description is at times very simplistic and subjective with the use of broad terms such as “good”, “fair” and “poor”. As the result of the New Zealand Archaeological Association’s upgrade project (2007) and return visits to sites through urban development activities, the more recent entries for *ArchSite* provide more detail, often with descriptions of physical condition.

Unsurprisingly, the 17 conservation plans prepared for various heritage area built heritage structures reviewed during this study provide the most detailed consideration of site condition. They form a primary component of the qualitative evaluation of the sites historic significance.

Figure 21



CONCLUSION

OVERVIEW OF FINDINGS

There are 1,238 historic heritage items located within the heritage area. These are currently recorded in the council's Cultural Heritage Inventory. Post-European settlement features dominate the sites recorded (64%) and are comprised primarily of built heritage sites (36.5%) and economic and industrial activities such as timber extraction (13%), water impoundment (2%) and infrastructure (8%). The remainder are comprised of a range of Pre-European Maori settlement sites that comprise (31%) of the total sites in the study area.

To date, the largest and most comprehensive heritage assessment of the heritage area remains Haywood and Diamond's 1970s survey. Subsequent field surveys have contributed new information but tend to be focused on the periphery of the area, are unsystematic and reflect specific survey objectives and project proposals. The extent of the surviving historic heritage in the dense core of the regional park remains unknown.

The extent and rate of loss of heritage sites is unknown due to limited survey and site re-visits following first recording. The speed of deterioration is also unknown because baseline monitoring has not been undertaken.

117 sites are scheduled for protection under either the Auckland Regional Coastal or District Plans. All of these sites relate to European settlement activity and none to the period before European settlement.

PROGRESS IN ACHIEVING THE OBJECTIVES OF ACT

Progress towards the protection, restoration and enhancement of evidence of past human activities since the Act came into effect has been very limited. It is likely that record systems across much of the heritage area do not provide adequate or reliable information from which to assess the state of many cultural and historic heritage features, and very little active management (including co-management with tangata whenua) has occurred since 2008. Protection under the Resource Management Act may not reflect the characteristics and values of this resource, and sites dating back to before European settlement are thought to be under-represented.

STRATEGIC ISSUES FOR CONSIDERATION

Recent analysis by council has not successfully established the current state of the historic heritage in the heritage area. The reasons for this include:

- A lack of available quantitative data related to the current condition of historic heritage;
- A lack of qualitative data within current databases for recording historic heritage;
- Numerous heritage practitioners have observed and added to the databases used for source information. This information is not consistent, and does not fulfill the accepted requirements of condition monitoring and assessment; and
- The data sources contain little information regarding condition, and periodic, regular monitoring is not occurring. This is a key component in any historic environment monitoring programme.

As a result the state of the historic heritage environment of the heritage area is poorly understood.

The Unitary Plan provides an opportunity to recognise and provide additional protection for sites which provide evidence of past human occupation within the heritage area. Under the Act these sites are recognised as contributing to the Area's national, regional and local significance. However, the information base available for decision-makers may need to be improved before this can be fully achieved.

There is a need to empower mana whenua in the care, management and presentation of heritage places within the heritage area.

RECOMMENDATIONS FOR FUTURE MONITORING

To understand the risk to historic heritage and site condition within the heritage area, regular monitoring and an open and participatory approach is recommended, working closely with tangata whenua and local community groups. Monitoring, survey and re-assessment allows recommendations to be made that reflect dynamic environments, changing significance of historic heritage and produce data based on the evidence, which has the potential to track changes in condition, environment, land use and the success or failure of management strategies previously employed.

Highest initial priority should be given to sites at greatest risk, in particular:

- Peripheral sites, especially the open west coast coastline;
- Ephemeral non-protected sites, especially pre-European sites; and
- Areas of farming where animals graze.



2.5 RECREATION AND VISITOR MANAGEMENT

INTRODUCTION

The foothills, bush, harbour and beaches of the Waitākere Ranges are one of Auckland's recreational treasures, loved by the communities that live in them and the people who visit them, and contributing to the liveability of the region.

All year round, but especially in summer weekends and holidays, people converge on the area, particularly the Manukau Harbour and West Coast beaches, Lake Wainamu and the tracks, waterfalls and viewpoints within the Waitākere Ranges Regional Park. This Park is one of the most readily recognised and highly visited of all the Auckland regional parks (Auckland Regional Council 2008 'The Outlook for Tourism in the Auckland Region'). Visitors are mainly day-trippers, coming predominately from the nearby urban area of Auckland, but also from elsewhere in New Zealand and from overseas. In 1998, Massey University estimated that the Waitākere Ranges receive approximately 2.6 million visits annually.



While the Act identifies the opportunities provided for wilderness experiences, recreation and relaxation as heritage features and in particular the importance of the regional park as an accessible public place and recreation resource. The objectives of the Act seek to protect, restore and enhance these heritage features and protect in perpetuity the regional park, for (amongst other matters) the benefit, use and enjoyment of New Zealanders.

Monitoring numbers of visits to the heritage area and its many destinations, visitor aspirations and satisfaction with their experience and impacts of visitors on the valued heritage features and communities can help to identify the most appropriate management for visitor destinations. It can also lead to strategies to maintain and protect heritage features, meet changing visitor needs for services and facilities and minimise impacts on local communities. While monitoring is well developed within the regional park, there is little systematic monitoring of visitors to other parts of the heritage area, such as local parks and privately owned areas.

SUMMARY OF THE INDICATORS

The indicators addressed in this report are:

- Popularity ratings for recreational activities - regional park and coast
- Number of visits to popular locations and tracks.
- Accommodation use
- Permits granted for other controlled and discretionary activities in the regional park
- Visitor satisfaction ratings.

Most of the data for these indicators is derived from the regional park monitoring programme and administrative and management records. This has been supplemented by traffic counts carried out for beaches outside the regional park during the 2012/13 summer period and surf lifesaving club records.

VISITOR ATTRACTIONS AND FACILITIES

Figure 22 illustrates the major visitor attractions and facilities in the heritage area.

Popular visitor activities in the heritage area include surfing and swimming, boating, fishing, barbecues and picnics, abseiling and bird-watching. The main swimming beaches are the surf beaches of Bethells/Te Henga, Piha and Karekare (where surf clubs provide some protection from the often dangerous conditions), and the tidal harbour beaches of Cornwallis, Mill Bay, Titirangi Beach and French Bay. Lake Wainamu is also very popular for swimming and picnicking. There are public boat launching facilities at Little Huia Beach (2), the end of South Titirangi Rd, Armour Bay, Foster Bay, French Bay (2), Laingholm, Cornwallis wharf, Wood Bay Reserve (2), and Piha South, as well as six private boat launching facilities located along the Manukau Harbour shoreline.

A number of landscape features are a focus of visitor activity, including waterfalls (especially Kitekite Falls, Karekare Falls and Fairy Falls) and popular lookout points such as Mt Donald McLean, Pae O Te Rangi, Lion Rock, Tasman View (Piha), Mercer Bay, Mt Donald McLean, Huia Lookout, Arataki, Pukematekao, Parkinsons lookout, McLachlans Memorial, Spraggs Memorial and Mount Atkinson.

The Arataki Visitor Centre on Scenic Drive provides an information gateway for visitors to the Waitākere Ranges. The Centre caters for short-term visitors, providing an overview of the heritage area as well as information for those seeking experiences within the heritage area on what is available and how to safely access those opportunities.

Within the regional park there are approximately 264 km of walking and tramping tracks, including a nature heritage trail at Arataki, the Montana Heritage Trail and the approximately 70 kilometre Hillary Trail, opened in 2010.

The area contains a large number of sites of significance to tangata whenua, and several heritage sites dating from early European settlement of the area, all of which are of interest and educational value. European sites include remnants of kauri dams, for example at Pararaha Valley, and historic homesteads at Whatipu Lodge, Huia Lodge, Hinge House (Huia), Rose Hellaby House (Scenic Drive) and Kettle House (Anawhata). McCahon House in Titirangi, where the artist Colin McCahon lived from 1953 to 1960 has been restored and is open to the public on a limited basis.



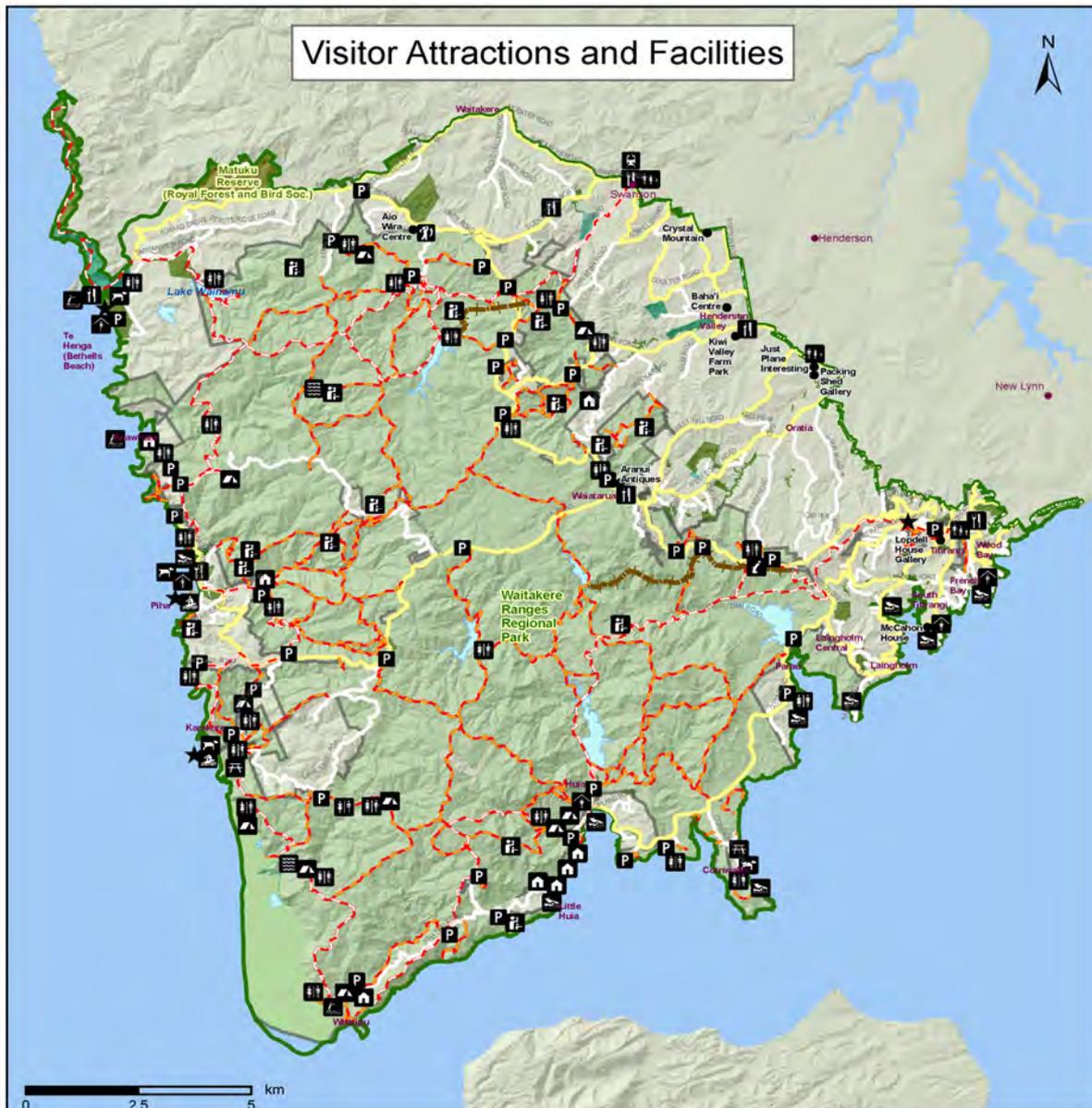
Other visitor attractions in the heritage area include wineries (Babich, Sapich, Artisans and Pleasant Valley), galleries such as Lopdell House (currently undergoing renovations), the West Coast Gallery at Piha and the Packing Shed Gallery in Oratia, antiques (Just Plane Interesting Antiques and Aranui Antiques) the Oratia Folk Museum, Crystal Mountain, the Bahai Centre and the Aio Wira Centre.

The Waitākere Golf Club is located on land at the Cascade Kauri Park in the northern Waitākere Ranges and Kiwi Valley Farm Park offers a country and farm park experience to visitors to Henderson Valley/Opanuku. Door sales' of items such as arts and crafts and fresh produce are located throughout the area and there are also a number of markets – the Titirangi craft market and the Oratia farmers' market. Cafes and restaurants are open for business at Titirangi, South Titirangi, Oratia, Candia Rd, Scenic Drive, Henderson Valley Road, Huia, Piha, and the Bethells Beach caravan.

Regular events in the area include the Titirangi Festival of Music, the Piha Big Boat Race, the Karekare Beach Races, the Bethells Community Day and the Arthur Lydiard Marathon.

Accommodation on private land in the heritage area is mostly of a small scale 'Bed and Breakfast' nature, apart from the Waitākere Estate Hotel on the Scenic Drive offering 19 guest rooms and a conference facility.

Figure 22



Legend

- | | | | |
|-------------------------------|-----------------|---|--------------------------|
| ● Business | 🏠 Accommodation | 🏄 Surf Club | 🚧 Narrow gauge tramlines |
| 🚉 Train station | 🚤 Boat ramp | 🌊 Lakes Dams | 👤 Hillary Trail |
| 🍽️ Cafe or Restaurant | 🏕️ Camping | 🗺️ Regional Park Boundary | 👤 Waitakere Hunua Tracks |
| 🚻 Change rooms | 🔍 Lookout | 🌿 Waitakere Ranges Heritage Area | 🛣️ Motorway |
| 🏪 Market | 🏖️ Picnic site | 🌳 Department of Conservation | 🛣️ Major Road |
| 🏰 Old Kauri Dam | 🚽 Toilet | 🌳 Local Parks | 🛣️ Arterial Road |
| 🐕 Off-leash dog walking beach | 🅑 Parking | 🌳 Matuku Reserve (Royal Forest and Bird Soc.) | 🛣️ Medium Road |
| ★ Event | | 🌳 Regional Parks | 🛣️ Minor Road |
| 🏌️ Waitakere Golf Club | | | |

WHAT DO VISITORS VALUE?

Studies of Auckland residents undertaken in 2005 showed that Aucklanders value the regional park for the activities identified in Table 11. Walking and tramping were the most popular activities followed by beach activities (although the beaches are outside the regional park).

Table 11 Activity of visitors to the regional park and Coast

ACTIVITIES OF VISITORS TO THE REGIONAL PARK AND COAST	
ACTIVITY	%
Bush walk/tramping	44
Walk on the beach/sunbathing	43
Surfing/swimming/boogie-boarding etc	37
Visiting friends/family	20
Sightseeing	19
Picnics	10
Work	9
Live in area permanently	9
Fishing	7
Visit cafes/restaurants/bars	6
Adventure sports (canyoning, hang gliding etc)	4
Other (Inspirational, artistic and/or spiritual reasons; Visiting heritage sites; Wildlife; "Sunday drive"; Use Visitors' Centre; Participate in organised sport eg. golf	15
Note: The total is more than 100% as some people valued more than one activity	
Source: Survey undertaken for the former Auckland Regional Council in 2005	

LEVEL OF VISITOR ACTIVITY

Regional Park

The graph below (Figure xx) shows the visit estimates for selected locations of the regional park over the period 1997 – 2012, based mainly on the vehicle count data. In the year 2011/2012, data from infra-red track counters was introduced to supplement the vehicle count data and provide a fuller picture, and this is the reason that a new benchmark has been established in that year as the start of a new trend line.

Figure 23 Visits to the Waitākere Ranges Regional Park

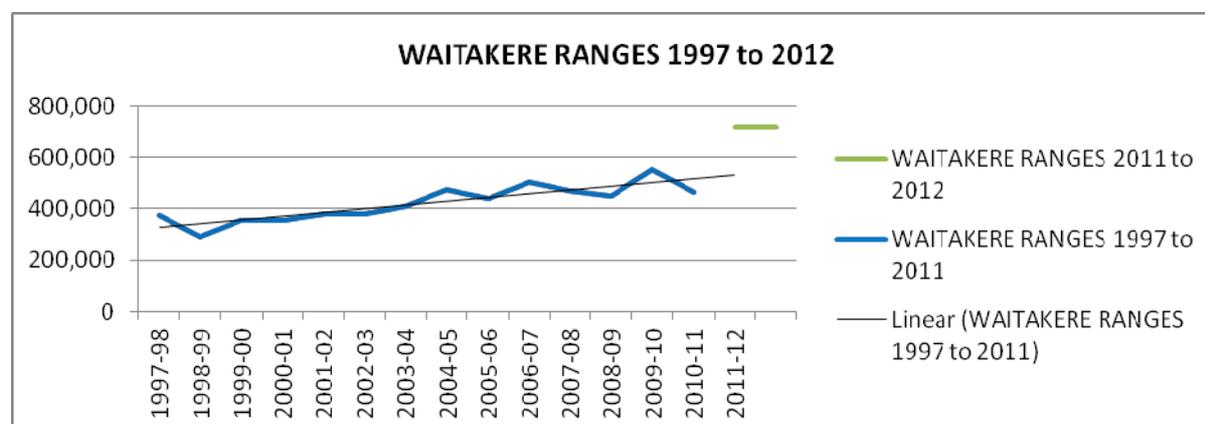


Table 18 summarises visit numbers based on the vehicle counts at a number of key locations in the regional park.

These statistics show that the pattern has been one of steady growth in the number of visits to the park in recent years, with some locations showing an increase significantly exceeding that of the population growth rate.

The location with the highest number of visits and the largest increase in visits is the Arataki Visitor Centre with 40% growth during the period 2008/09 to 2011/12. The increase to 188,827 visits is in part due to the opening of the Beveridge Track linking Arataki to Titirangi Village, which has proved popular with visitors and local residents. The outside-the-classroom education programmes run from Arataki are attended by between 6000 and 7000 primary school children from 60 to 70 schools each year.

Table 18 Number of visits to key locations in the regional park 2008/09 to 2011/12

NUMBER OF VISITS TO KEY LOCATIONS IN THE REGIONAL PARK 2008/09 TO 2011/12 (BASED ON VEHICLE COUNTS)				
LOCATION	2008/09	2011/12	% GROWTH IN VISITS	% AUCKLAND REGION POPULATION CHANGE* 2008/09 TO 2011/12
Arataki	134,640	188,827	+40.0	+4.9
Cascade-Kauri	83,303	85,837	+3.0	
Cornwallis (Pine Ave.)	61463	70087	+12.3	
Piha (Glen Esk Rd.)	59531	70994	+19.3	
Whatipu	53430	54504	+2.0	
Totals (selected locations)	392,367	470,249	+16.6 average	
* Department of Statistics estimate. Note, a high, medium and low projection is provided – this is the medium projection. Source: Department of Statistics, Auckland Council and former Auckland Regional Council				

Track Visit Monitoring in the Regional Park

The regional park catchment visit data over the 2011/12 year, derived from the vehicle and track counts, is set out in Table13. The total numbers of visits to the regional park over the 2011/12 year has been estimated as 715,400. This is likely to be an under-estimate as not all entry points to the regional park are monitored.

Table 19 Number of visits to regional park catchments 2011/12

NUMBER OF VISITS TO REGIONAL PARK CATCHMENTS 2011/12	
REGIONAL PARK CATCHMENTS	NUMBER OF VISITS
Arataki and environs	188,827
Titirangi tracks	47,207
Cascade facilities and tracks	95,164
Glen Esk (Piha) facilities and tracks	41,730
Karekare facilities and tracks	26,495
Cornwallis facilities	70,087
Karamatura facilities and tracks	23,193
Whatipu and environs	51,568
Eastern facilities and tracks	72,453
Roadside facilities	61,672
Camps, schools and self-guided	37,003
Total	715,400
Note: Year ending 30 June Source: Report for Auckland Council by Data Capture Basics Ltd 2012	

Vehicle Counters at the Beaches

Piha and Bethells Beaches and many of the beaches along the Manukau Harbour are local parks outside the regional park. New vehicle counts were undertaken at key routes into selected west coast and Manukau Harbour beach locations during two weeks over the peak holiday period of 2012/13. Based on these vehicle counts, an estimate was made of visitor numbers at these beach locations, by calibrating the vehicle counts with average vehicle occupancy (counted at Piha and Bethells /Te Henga over four, hour-long periods in January 2013).

Table 20 Estimates of Visitors arriving at key West Coast and Manukau Harbour Beaches Summer 2012 - 2013

ESTIMATES OF VISITORS ARRIVING AT KEY WEST COAST AND MANUKAU HARBOUR BEACHES SUMMER 2012 - 2013			
DESTINATION	ESTIMATED AVERAGE DAILY VISITOR NUMBERS ARRIVING AT THE DESTINATION (AVERAGE OVER A TWO WEEK PERIOD, DEC 2012 AND JANUARY 2013)	ESTIMATED NUMBER OF VISITORS TO THE DESTINATION IN THE BUSIEST HOUR DURING THE PERIOD	
		PEAK DATE/ HOUR	PEAK HOUR VISITORS
Bethells Beach (Gate to carpark)	1838	6/1/2013 11.00-12.00pm	247
Anawhata Rd (from Piha Rd)	166	6/1/2013 13:00 - 14:00pm	26
Piha Rd to Piha Beach*	7992	6/1/2013 13.00-14.00pm	989
Karekare from Piha Rd	1406	6/1/2013 11.00-12.00pm	175
Cornwallis (Road to carpark)	1219	6/1/2013 11.00-12.00pm	209
Titirangi Beach (Aydon Rd car park entrance)	778	6/1/2013 9.00-10.00am	103
<p>Note 1: The number of visits has been calibrated using the average of the vehicle occupancy for Piha and Bethells/Te Henga (2.4 people per vehicle), applied to the traffic count data for all of the beach destinations.</p> <p>Note 2: Traffic counts were taken over a two week period 24th December 2012 to 6th January 2013.</p> <p>Note 3: Due to their location, the traffic counters at Piha, Karekare and Cornwallis would have included local traffic as well as visitors. Many locals would have been on holiday over this period.</p> <p>Note 4: The Cornwallis count under estimates the number of visits to Cornwallis, as Cornwallis Road is only one of the two road entrances to the beach</p>			

The data indicates that with nearly 8,000 average daily visitors over this two-week period, Piha attracts more visits than the other beach locations combined, followed by Bethells/Te Henga with (1,800), Karekare (1,400) and Cornwallis (1,200). At the peak of visitor arrivals, almost 1,000 visitors per hour arrived at Piha.

It is difficult to compare the data from this two-week period with the year-round data available for key regional park destinations. However, Arataki, the most visited regional park location with 188,827 visits in 2011/12, would have averaged around 525 visitors per day. Even taking account of seasonal fluctuations, Piha appears to be the most heavily visited destination in the heritage area.

Surf Club Beach Visitor Counts

The four west coast surf clubs at Bethells, United North Piha, Piha (south) and Karekare undertake 'snapshot' head-counts of visitor numbers at a busy point during the day, each day during the summer surf club season (Labour Weekend to Easter). These counts again highlight the popularity of Piha as a destination of visitors to the West Coast beaches. However, useage has declined since 2009.

SUMMER PERIOD - LABOUR WEEKEND TO EASTER	BETHELLS	KAREKARE	PIHA	UNITED NORTH PIHA
2009-2010	14,480	10,551	45,248	18,766
2010-2011	15,935	11,128	31,459	16,948
2011-2012	13,059	9,302	28,223	16,662
Total - three summer seasons	43,474	30,981	104,930	52,376
*Seasonal total of the daily headcounts taken by surf club patrol members at peak time each day during the summer surf patrol season (Labour weekend to Easter weekend)				
Source: Surf Lifesaving Northern Region				

Regulated Activities in the Regional Park

Some activities occurring in the regional park are regulated under the RPMP and need approval from the council. These fall into two categories.

- Controlled activities includes camping, staying in baches and lodges, recreational horse riding, abseiling at Karamatura and booking designated picnic sites. A permit issued for any of these activities is subject to standard approval conditions.
- Discretionary activities are activities for which a formal application must be made to the council. These will not be granted if they are considered to have a potential detrimental impact on the values of the Park. Discretionary activity includes short-term activities, concessions (both commercial and non-commercial) and leases and licenses which are longer-term and involve exclusive use of parts of the Park or a Park facility.

A comparison of controlled activity approvals in 2008 and 2012 is shown in Table 16.

Table 21 Controlled activities in the regional park 2008/09 and 2011/12

CONTROLLED ACTIVITIES IN THE REGIONAL PARK 2008/09 AND 2011/12			
		08/09	11/12
Camp Grounds	Total persons camping grounds	2934	6186
Baches	Total nights booked in Baches	423	561
Lodges		109 bookings catering for 1,786 persons	180 bookings catering for 9338 persons
Designated bookable site	Cornwallis	90 bookings catering for 4165 persons	79 bookings catering for 4235 persons
Abseiling	Karamatura	24 bookings catering for 415 people	25 bookings catering for 392 persons
Recreational horse riding	Region wide pass (annual- free)	-	370 horse riding passes currently issued
Source: Auckland Council			

Camping has shown an increase in use, but overall the utilisation of the campsites in the regional park is well below their designed capacity.

The number and type of discretionary approvals are outlined in Tables 17 and 18. These are split into two categories: those of a non - commercial nature involving private individuals, community groups or non-profit organisations; and those that are operated on a commercial basis

Table 22 Non-commercial discretionary activity approvals in regional park

TYPE OF ACTIVITY	2008		2012	
	EVENTS	PARTICIPANTS	EVENTS	PARTICIPANTS
Air activity	1	18	1	1
Concerts/festivals	-	-	2	550
Filming/Photography	-	-	17	115
Large group activity	-	-	8	1200
Cultural harvest	-	-	4	39
Research (educational, mostly student groups)	6	6	8	36
Sporting events (incl. clubs)	1	301	9	995
Weddings	2	85	32	1691

Table 23 Discretionary activity approvals (commercial) in regional park

TYPE OF ACTIVITY		2008		2012	
E= No. EVENTS.	P= No. PARTICIPANTS	E	P	E	P
Air activity		1	4	-	-
Concessionaires		13	345	5	188
Filming/Photography		13	210	25	2112
Research (including seed collection)		6	6	16	353
Sporting events (incl. clubs)		-	-	3	522

More than half of the discretionary activities in the regional park are non-commercial in nature. Of the non-commercial activities, weddings are increasing in popularity, and the number of sporting events has also shown a small increase.

Filming is by far the highest level of commercial activity in the regional park and is subject to agreed protocols and approval conditions. There were also 54 concessionaires registered with the council in 2012. These are largely small scale operators offering tours, food and drink, corporate training sessions and adventure sporting events. Between November 2012 and March 2013 an additional 16 (existing) operators registered as a consequence of a public information programme to raise awareness of consent requirements.

There are currently 20 licences, 3 leases, 1 management agreement, 1 memoranda of understanding and 1 sponsorship agreement operating in the regional park. These have not significantly increased since 2008.

Visits to Other Attractions

There is very limited information available on number of visitors to attractions in the heritage area such as markets, galleries and cafes and Kiwi Valley Farm. Lopdell House (currently temporarily re-located to New Lynn to allow work on the building) attracts around 40,000 visits per year, while approximately 800 people attend the Oratia Farmers Market on Saturdays, with more in summer. Numbers attending events on local parks such as festivals, surf championships and community days have fluctuated significantly since 2008, but have not increased.

VISITOR SATISFACTION WITH THEIR EXPERIENCE

Information on visitor satisfaction with their experience in the heritage area is available only for the regional park. This is monitored annually through visitor intercept surveys, which show a very high level of satisfaction with the experience of visitors. Consistently, over 95 percent of visitors say they are “satisfied” or “very satisfied” with their visit.

INFRASTRUCTURE INVESTMENT

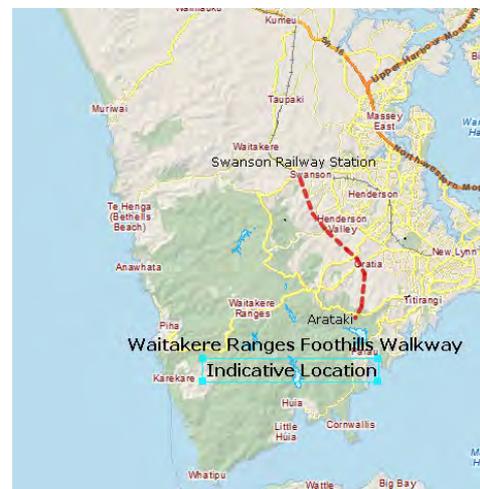
Tracks

Tracks in the regional park are managed and maintained to target standards on an ongoing programme budgeted annually. This includes routine clearance of encroaching vegetation, maintenance of water tables and repair to track surfaces. Over the last two years upgrade work has been completed involving vegetation clearance and management on 180 kilometres of tracks (about 70 % of the regional park’s tracks), track drainage maintenance on 150 kilometres and surface maintenance, involving re-metalling and installing board-walks, on 17 kilometres of tracks. Since 2008, significant works have been carried out on the following tracks:

- Realignment of the Fenceline Track
- Realignment of the Fairy Falls Track
- Upgrading of the Montana Heritage Trail
- Construction of the Beveridge Track
- Boardwalks have been constructed to avoid trampling kauri root systems in the Auckland City Walkway

In addition, major upgrading of the Hamilton Track is about to commence.

Outside of the regional park, progress is being made with planning and securing legal access over the route of the ‘Waitākere Ranges Foothills Walkway’ and with construction of a proposed new walkway linking Grendon and Landing Roads in Titirangi. A feasibility study for the Little Muddy Creek Walkway which would connect the end of Rimutaka Place to Huia Rd is being funded by the Waitākere Ranges Local Board.



VISITOR IMPACTS AND THEIR MANAGEMENT

Visitors coming to the area for recreation, wilderness and relaxation experiences can impact on a number of the heritage features, and may also affect the wellbeing of local communities (a factor recognised in the Act).

Overall Management Approach

A number of plans covering different parts of the heritage area seek to manage the range and type of visitor activity and infrastructure and tourist-related business.

- The District Plan – utilises zoning techniques to manage impacts of business activity on the environment, essentially restricting most business (including tourism-oriented ventures) to the ‘community environments’ at Titirangi and Oratia villages, ‘home occupations’ and a number of other isolated sites.
- Local Reserve Management Plans set out management policy for the future protection, use and development of local parks, including infrastructure requirements. These have been prepared for Pihā (1999), the Pihā Coastal Management Plan (2000), the Manukau Foreshore Reserves (2001), and the Te Henga Reserve (2002). In addition, the Draft Swanson Reserves Management Plan (2003) includes several local parks within the heritage area.

- The Waitākere Ranges section of the RPMP provides the framework for managing visitors. The RPMP was developed within the framework of the Act, and identifies 28 “hot spots” called “special management zones”. There are objectives for each management zone, together with management actions to achieve these objectives, including placing limits on the number of discretionary activities at some of the more sensitive locations in the regional park (i.e. North Piha, Glen Esk, Karekare, Pararaha Valley, Whatipu, and Anawhata). These locations are considered to require specific management actions because they already receive large numbers of casual visitors, are wilderness areas or contain sensitive natural features, such as wetlands. The special management zones help to ensure that visitor activity in the regional park is managed in a manner that protects its intrinsic natural, landscape and amenity values, including the high value placed by many visitors on the feeling of “wilderness” in parts of the Ranges. Techniques to retain the ‘wilderness’ character of some areas include maintaining a metal surface on roads into the area.

Management of Impacts on Indigenous Ecosystems

Visitors to the heritage area can adversely impact indigenous ecosystems in a number of ways, outlined below.

- By far the greatest impact on recreational activity within the heritage area has been the recent discovery of Kauri- dieback disease. The role of visitors in helping to spread this disease is clear with almost 70% of known kauri dieback sites within 50m of the track network, and popular visitor destinations such as Piha and the Cascades being the most affected.
- An extensive management programme has been put into place to try to prevent the spread of the disease. This includes the quarantining of 15 at-risk areas of land in the regional park (approximately 20% of the area of the regional park) and the closure of over 27 kilometres of track (approximately 10% of the total length of track in the park) to check the spread of the disease to areas that are currently free of it. Education and increased public awareness, the establishment of phyto-sanitary shoe-cleaning stations at key locations and an emphasis on track maintenance, re-routing and upgrading to minimise the transfer of the disease are other elements of the programme. It has also resulted in curtailment of some sports events that could exacerbate the spread of the disease.
- Tree root compaction by pedestrian traffic can damage some surface-feeding species such as kauri. To avoid this impact, regional parks staff have identified areas of ‘at risk’ trees and have a programme of re-routing tracks or constructing boardwalks and rafts, on prioritised heavily trafficked areas. During the five years since 2008, boardwalks have been constructed to avoid trampling kauri root systems.
- Visitors to the Ranges can contribute to the spread of weed-seed on their shoes through the tracks. There are active weed control programmes operating and incipient weed outbreaks are identified and managed as part of the Regional Weed Management Programme.
- The peak visitor season corresponds with the peak summer fire season, and visitors can increase the potential for accidental fire in the relatively flammable species that cover large tracts of the heritage area, such as the indigenous Manuka/Kanuka forest and the common weeds pampas and gorse. Management tools in place to combat the fire risk include imposition of a ‘fire season’ between 1 December and 30 April when it is illegal to light a fire in the open air without a fire permit, and large information signs on forest fire danger at strategic locations in the Ranges.
- Visiting dogs can devastate wildlife. The Auckland Council Dog Control Policy and Bylaw seeks to balance provision for healthy activity with wildlife protection by prohibiting dogs from particularly sensitive wildlife areas (for example the Ark in the Park bird release area at Cascade Kauri Park, Lake Wainamu, Pararaha Valley, and Whatipu Scientific Reserve and adjoining Crown foreshore) while at the same time identifying designated on-leash and off-leash areas for dogs.

In addition, conditions may be placed on concessionaires and discretionary activities such as obligations relating to conveying codes of conduct to patrons, staying on defined tracks, not removing vegetation or disturbing wildlife, removing litter and adhering to Kauri dieback control measures such as cleaning footwear.

Management of Impact on Landscape Qualities and Natural Scenic Beauty

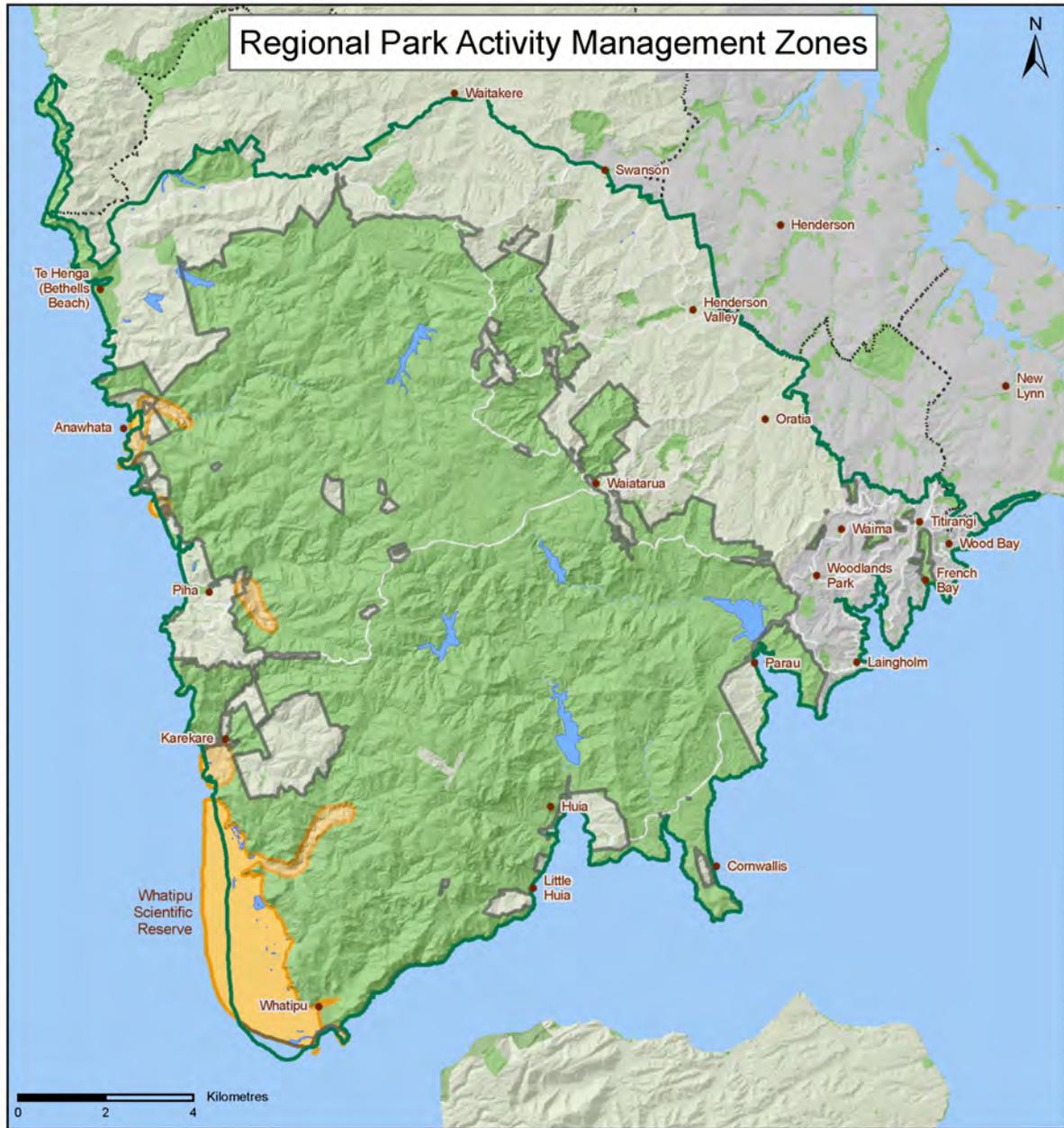
There is potential for infrastructure built for visitors, such as carparks, toilets and changing rooms, signage, boat ramps, paths, fences, boardwalks and some roads and footpaths, to detract from the natural scenic qualities of the heritage area. The behaviour of a few visitors can also impact on the scenic beauty of the landscape, including littering and graffiti.

Management tools in place to minimise these impacts include:

- Regional park design guides for landscape protection and enhancement, re-vegetation programmes and infrastructure design (for example, textures, colour, ensuring the structure is subservient to the natural landscape and appropriate to a natural setting);
- Principles in the RPMP relating to signage, such as co-location and avoiding clutter;
- the Waitākere Ranges Foothills Design Guide;
- Recreational cycling is only permitted in the regional park on the Beveridge Track and Exhibition Drive on the basis that the terrain, erodible soils and track types are not generally suitable for this type of activity (including mountain biking);
- A regional parks policy to remove all graffiti from regional parkland within a day of it being discovered;
- Provision of rubbish bins in local parks and a well-publicised policy of 'pack in-pack out' for rubbish in regional parks; and
- All major park concept plans are prepared with professional landscape advice.
- Awareness of potential impacts and actions to protect and safeguard threatened species and habitats is promoted through events, interpretative material and specific campaigns (e.g. kauri dieback)



Figure 25



- Legend**
- Activity Management Zones
 - Waitakere Ranges Heritage Area
 - Regional Park Boundary
 - Local Board Boundary
 - Metropolitan Urban Area

Impact on Community Wellbeing

Some people, both residents of the heritage area and outside operators, make their living from selling goods and services to visitors as well as local people. There are at least 70 visitor related businesses located in the heritage area, listed on the Destination Waitākere website, as follows:

VISITOR RELATED BUSINESS IN THE WAITĀKERE RANGES HERITAGE AREA 2012	
TYPE OF BUSINESS	NUMBER OF BUSINESSES
Accommodation	28 plus 2 campgrounds at Piha, a 'glamping' facility at Bethells/ Te Henga and facilities such as the Aio Wira Centre and Karanga Camp
Arts and Crafts	11
Guided tours and Activities	13
Vineyards	4
Cafes and restaurants	14
<i>Source:</i> Destination Waitākere website	

Businesses catering to visitors to the Waitākere Ranges are focused mainly in Titirangi and the adjacent Otimai and Opanuku catchments, with another grouping in Piha.

Visitors help support the economic wellbeing of local communities. The accommodation and food services sector in the heritage area expanded in the period 2008 to 2011, with the number of businesses increasing from 45 to 55 and the number of employees from 190 to 265. Businesses in the other visitor-related sector– arts and recreation services – remained reasonably static, while the number of employees has decreased since 2008.

Consultation indicates that the major adverse impact of visitors on wellbeing of local communities stems from the behaviour of some visitors, including littering and dumping, vandalism, theft and illegal parking. Data from the regional park indicates that the incidence of many of these behaviours is decreasing, with management such as a summer ranger presence at key locations, and application of elements of CPTED (Crime Prevention Through Environmental Design) and a Ministry of Justice programme for safer carparks.

Illegal parking is an issue mainly at the West Coast beaches of Karekare, Piha and Bethells/Te Henga where carparks overflow at peak visitor times (fine summer holiday periods and weekends). Impacts are traffic congestion, the blocking of driveways and obstruction of access for emergency vehicles. There is no systematic data collection on the extent of this problem.



Overflow from Lake Wainamu carpark 6 February 2013

The Waitākere Ranges Local Board is supporting the preparation of a Visitor Management Plan which will help to provide a more pro-active management framework which is integrated with the policies and objectives of the RPMP and wider heritage area.

CONCLUSION

OVERVIEW OF FINDINGS

The west coast beaches are the most visited locations in the heritage area, and in particular Piha. During the past 3 summer seasons the highest headcount (taken at the busiest time of day by the Piha surf club) was 2220 people on the beach at Piha South on 7 February 2010. Estimates from vehicle counts indicate a daily average of nearly 8000 people visiting Piha over a fortnight during the summer holidays. Arataki Visitor Centre with 188,827 visits in the year 2011/2012 and Cascade Kauri Park with 85,837 visits over the same period are the most heavily visited locations within the regional park, while Kitekite Falls, Fairy Falls and Karekare Falls are easily accessible regional park hotspots.

Monitoring of trends in visitor activity at selected regional park locations has shown that there has been a steady increase in the use of the Park since 2008. The number of visits has, on average, grown at a rate faster than the regional population growth, with visits to the Arataki Visitor Centre increasing by 40% and visits to Piha's Glen Esk increasing by around 19% over the three year period. In contrast, visits to the wilderness destination of Whatipu have increased by only 2%.

Most visitors to the regional park are from West Auckland (33%) and the former Auckland City area (27%). A small number (15%) are from outside the Auckland region, with most of these being international visitors visiting places such as the Arataki Visitor Centre.

The use of the regional park for discretionary concession activities (managed through the RPMP) has been steady over the last five years. More than half of discretionary activities approved by the council are non-commercial, such as weddings and sporting events. The number of commercial concessionaires (currently 54) has shown no upward trend since 2008, with filming by far the highest level of commercial activity.

By far the greatest impact on recreational activity within the heritage area has been the recent discovery of kauri dieback disease. The role of visitors in helping to spread this disease is clear with almost 70% of known kauri dieback sites within 50 metres of the track network, and popular visitor destinations such as Piha and the Cascades being the most affected. An extensive management programme has been put into place to try to prevent the spread of the disease. This includes the quarantining of 15 at-risk areas of land in the regional park (approximately 20% of the area of the Park) and the closure of over 27 kilometres of track (approximately 10% of the total length of track in the Park) to check the spread of the disease to areas that are currently free of it.

Visitors help support the economic wellbeing of local communities. The accommodation and food services sector in the heritage area expanded in the period 2008 to 2011, with the number of businesses in the sector increasing from 45 to 55 and the number of employees from 190 to 265. Businesses in the other visitor-related sector– arts and recreation services – remained reasonably static, while the number of employees has decreased since 2008.

PROGRESS IN ACHIEVING THE OBJECTIVES OF THE ACT

The RPMP and decision making processes in the regional park take full account of the Act and assist in giving effect to it. Under the Plan, large areas are managed for low intensity use whilst areas identified as visitor hotspots are managed to accept the expected number of visitors, whilst minimising visitor impact.

In addition to extensive track maintenance, work in the past 5 years has included realignment and/or upgrading of the Montana Heritage Trail and Fairy Falls Track and construction of the Beveridge Track (which, with Exhibition Drive, is the only track in the regional park available for recreational cycling). Progress is being made with planning and land acquisition for the Waitākere Ranges Foothills Walkway and with construction of a proposed new walkway linking Grendon and Landing Roads in Titirangi.

STRATEGIC ISSUES FOR CONSIDERATION

The long term impact of kauri dieback disease on recreational use of the Area's forests is a significant and growing issue, particularly when combined with the projected increase in Auckland's population, and the area's attraction as a visitor destination and contribution to the liveability of Auckland.

There is no established plan or strategy in place to provide for and manage visitors to the heritage area and the visitor 'hot spots' within it, as an integrated whole. The Waitākere Ranges Local Board is supporting the preparation of a Visitor Management Plan which is due for completion in 2014.

There is also little systematic information available on:

- use made of local parks;
- visitor satisfaction with local parks; and
- visitor impacts on the wellbeing of local communities across the heritage area as a whole.

Although providing a useful impression of trends in regional park use over time, the data on visitor numbers are estimates based on the best information available, which in some cases is incomplete, and for this reason the absolute numbers should be treated with caution.

RECOMMENDATIONS FOR FUTURE MONITORING

Monitoring of visitor use and satisfaction should be extended to additional locations in the heritage area.

Further research should be carried out to assess the potential for recreational activities based on the distinctive heritage and character of the foothills, including those which support traditional rural land uses.



2.6 PEOPLE AND COMMUNITIES

INTRODUCTION

The Act indicates that more than 21,000 people lived in the heritage area (outside the regional park) at the time that the Act took effect and. seeks to enable the residents of the heritage area to provide for their wellbeing as well as promoting kaitiakitanga and community stewardship . This is in the context of the overall thrust to protect, restore and enhance the heritage features and acknowledges that people live and work within the Area, and that their wellbeing should be considered along with those imperatives. .

While census data can provide information on the profile of the communities and certain aspects of community wellbeing, this data is strongly influenced by employment and access to services, factors which are not necessarily linked to the Act or the heritage area itself. In addition, such data does not capture the more qualitative aspects of wellbeing, such as strength of community networks and a levels of involvement in caring for the environment, which is a strong feature of the heritage area's communities.

In some respects the wellbeing of the residents of the heritage area is directly supported by its proximity to metropolitan Auckland. For many living in the foothills and bush living areas, employment, shopping, services and education are all within an easy drive to the town centres located outside the heritage area. This proximity makes access to high level of services and facilities possible, without many of these activities being located in the heritage area. Therefore, the connectedness of the heritage area to the rest of Auckland is important to the wellbeing of those that live there.

Census data can provide information on these aspects of community wellbeing, but the data is strongly influenced by employment and access to services, factors which are not necessarily linked to the Act or the heritage area itself. In addition, such data does not capture the more qualitative aspects of wellbeing, such as strength of community networks and a levels of involvement in caring for the environment, which is a strong feature of the heritage area's communities.

Population growth in the area has historically been slow, with very little capacity available for further subdivision. With the established communities set within and around the regional park, a strong sense of identity and distinctiveness has resulted, along with a strong stewardship ethic for the environment.

This is reflected in the numerous individuals, residents and ratepayers and volunteer groups, which are both local and from the wider Auckland Region, who are actively working to protect and enhance indigenous ecosystems in the Waitākere Ranges Heritage Area and to raise public awareness. Some of these groups have been active for many years, for example the Waitākere Ranges Protection Society was formed in 1973 and recently celebrated 40 years of conservation work in the Waitākere Ranges. Others, such as the 26 Sustainable Neighbourhood Groups created since 2008 have formed since the Act came into effect.

In addition, there are an increasing number of Auckland-wide clubs, church groups and places of business that contribute voluntary hours to environmental protection and restoration projects. Further detail is provided in the Technical Reports.

The Act also includes provisions for preparing LAPs. These promote community-based decision making and provide the ability to localise the Act and its requirements. This help to make the Act relevant to the communities and promote consideration of what specific factors or actions could contribute to the protection, enhancement and restoration or the heritage features and the wellbeing of the community. The outcome of the LAPs to date have been a series of local responses to the Act and the future aspirations of those communities.

A number of planning responses (including those arising from LAPs) have been aimed at improving the wellbeing of residents and the community, along with creating more certainty as to the future character and amenity of specific locations. LAPs and District Plan changes have:

- provided a long term framework for activities and future development in Titirangi village (Operative Plan Change 37);
- enabled rural and small scaled economic activity (Plan Change 36);
- enabled a small scale village focal point in Oratia (Oratia LAP and Operative Plan Change 35);
- confirmed the future character and amenity of Oratia, Waitarua and Henderson Valley (through the LAPs and plan changes).

SUMMARY OF THE INDICATORS

The indicators used in this report can be grouped into the following categories:

- Population and demographic indicators.
- Household income, qualifications and occupations.
- Employment and business activity.
- Housing indicators.
- Qualitative description of tangata whenua involvement in projects which promote kaitiakitanga.
- Number and type of community groups involved in environmental projects.

Measures for these indicators have primarily been derived from census data, supplemented by a survey of local community groups involved in environmental projects, and council records.

Since the 2011 census was not undertaken until this year, the available data on the community is limited to the 2006 census. This data, while dated, provides a baseline for future comparison. The census area units and mesh blocks do not exactly align with the boundaries of the heritage area, so a best fit approach of those located inside the Area was taken. The boundaries of the mesh blocks and census area units have changed historically, and may change in the future. This may complicate the ability to make future comparisons.

Business and economic activity needs to be understood in the context that it relates to the registered address of the business. Therefore, while the heritage area may have a high proportion of entrepreneurs, the place where the activity is undertaken is sometimes outside the Area.

There is little available data about values that the community holds in respect to the heritage area, and whether any factors have improved or detracted from the reasons why people choose to live here.



CURRENT STATE OF KNOWLEDGE

FIGURES FOR HERITAGE AREA			
COMMUNITY PROFILE	(2006 DATA UNLESS OTHERWISE STATED)	NOTABLE DIFFERENCES WITH REGIONAL DATA	LOCAL HIGHLIGHTS
Population	<ul style="list-style-type: none"> 19,968 residents Population growth predicted to be 4% to 2011 	8% growth rate to 2011 in the Region.	
Ethnicity	<ul style="list-style-type: none"> 85% European 8% Maori Pacific origin 2% Asian 3 % 	Under-representation of Pacific, Asian and Maori people compared to rest of Auckland	
Age Structure	<ul style="list-style-type: none"> 0-14 years – 23% 15–29 – 15% 65+ - 7% Median age 37 	<ul style="list-style-type: none"> 15-29 year old under-represented (22% region-wide) -regional median age 33 	Relatively fewer children in the coastal villages of Piha, Bethells Beach/Te Henga and Karekare.
Households	<ul style="list-style-type: none"> 7041 households 78% one family household 16% one person household 5% multi-family/multi person household Average household size 2.82 people 5655 families 		<p>Karekare features the highest rate of one-family households at 90%, and Piha the lowest rate at 64%.</p> <p>Piha also has the highest proportion of one-person households at 34%, followed by Bethells Beach/Te Henga, Cornwallis and Huia (26-28%)</p>
Median Household Income	<ul style="list-style-type: none"> \$77,603 	<ul style="list-style-type: none"> \$63,387 in region 	Bethells Beach, Cornwallis and Huia had the lowest median household income ranging between \$51,000 and \$55,000. The highest median household incomes were in Waiatarua, Karekare and Titirangi, ranging between \$85,000 and \$88,000.
Qualification levels	<ul style="list-style-type: none"> 14% of people aged 15 years and over had no qualification. 23% of people had qualifications equivalent to a Bachelor degree or above. 	<p>In Region:</p> <ul style="list-style-type: none"> 20% of people aged 15 years and over had no qualification. 20% of people had qualifications equivalent to a Bachelor degree or above. 	<p>Henderson Valley, Cornwallis, Huia and Waitākere has the highest proportion of people without qualifications (around the regional average at 18-24%), and Karekare and Piha had the lowest (6 and 10% respectively).</p> <p>Karekare, Piha and Titirangi had the highest proportion of people with Bachelor level education or higher (28-32%), while Parau, Swanson, Waitākere and Henderson Valley has the lowest proportion (11-19%).</p>

FIGURES FOR HERITAGE AREA			
COMMUNITY PROFILE	(2006 DATA UNLESS OTHERWISE STATED)	NOTABLE DIFFERENCES WITH REGIONAL DATA	LOCAL HIGHLIGHTS
Occupations	<ul style="list-style-type: none"> ▪ Managers and professionals 51% of total jobs. ▪ Sales workers, machine operators and labourers 16%. ▪ Community and personal service workers, clerical and administrative workers and technicians and trade workers 34%. 	Heritage area has more people with highly qualified occupations than in rest of Region (eg. Managers and professionals 41% of total jobs).	
ECONOMIC PROFILE			
Employment and Labour Force	<ul style="list-style-type: none"> ▪ 57% of people 15 years and over were employed full-time ▪ 17% were employed part-time, ▪ 2% were unemployed ▪ 23% were not in the labour force 	Heritage area has higher employment levels than in rest of Region (32% of people 15 years and over not in labour force)	
Number of businesses (registered address in heritage area)	<ul style="list-style-type: none"> ▪ (2011) businesses with registered addresses in the heritage area - 2,419 ▪ 1,882 people employed (does not include sole traders) 		Titirangi is most significant area (586 businesses in 2011), followed by foothills and bush settlements and Piha
Business types	<ul style="list-style-type: none"> ▪ decline in the number of businesses involved in Agriculture, Forestry and Fishing (10 year trend) ▪ growth in the number of professional and technical people, especially working as sole traders ▪ growth in number of accommodation and food services and people employed by this sector. 		
HOUSING PROFILE			
Dwelling occupation	<ul style="list-style-type: none"> ▪ 8,106 dwellings, of which 12% were unoccupied 	<ul style="list-style-type: none"> ▪ reflects a high number of holiday homes in Heritage area, with unoccupied dwellings at 8% in the Region 	
Dwelling tenure	<ul style="list-style-type: none"> ▪ 83% of dwellings owned by the occupier or a family trust 	<ul style="list-style-type: none"> ▪ higher than Region rate of 64% 	<p>Piha, Bethells Beach/Te Henga and Huia feature the highest proportion of renters (26 to 34% of dwellings).</p> <p>Home ownership levels are highest in the bush settlements of Waiatarua, Titirangi and Waima (86 to 90%).</p>
Number of bedrooms	<ul style="list-style-type: none"> ▪ 36% having 4 or more bedrooms. ▪ 43% 3 bedroom houses ▪ 15% 2 bedrooms 		Smaller units in coastal settlements.

FIGURES FOR HERITAGE AREA			
COMMUNITY PROFILE	(2006 DATA UNLESS OTHERWISE STATED)	NOTABLE DIFFERENCES WITH REGIONAL DATA	LOCAL HIGHLIGHTS
	<ul style="list-style-type: none"> ▪ 5% one bedroom 		
Travel to Work Profile	<ul style="list-style-type: none"> ▪ 9% work from home ▪ 68% travelling in a private vehicle ▪ 5% by public transport 	More people work from home, and less travel by public transport than in rest of the Region	<p>coastal settlements work from home between 14 and 21%.</p> <p>Train service frequencies have improved since 2008. In October 2012, there was a service every 14-16 min at peak time and 30 min at other times</p>

KAITIAKITANGA AND STEWARDSHIP

KAITIAKITANGA

For Maori, knowledge of the workings of the environment and the perceptions of humanity as part of the natural and spiritual world, is expressed in the concept of mauri and kaitiaki. Mauri can be described as the life force that is present in all things. Mauri generates, regenerates and upholds creation, binding physical and spiritual elements of all things together. Without mauri things cannot survive. Practices have been developed over many centuries to maintain the mauri of all parts of the world. Observing these practices involves the ethic and exercise of kaitiakitanga.

The role of kaitiaki continues in current resource management. Kaitiaki responsibilities include, but are not limited to:

- • the protection and maintenance of wahi tapu and other heritage sites;
- • the placing of rahui to allow replenishment of harvested resources;
- • directing development in ways which are in keeping with the environment;
- • observing the tikanga associated with traditional activities;
- • providing for the needs of present and future generations.

Whilst both Te Kawerau a Maki and Ngati Whatua played key roles in establishing the Act, their subsequent hands-on role in the care and management of the heritage area has been relatively limited. For Te Kawerau their engagement with Auckland Council has focussed on the Arataki Visitors Centre and regular liaison meetings on regional park management, *along with plans to re-establish a marae at Te Henga..* There is a need to further develop these relationships in order to achieve the objectives of the Act.

Currently Ngati Whatua have no formal role in the management, care, monitoring or presentation / celebration of the historic places of significance to them. Discussion on ways of rectifying this is currently underway as part of the process for preparing the Local Area Plan for Laingholm.

COMMUNITY STEWARDSHIP

The heritage area has a strong history of 'hands on' environmental and community stewardship which is reflected in the myriad of groups and organisations which exist both formally and informally across the area, as well as the efforts and initiatives undertaken by individual volunteers and landowners. Other groups and organisations, such as the Waitākere Ranges Protection Society in particular, play a strong advocacy and awareness-raising role.

Key groups and initiatives with a 'hands on' stewardship role which have been identified in the heritage area include the following. A fuller list is provided in the Technical Report. It is acknowledged that this list is not comprehensive and there is a need to establish an accessible database of groups and contacts.

Community-wide interest groups

17 resident and ratepayers associations and related organisations have been identified in the heritage area. They represent and advocate for their member's interests and have been actively involved in the preparation of LAPs.

Environmental Initiatives

There are 26 community environmental groups and projects undertaken in partnership with and/or with funding from the council, 6 advocacy groups and 25 sustainable neighbourhood groups that are actively involved on environmental projects within the heritage area. Locations are shown on Figure 12 (Section 2.3). Environmental stewardship programmes also operate in 9 schools and childcare centres in the heritage area.

Support Schemes for Community Initiatives

Many of the community groups are actively involved in animal pest and weed control and replanting programmes. The council provides assistance to these groups through helping with the establishment and running of groups, planting days, bait and traps for pest control and technical advice. The council also provides assistance to many groups and schools through its native plant nursery at Arataki.

Environmental Initiatives Fund (EIF): provides grants, practical support and advice to members of the community to help them protect and enhance their local environment and heritage. Between 2008 and 2012 \$87,000 in grants has been distributed in the heritage area.

Sustainable Neighbourhoods programme: provides planning and practical assistance to the community to improve their environment and to take action for sustainability. This support is open to groups of neighbours (3 or more) mobilised to achieve an environmental outcome. 25 Sustainable Neighbourhoods have been established since 2008 across the heritage area.

Keep Waitākere Beautiful Projects: Keep Waitākere Beautiful Trust are contracted by the council to deliver an annual programme of community based events and projects aimed at beautifying and enhancing the environment. In 2011-2012 financial year 120 weed bins were exchanged across the area.

Enviro-schools: A whole-school approach about learning and action for a sustainable future; student-directed process of exploration, decision making, action and reflection; action projects with environmental and educational outcomes that benefit the school and wider community. A number of schools based on the heritage area are involved.

Project Twin Streams (PTS): PTS is a large-scale environmental restoration and stormwater management project. This project engages local residents in the project through partnering with local community organisations to deliver the streambank restoration programme. Planting has been progressed in Henderson Valley.



Arataki Gateway Sanctuary This is a Council-supported project started in 2009 that involves volunteers from the surrounding community carrying out animal pest control near the Arataki Visitors Centre. Since the initiative started there has been an overall decline in pest numbers and a significant increase in invertebrate numbers. There is potential for expansion of the project area.

COMMUNITY STEWARDSHIP PROJECTS

Table 24 provides a baseline estimate of the specific areas under active community stewardship or associated with neighbourhood initiatives in 2012. [NB Table subject to amendment]

Table 24

RESERVE/PROJECT NAME	SIZE	ADMINISTERED BY
Ark in the Park	2350 Ha	Auckland Council, Forest and Bird, volunteers, local landowners
La Trobe Forest Restoration Project	200 Ha	Local residents
Lone Kauri Forest Restoration Group	194 Ha	Local residents
Makatu Reserve	106 Ha	Forest and Bird, QE II Open Space Trust
Forest Ridge Community Group	89 Ha	Local residents
Steam Hauler Track Residents' Group	57 Ha	Local residents
Te Henga Beach Care	45 Ha	Local residents
Friends of Whatipu	561 Ha	Local residents
Environmental Improvement Fund projects	69 Ha	Local residents/Auckland Council
Sustainable Neighbourhood Groups	348 Ha	Local residents/Auckland Council
Project Twin Streams (Upper Opanuku)	4 Ha	Local residents/Auckland Council
TOTAL	4023 Ha	

LA TROBE FOREST RESTORATION PROJECT

This project comprises a c.200 ha mainland island in the Karekare area, which is run by a group of local residents. The group aims to restore a sub-tropical rainforest ecosystem through intensive pest management. The group is controlling rats, mice and possums using a bait station grid and attempting to control mustelids using kill traps. Possum numbers are below 5% and rat numbers are around 5% trap catch level with ongoing regular monitoring using tracking tunnels. Recent results (2011) indicate that pest control is having a significant positive impact on bird and invertebrate numbers, which in turn has greatly enhanced critical ecosystem services such as pollination and seed dispersal. La Trobe supports a healthy population of the threatened Hochstetter's frog.

LONE KAURI FOREST RESTORATION GROUP

A group of local residents established the Lone Kauri Forest Restoration Group in October 2001 with the aim of providing a better environment for indigenous fauna and flora through pest control in a c.200 ha block of forest near Karekare. This group is close to, but does not overlap with, the La Trobe Forest Restoration Project. Land tenure within the project area is a mixture of private and parkland. Work to date has concentrated on animal pest control, targeting possums, rats, mustelids, feral cats and exotic birds. Future plans involve recruiting more volunteers to monitor the uptake of bait and to replenish bait stations, plus supplementary trapping and potentially a couple of people working full time on the project.

REGIONAL PARK VOLUNTEERS

There were 26,808 hours of voluntary time contributed in the Waitākere Ranges Regional Park in 2011/2012, and as the table below demonstrates, volunteer hours have been increasing every year since 2008.

VOLUNTEER HOURS WAITĀKERE RANGES REGIONAL PARK				
	1 May 2008 – 30 April 2009	1 May 2009 – 30 April 2010	1 May 2010 – 30 April 2011	1 May 2011 – 30 April 2012
Volunteer Hours	8,000	12,572	16,114	26,808
Percentage Increase		57%	28%	66%
<i>Source:</i> Auckland Council				

CONCLUSION

OVERVIEW OF FINDINGS

The postponement of the 2011 census and lack of available data at the right scale has meant that there is very little useful recent information about the characteristics of the heritage area's communities.

There is little information available from which to assess quality of life for residents of the heritage area in a way which reflects the characteristics of the Area and the lifestyle it provides.

The area covered and level of support for community stewardship projects has increased since 2008, in both the regional park and the wider heritage area

Specific key projects (Te Henga Marae, Arataki, Pou Whenua) have supported tangata whenua relationships. Since the changes to Auckland governance, there has been a relatively low level of engagement in management and decision making, although there is considerable potential for this to increase.

The community has been engaged in the preparation of LAPs and related initiatives in Oratia, Waiatarua and Henderson Valley / Opunuku and are doing so in Laingholm/Waima/Woodlands Park and Parau. Preliminary work on a LAP for Bethells/Te Henga has commenced.

Community-based ecological restoration projects have successfully continued at Cascades (Ark in the Park) and La Trobe, with strong local environmental group involvement at Piha, Whatipu, Te Henga wetland and other sites. There are 26 Sustainable Neighbourhood groups (created since 2008) active in weed and pest control and ecological restoration of private and public land. Local schools are also involved in environmental education (including Enviro Schools).

The ability to establish covenants to protect private land under the Act has not so far been used, although covenants are in place through the former WCC Green Network, QEII and linked to subdivision and land use consents.

PROGRESS IN ACHIEVING THE ACT

Opportunities for stewardship of the heritage features have increased, for example through the introduction of the Sustainable Neighbourhoods Programme, the Arataki Gateway Sanctuary, and the continuing success of Ark in the Park.

With the exception of the initiative to re-establish a marae at Te Henga, and specific projects such as the establishment of pou whenua and the commemorative carvings at Arataki visitor centre only limited progress has been made towards recognising the relationship of tangata whenua with the

heritage area or promoting kaitiakitanga. A deed of acknowledgement, as required under Section 29 of the Act has yet to be entered into.

STRATEGIC ISSUES FOR CONSIDERATION

The limited progress made in effectively promoting kaitiakitanga and involvement of tangata whenua in management and decision making within the heritage area is a significant concern, given the importance attached to this matter within the Act. Further discussion is needed with tangata whenua regarding the development of their relationships with the heritage area and their role in its management.

More work is required to consider those factors that contribute to people's wellbeing and the desire for residents to live in the heritage area. Traditional indicators such as the census do not necessarily correlate with the matters outlined in the Act, and therefore a more targeted set of quality of life indicators could be developed based on matters of wellbeing that can be influenced by the Act, the heritage area and its heritage feature. These indicators could be focussed on the residents and provide a qualitative indication of whether aspects of the heritage features they value have improved or declined over the preceding 5 years.

The parameters used could incorporate and expand on those used in the Auckland Region Quality of Life index, but would be tailored to the heritage area context and provide adequate sample sizes to provide representative results. 'Community wellbeing' could also be assessed or evaluated as part of the preparation of LAPs.

RECOMMENDATIONS FOR FUTURE MONITORING

Initiate further discussion with Te Kawerau a Maki and Ngati Whatua regarding ways to progress those parts of the Act which relate to their interests.

Include assessment of community wellbeing (through for example surveys) as part of future LAP preparation processes and incorporate into the next five-year monitoring report.

Develop a 'Quality of Life' indicator that is tailored to the experience of living in the heritage area. This could be implemented as a 'Quality of Life' Survey before the preparation of the proposed Area Spatial Plan for the Waitākere Ranges Local Board area (provisionally scheduled for 2016).



PART 3 CONCLUSIONS

This monitoring report has brought together and summarised the available information on the state of the heritage area environment and progress towards achieving the objectives of the Act. Where relevant data is available this has been used to develop indicators of trends and changes, or to provide a baseline against which future monitoring can be assessed.

The report has also identified gaps and limitations in the available data and recommends improvements to the monitoring system to be considered before the preparation of the next five-yearly report.

This section also reports on the funding impact arising from activities undertaken specifically to give effect to the Act, which includes this monitoring report and the development of the LAPs.

State of the Environment

There are some important highlights from the report that are worthy of recognition:

- The overall effect of development on the heritage area's landscape quality since the assessments carried out between 2004 and 2008 were either neutral or positive across 59 of the 73 landscape units assessed, and minor or very minor across the remainder, with the greatest change occurring in the foothills. There were no significant changes to any of the individual landscape units.
- Demand for new development, as evidenced by land use consent and building permit applications, has gradually reduced over the past decade.
- Kauri dieback has emerged as a major and significant threat to the future of the heritage area's forest ecosystem, compounding the threats posed by invasive plants and animals, and is widespread.
- Apart from kauri dieback disease, overall results from the regional forest, wetland and freshwater habitat monitoring programmes suggest that native ecosystems in the heritage area are in relatively good health on a wide range of indicators, although lake quality is slightly degraded.
- The extent and rate of loss of cultural and archaeological heritage sites is unknown due to limited survey and site re-visits following first recording. The speed of deterioration is also unknown because baseline monitoring has not been undertaken. However, indicators and previous reports suggest the deterioration is more rapid at the periphery of the heritage area.
- The west coast beaches are the most visited locations in the heritage area, and in particular Piha. During the past 3 summer seasons the highest headcount (taken at the busiest time of day by the Piha surf club) was 2220 people on the beach at Piha South on 7 February 2010. Estimates from vehicle counts indicate a daily average of nearly 8000 people visiting Piha over a fortnight during the summer holidays. Arataki Visitor Centre with 188,827 visits in the year 2011/2012 and Cascade Kauri Park with 85,837 visits over the same period are the most heavily visited locations within the regional park, while Kitekite Falls, Fairy Falls and Karekare Falls are also easily accessible regional park hotspots.
- Monitoring of trends in visitor activity at selected regional park locations has shown that there has been a steady increase in the use of the Park since 2008. The number of visits has, on average, grown at a rate faster than the regional population growth, with visits to the Arataki Visitor Centre increasing by 40% and visits to Piha's Glen Esk increasing by around 19% over a three year period.
- The use of the regional park for discretionary concession activities has been steady over the last five years.
- The postponement of the 2011 census and lack of available data at the right scale has meant that there is little useful recent information available about the characteristics of the Area's communities.

The Monitoring System

- The availability of and access to relevant data is only providing a partial picture of the type and rate of change in the heritage area. This is due to
 - i) lack of data/research on some key topics and issues (e.g. condition of cultural heritage sites; recreational use of beaches and other areas outside regional park; the small sample of stream monitoring sites; information on key drivers affecting the decline of traditional foothills land uses and the potential to support and retain them; inability to distinguish between indigenous, exotic and weed vegetation from aerial photographs); and
 - ii) timing or frequency of data capture (e.g. aerial photography; census data; Land Cover Database (LCDB)).

These deficiencies are greatest for areas outside the regional park where the monitoring system is generally less well developed.

- It is difficult to create measurable indicators for some of the Act's objectives (for example quietness and darkness; integrated decision making) due to their subjective or qualitative nature (e.g. 'containment', 'distinctiveness') complexity (e.g mosaic of rural land uses), difficulty of recording them empirically (e.g. quality of decision making). The potential to develop such indicators could be explored, but there is likely to be continued reliance on qualitative description and evaluation.
- A process to allow easier and more timely and co-ordinated collection and analysis of data needs to be established to complement the existing monitoring systems which are generally focussed on the regional park. A five-year monitoring programme linked to the reporting cycle needs to be established.
- There is potential for increased involvement of tangata whenua and local communities in monitoring and follow-up management programmes.
- Based on this report and its supporting technical documents there is a need to identify, prioritise and seek resources for future monitoring framework for the heritage area. This could be based on the topic themes used in this report and needs to be developed in consultation and collaboration with tangata whenua and the local communities.

Funding Impact of the Act

Financial records from annual plans and Long Term Plans and departmental budgets indicate that specific projects to implement the Act has resulted in the average annual spending of approximately \$230,000, together with an estimated 3.5 full time staff. This does not include programmes that were already being undertaken as a consequence of Council's responsibilities under other legislation. The breakdown of these items is included in Appendix 2.

NEXT STEPS

Based on the recommendations in this report and its supporting technical documents there is a need to identify, prioritise and seek resources for a future monitoring framework for the heritage area. This should be a collaborative effort across the relevant council departments and needs to be developed in consultation and collaboration with tangata whenua and the local communities. These matters need to be incorporated into a strategy for ongoing monitoring which assists with future decision making for the heritage area.

The strategic issues for consideration should be further considered by the council's internal co-ordination group for the Waitākere Ranges Heritage Area Programme. Further reports to address the strategic issues can be brought to the Waitākere Ranges Local Board, Parks, Heritage and Recreation Forum and Regional Development and Operations Committee as appropriate.

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APPENDIX 1: SUMMARY OF HERITAGE FEATURES AND OBJECTIVES IDENTIFIED IN THE WAITĀKERE RANGES HERITAGE AREA ACT, 2008

Section	HERITAGE FEATURES AND OBJECTIVES OF THE ACT, GROUPED INTO TOPIC THEMES USED IN THIS REPORT.
GENERAL OBJECTIVES WHICH APPLY TO ALL HERITAGE FEATURES AND TOPIC THEMES	
8(a) 8(b) 8(c) 8(d) 8(g)	<ul style="list-style-type: none"> – To protect, restore and enhance the heritage features ; – To ensure that impacts on the area as a whole are considered when decisions are made affecting any part of the area ; – To adopt a risk management approach and endeavour to protect the heritage feature when considering decisions that threaten serious or irreversible harm to a heritage feature ; – To recognise and avoid adverse potential, or adverse cumulative, effects of activities on the environment (including its amenity) or its heritage features ; – To maintain the quality and diversity of landscapes in the area by protecting landscapes of significance, restoring and enhancing degraded landscapes, and through the integrated management of change within a landscape.
LANDSCAPE	
8(e) 8(f)	<ul style="list-style-type: none"> – To recognise that the area has little capacity to absorb further subdivision ; – To avoid adverse effects, including cumulative effects, of subdivision or development in the area, not to contribute to urban sprawl;
7.2(i) 7.2(i)(i) 7.2(i)(ii) 7.2(i)(iii) 7.2(l) 7.2(c) 7.2(h) 7.2(f) 7.2(e)	<ul style="list-style-type: none"> - To protect, restore and enhance all of the following: <ul style="list-style-type: none"> • The subservience of the built environment to the natural and rural landscape, reflected in <ul style="list-style-type: none"> i) the individual identity and character of the coastal villages and their distinctive scale, containment, intensity and amenity ; ii) the distinctive harmony, pleasantness, and coherence of the low-density residential and urban areas that are located in regenerating (and increasingly dominant) forest settings [bush living landscapes]; iii) the rural character of the foothills to the east and north and their intricate pattern of farmland, orchards, vineyards, uncultivated areas, indigenous vegetation, and dispersed low-density settlement with few urban-scale activities ; • The distinctive local communities; • The coastal areas – their dynamic/natural character, contribution to vistas, and significant their differences • The eastern foothills as a buffer to, and transition from, metropolitan Auckland; • The Ranges and foothills as the visual backdrop to metropolitan Auckland • The quietness and darkness of the Ranges and the coast .
8(j)	<ul style="list-style-type: none"> – To provide for future uses of rural land in order to retain a rural character in the area;
ECOSYSTEMS AND ECOSYSTEM SERVICES	
7.2(a), (b),(d) 8(h)	<ul style="list-style-type: none"> – To protect, restore and enhance the terrestrial and aquatic ecosystems, natural landforms and landscapes and the natural functioning of streams; – To manage aquatic and terrestrial systems in the area to protect and enhance indigenous habitat values, landscape values and amenity values;
7.2(n) 8(h)	<ul style="list-style-type: none"> – To protect, restore and enhance the operation, maintenance and development of the public water catchment and supply system; – To protect those features of the area that relate to its water catchment and supply functions ;
CULTURAL & BUILT HERITAGE	
7.2(k)	<ul style="list-style-type: none"> – To protect, restore and enhance evidence of part human activities;
RECREATION & VISITOR MANAGEMENT	
7.2(g)	<ul style="list-style-type: none"> – To protect, restore and enhance the opportunities that the area provides for wilderness experiences, recreation, and relaxation.
PEOPLE AND COMMUNITIES	
8(i) 7.2(k)	<ul style="list-style-type: none"> – To recognise that people live and work in the area in distinct communities and enabling those people to provide for their social, economic, environmental and cultural well-being. – To protect, restore and enhance the historic, traditional and cultural relationships of people, communities and tangata whenua with the area and their exercise of kaitiakitanga and stewardship.
WAITĀKERE RANGES REGIONAL PARK (INCLUDED WITHIN ALL TOPICS)	
7.2(m) 8(l)	<ul style="list-style-type: none"> – To protect, restore and enhance the values of the Waitākere Ranges Regional Park, and its accessibility; – To protect in perpetuity, the natural and historic resources of the Waitākere Ranges Regional Park for their intrinsic worth and for the benefit, use, and enjoyment of the people and communities of the Auckland region and New Zealand.

APPENDIX 2: FUNDING IMPLICATIONS

INTRODUCTION

The Act identifies actions which either must or may be undertaken in order to give specific effect to the Act. Monitoring and reporting on the funding impact of such actions is a requirement under the Act and activities with direct funding implications in the period 2008/09 to 2012/13 are listed in the table below. For practical reasons, staff time is expressed in terms of full time equivalents rather than dollars. Office, administrative and business support costs are not included.

Other actions are not specifically identified within the Act but assist with its implementation and are exclusive to the heritage area. Whilst these may have occurred independently of the Act, the Act has provided a specific impetus for them and they are also listed in the table.

A range of other activities help to achieve the purposes and objectives of the Act and were initiated before the Act came into effect, such as regional park management, biosecurity operations, protection of sensitive ridgelines and view points, and development of new walkways and other recreational opportunities. The Act has helped to reinforce and continue these activities but there are no funding implications arising specifically from the Act. These activities have not been included in the table.

Future funding implications are identified in the council's Long Term Plan (LTP).

Summary of Estimated Funding Implications

FINANCIAL YEAR	08/09	09/10	10/11	11/12	12/13
WAITĀKERE RANGES & FOOTHILLS PROTECTION PROGRAMME					
Activities specifically carried out to give effect to the Act					
Local Area Plans – background reports (Foothills, Coastal Villages, Bethells/Te Henga, Laingholm)	✓	✓	✓	✓	✓
Local Area Plan preparation – Oratia, Waiatarua, Henderson Valley/Opanuku, Laingholm	✓	✓	✓	✓	✓
Local Area Plan- Implementation (Sustainable Neighbourhoods)		✓	✓	✓	✓
Local Area Plan- Implementation (Other projects) <ul style="list-style-type: none"> ▪ Ecological inventory and planning work ▪ Trial Weedfree Buffer Zone projects (adjacent to regional park) ▪ Long tailed bat protection ▪ Oratia village heritage/design project 					✓
Five Yearly Monitoring Report preparation (including supporting research and analysis)					✓
Communications/publicity (including web site)	✓	✓	✓	✓	
Waitākere Ranges Foothills Design Guide		✓			
Titirangi Village Design- guidance		✓			
TOTAL (\$)	140,000	291,000	217,000	180,000	332,000
Estimated Staff (Full Time Equivalent)	2.6	3.6	3.1	1.6	4.8
Other activities given specific impetus by the Act (exclusive to the heritage area) – funded from other budgets					
District and Regional Plan changes to recognise/protect WRHA	✓	✓	✓	✓	
Plan Change 36 (Rural Economic Development)			✓	✓	✓
Bethells Walkway	✓	✓	✓	✓	✓
Foothills Walkway				✓	✓
Te Henga Marae project		✓	✓	✓	✓