



Dunedin City Council

Hereweka / Harbour Cone Management Plan

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Photographs: Rhys Millar

1. Introduction

1.1 Preamble

The 328 hectare Hereweka/Harbour Cone property is located in a central position on the Otago Peninsula and straddles the main peninsula ridgeline behind Broad Bay and Portobello. It includes the summit of Peggys Hill, the second highest point on the Peninsula, and Harbour Cone, the most distinctive hill form in the area. The majority of the property falls within two catchments, Smiths Creek on the harbour side and Stewarts Creek on the Hoopers Inlet side.

The primary access and public viewing corridor through the site is Highcliff Road but the property also abuts Camp Road, Sandymount Road and Bacon Street. The property wraps around three sides of Larnach Castle and is adjacent to the Otago Peninsula Trust property on Sandymount Road containing the historic lime kilns.

In common with the rest of the Otago Peninsula, the property is mainly composed of volcanic rocks of the Dunedin volcanic group and the high points of Peggys Hill and Harbour Cone consist of hard basaltic lava flows. Much of the property is underlain by volcanic ash and rubble which weathers readily to clay rich materials. This clayey rubble, together with the loess (wind-blown silt), which also mantles the Peninsula, is responsible for widespread landsliding. There is a small area of sedimentary rock, including limestone, exposed at the southern end of the site near the historic lime kilns. A fault scarp is visible as the eastern face of Peggys Hill. This geology has given rise to steep, rugged topography with plenty of evidence of unstable slopes, slips and slumps.

The property would once have been clothed in native forest but has been cleared for farming. There is now little native forest left and what remains is almost entirely regrowth. Significant patches of bush, however, are present, including six areas identified as having

the potential to be included as Areas of Significant Conservation Value in the Dunedin City District Plan (Wildland Consultants, 2008).

Grazed pasture is now the dominant vegetation cover, reflecting a history of first dairy farming but now largely sheep farming. There is some exotic scrub but in general the property has been well managed and is relatively free of noxious weed species such as gorse and broom.

One of the most striking features of the site is the evidence of more densely settled historic European occupation. This is in the form of derelict houses, drystone walls, tracks and shelter plantings (mainly macrocarpa). The Archaeological Assessment scoping report (Middleton 2008) describes the property as 'a pristine archaeological landscape of historic occupation' that 'has the potential to offer both Dunedin's citizens, as well as tourists, a glimpse of an intact historic landscape typical of nineteenth and early twentieth century settlement on the Otago Peninsula'. The report notes that this relates both to small ten acre dairy farms and also to the larger estate of William Larnach.

The public are drawn to this property as it provides a unique opportunity where access is supported to explore and appreciate the Otago Peninsula interior. Being able to access and enjoy this property and piece together its heritage is a stimulating experience.

The property can provide a range of recreational opportunities, encouraged by the multi-use nature of the tracks (in accordance with the Dunedin City Council Track Policy and Strategy) and the provision of some infrastructure to facilitate access. The property's proximity to the city means it is relatively accessible for many Dunedin residents and for the residents of Broad Bay and Portobello, this property is on their 'back door step' and is a community asset.

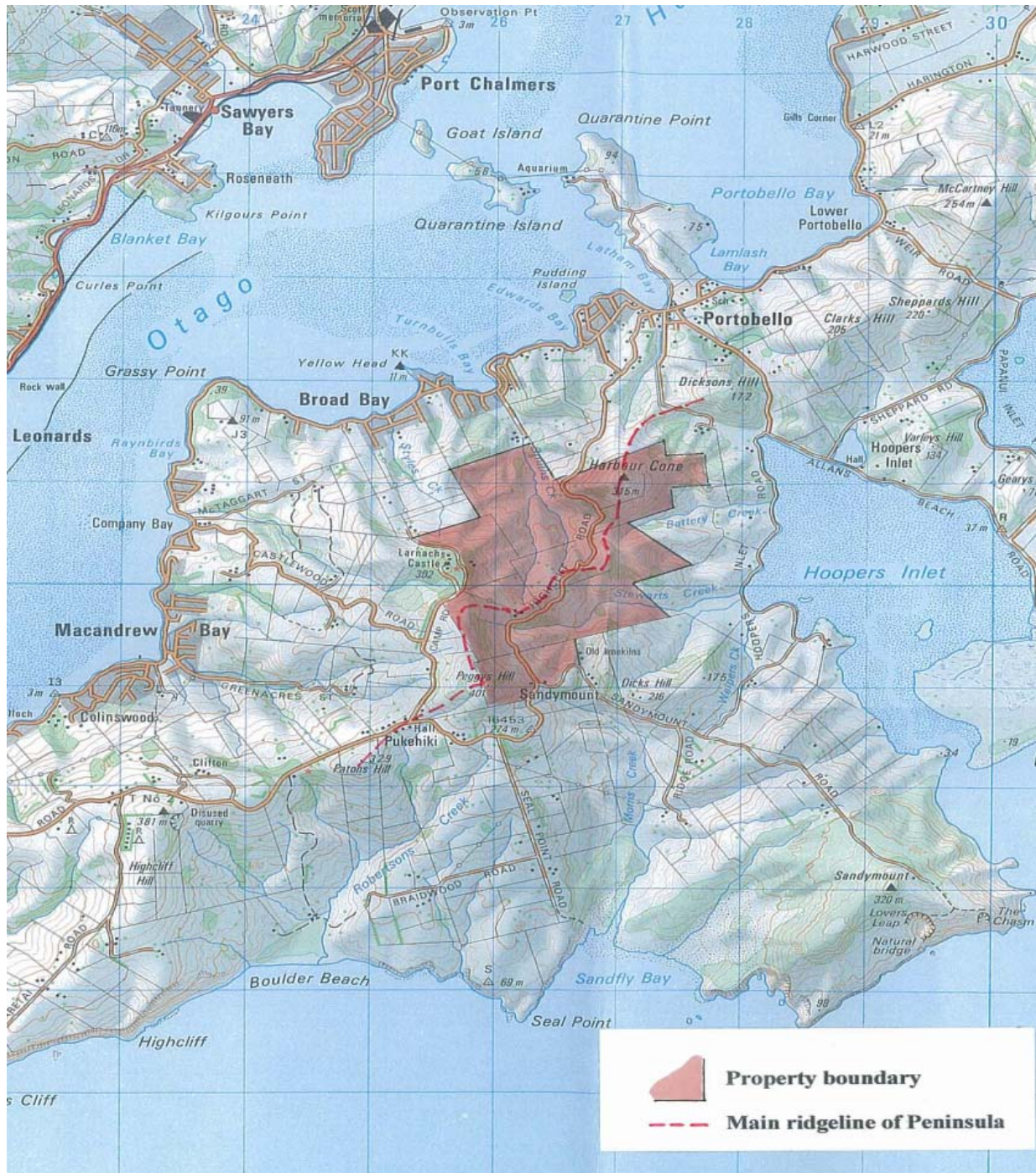


Figure 1: Location

The Hereweka/Harbour Cone property provides an important setting for heightening people's enjoyment, awareness and understanding of environmental, conservation, sustainability and heritage issues and provides tremendous opportunities to explore the role of community-based land use in defining the social and cultural wellbeing of citizens.

The importance of Hereweka/Harbour Cone is due to the following values:

- The history, cultural significance and connection for manawhenua.
- The intactness of the archaeological landscape.
- The outstanding landscape and the significant landforms.
- The areas of significant conservation value.
- The recreational opportunities and the ease of access to open space for Dunedin residents.
- The potential of the property as a place for community learning and as an exemplar of sustainable land management practice.

With so many important and diverse values, it is essential that the management of the Hereweka/Harbour Cone property provides the necessary protection of the natural and cultural values while accommodating appropriate human use.

1.2 Vision

The vision for the Hereweka/Harbour Cone property is:

To maintain the working landscape and enhance landscape, ecological, recreation, cultural and heritage values of the Hereweka/Harbour Cone property.

The vision statement recognises the significant values of the property and provides a direction and framework for the management of the Hereweka/

Harbour Cone property Management Plan, informing the development of the aims, objectives and policies.

1.3 Legal Description

The Hereweka/Harbour Cone property, at 1299 Highcliff Road, has the following legal description:

Certificate of Titles 268/197, 124/180, 124/181, 156/197, 268/188, 268/194, 268/194, 268/195, 268/196, 44/78, 170/139, 14B/1180.

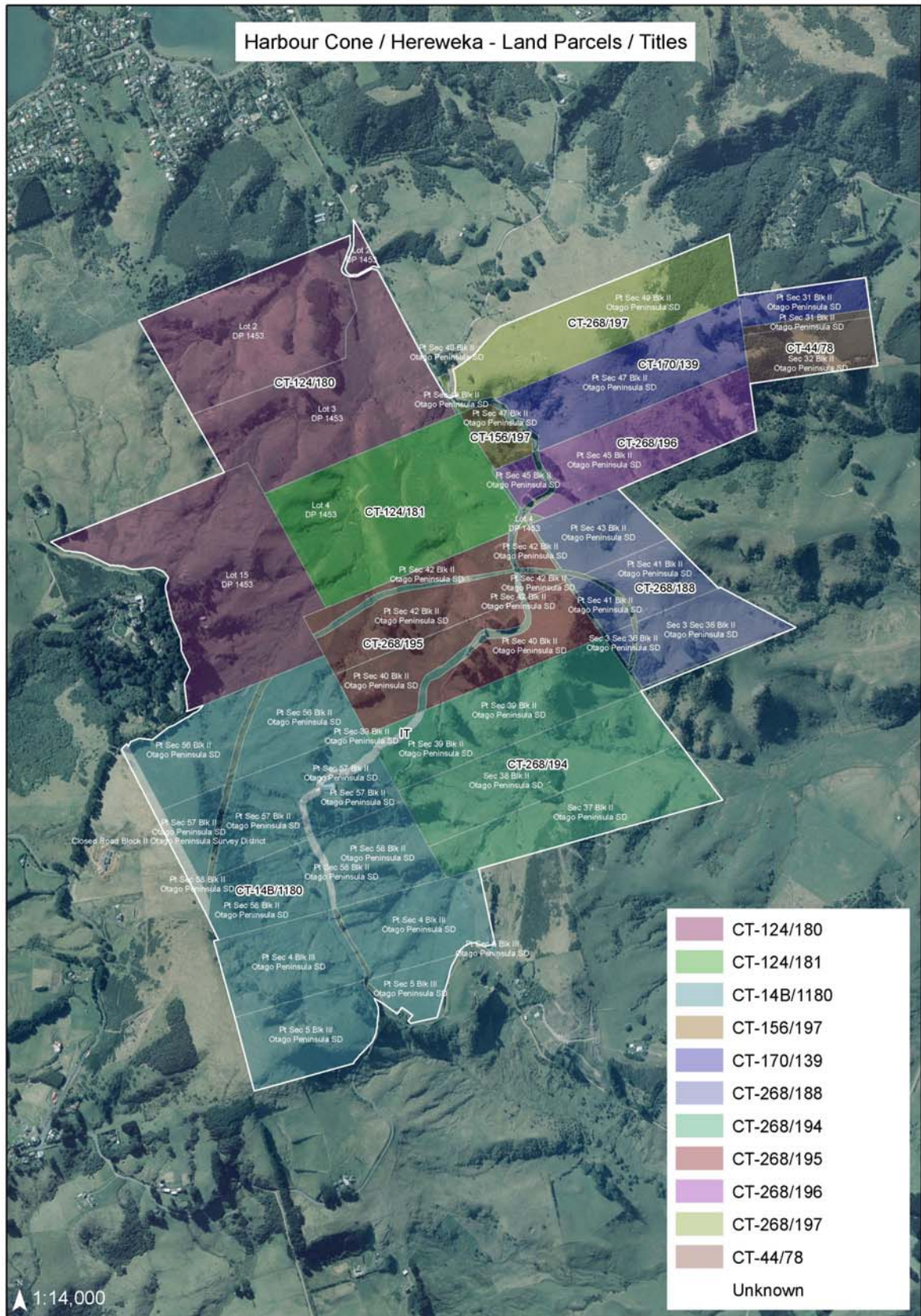
A map showing the parcels and legal Certificates of Title is shown over page.

1.4 Management Zones

The Hereweka/Harbour Cone property is large in size and the protection and enhancement of its values requires considerable resources. Future operational management of the property will be assisted by dividing the property into management zones. These zones will not be managed in isolation from each other, but by breaking down tasks into the various zones, objectives can be achieved more easily as management can prioritise tasks and implement these on a smaller scale.

A basis for dividing the property into five management zones is illustrated in Figure 3.0 overleaf. A description of the Management Zones is provided below in Section 1.5.

Short term management actions and priorities are described and illustrated in more detail in the Hereweka/Harbour Cone Implementation Plan provided in Appendix 9.



1.5 Management Zone Descriptions

The character of the management zones is described below, with an overview of values and management priorities. A more comprehensive list of management priorities is provided in the Hereweka/Harbour Cone Property Implementation Plan.

Bacon Street

This zone takes in the lowest part of Smiths Creek within the property and the adjacent gullies and hill slopes to the west. It contains lowland alluvial flats, gullies and dry hill slope landforms. A strip of kanuka forest occurs along part of the riparian margin of Smiths Creek, with larger patches of kanuka tree-land on hill slopes. These tree-land patches are heavily used by stock. There has been natural regeneration of kanuka on dry hill slopes below the largest tree-land patch. Gorse is scattered through the zone on the hill slopes and forms a scrub with regenerating indigenous forest in places on the northern boundary of the zone. The alluvial flats are covered in pasture and patches of rush-land in wet areas. Wet gully floors are mostly vegetated in rush-land and sedge-land.

The proximity of the community at Broad Bay currently makes the Bacon Street zone a popular place for recreation and enjoying the open space of the rural environment. It has always been popular with local residents, having historically been used by the local community as a site for picnics, or as a destination for Dunedin day trippers.

One marked track currently begins here, leading to Highcliff Road and beyond. In the future, the marking of short circular walking routes within this zone will provide an accessible place for recreational opportunities. A multi-use track that provides for horses and mountain bikes could also begin here.

Its accessibility and sheltered aspect makes this zone an ideal place for community initiatives such as community orchards or ecological restoration projects. Restoration

planting to restore podocarp-dominant forest and indigenous riparian vegetation and trialling best practice to foster kanuka regeneration are two examples of relevant ecological projects that could be instigated in this Management Zone.

Smiths Creek

The Smiths Creek zone occupies the catchment of Smiths Creek below Highcliff Road. It mostly comprises dry hill slope landforms with intervening gullies. Very little indigenous vegetation remains within this zone, which is mostly covered by pasture. There are small patches of dry broadleaved forest in places on steep slopes and in gullies and it is a matter of priority that these are fenced. Stands of exotic trees are common on the margins of the zone, including sycamore, which is spreading into adjacent areas. Hawthorn is scattered throughout the zone, but gorse is at low abundance. The exotic climber Chilean flame creeper is present in some locations. Controlling these weeds is of high ecological priority in this zone.

The land use history of small scale dairy farming is highly legible in the upper slopes of this catchment, due to the uniformity of the pasture cover. This allows the relic shelter plantings, stone walls and building ruins to be highly coherent. The importance of this cultural landscape is also demonstrated by the historic site of Larnach's model dairy farm, which is an important feature in this zone.

The previous clearance of indigenous forest vegetation from these slopes and subsequent farming practice has resulted in the occurrence of widespread erosion. Re-establishing woody vegetation on these slopes is a priority, assisting to slow further erosion and to protect the waterways of this catchment. Linking with potential community initiatives to enhance the waterway in the Bacon Street zone, the gradual revegetation of riparian vegetation up the Smiths Creek catchment could occur over time, providing habitat for indigenous fish species that are present, and as such, for indigenous fauna.

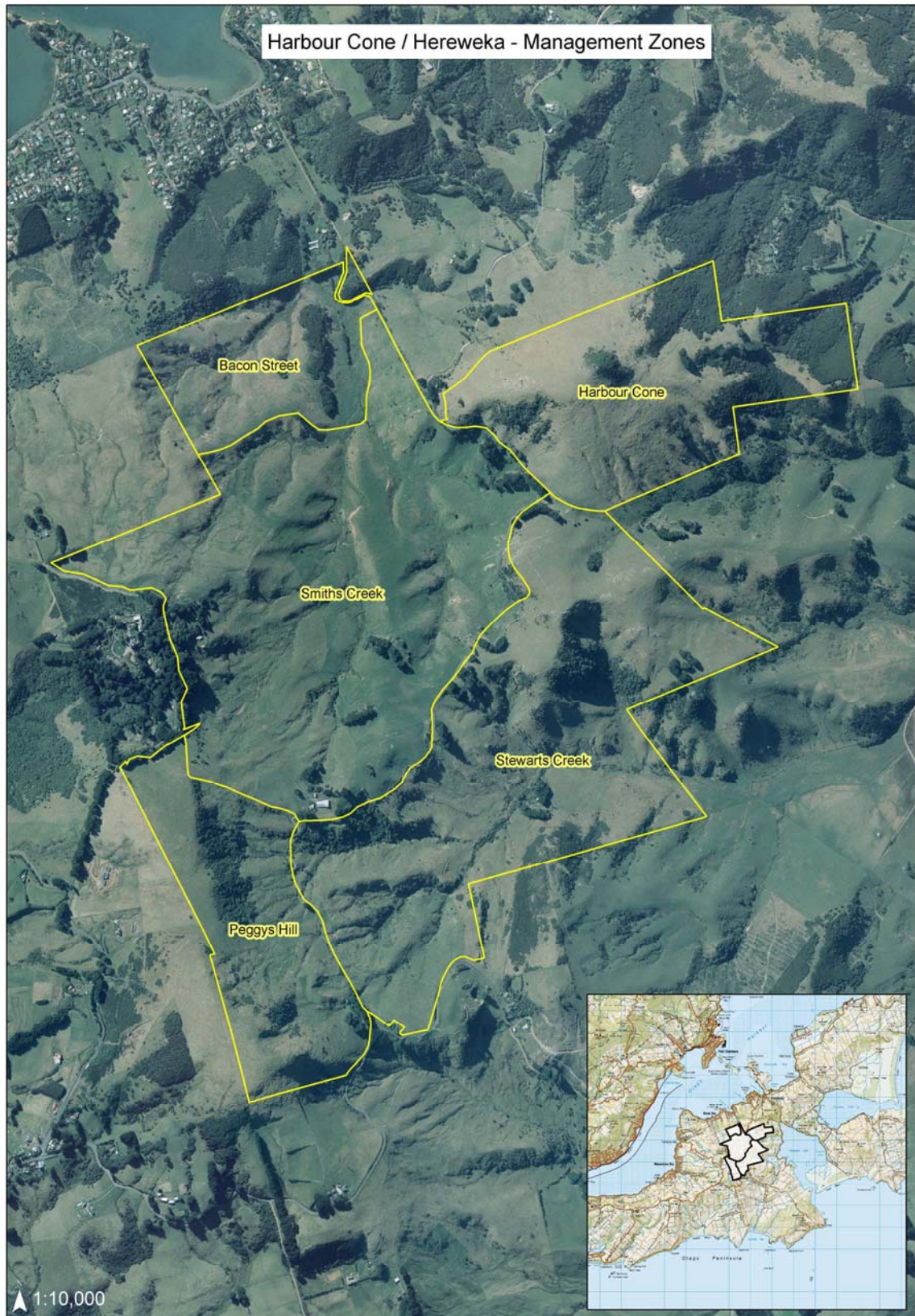


Figure 3: Hereweka/Harbour Cone Management Zones

Establishing small areas of highly sensitive forest management will assist in enhancing biodiversity, protecting waterways and slowing erosion and will provide a framework of woody vegetation that provides context in the pastoral landscape.

The proximity to neighbouring Peninsula settlements makes enhancement of recreational opportunities a priority in this zone. The large open spaces that are devoid of sensitive site-specific biodiversity or historic values means other recreational users, such as horse riders and mountain bikers, have more opportunities here.

The woolshed that sits upon the ridge of this catchment is at the core of the farming operation, strategically placed to both Smiths' catchment and Stewarts' catchment. This strategic area is also a potential site for a future visitor hub that would serve as a place for environmental and outdoor education and provide for some visitor amenities.

Hereweka/Harbour Cone

This zone comprises the summit and moderately steep flanks of Hereweka/Harbour Cone and associated ridges and gully heads to the east, with a predominantly dry hill slope character. The distinctive conical form of Hereweka/Harbour Cone is a major cultural landmark and landform feature with high levels of significance that demand protection from any adverse activities.

Kāi Tahu have a long association with Muaupoko (Otago Peninsula) and the mauka (mountain) of the peninsula Hereweka (Harbour Cone). Hereweka also features in Kāi Tahu oral history as one of the places where Tarewai, a Kāi Tahu warrior chief hid from Kati Māmoe warriors (Kāi Tahu Ki Otago, 2009).

The zone includes two patches of significant indigenous broadleaved forest and the most extensive areas of kanuka forest on the property. The broadleaved forest stands are being adversely affected by stock browse, but kanuka is naturally regenerating in rough pasture on the southern and eastern aspects and

this will ultimately extend the coverage of kanuka forest toward the Harbour Cone summit. Patches (and individual plants) of gorse are commonly found in grassland on the flanks of Harbour Cone, and it is actively invading uphill from the southern margin of the zone. Excluding stock from the broadleaf forests is an ecological priority, combined with restoration planting in the fenced-off gaps.

Hereweka/Harbour Cone already attracts significant numbers of people enjoying the long views across wide valleys, the peninsula and open sea and the physical presence of a rich cultural landscape. Further opportunities have been identified that will allow for existing tracks to connect with neighbouring tracks in Hoopers Inlet and Portobello, providing walking track circuits between the settlements of Broad Bay and Portobello.

Peggys Hill

The Peggys Hill zone takes in steep eastern slopes, terraces and the relatively flat summit of Peggys Hill above Highcliff Road, which have a moist character unlike most of the Hereweka/Harbour Cone property. The eastern slopes are the source of several springs and there are several areas of landsliding instability in this part of the zone. A litter of sub-fossil tree trunks on the summit of Peggys Hill probably represent a former cover of Hall's totara. The zone includes a relatively large and significant stand of moist indigenous broadleaved forest on the eastern slopes and a smaller patch of similar forest further south. Gorse has extensively invaded non-forest habitats on slopes and terraces within this zone and has been subject to an aerial spraying operation that has affected regenerating indigenous trees among the gorse. Pasture covers the remaining areas, apart from isolated exotic trees of macrocarpa and radiata pine.

The largest area of indigenous forest, and a considerable area of grassland on its margins, was recently fenced to exclude stock. An ecological restoration programme has commenced within the fenced area, with the aim of restoring

indigenous forest cover to areas currently covered with pasture. The first plantings were undertaken in 2009/2010 and further plantings are envisaged in 2011. The protection of this site from livestock and the ability for community to participate in the ecological restoration has created a sense of local ownership of both the project and site.

Insulated from the farming operation, this fenced-off area also provides a site for community initiatives such as trialling alternative ecological restoration techniques and building soil organic matter and carbon.

The recently sprayed gorse higher on the slopes of Peggys Hill provides other opportunities to trial ecological restoration techniques such as direct seeding, with subsequent manipulation of grazing practice to encourage biodiversity and protection of this catchment's headwaters.

Marked tracks will provide opportunities for people to access the ridgeline of Peggys Hill and to appreciate the 360-degree views over the Peninsula and surrounding sea. A steep track will also lead down into the Stewart's Creek Management Zone, incorporating an edge of the large broadleaved forest and the active ecological restoration project that is underway, providing further public exposure of the property's values and the community initiatives that are underway.

Stewarts Creek

The Stewarts Creek zone is centred on the catchment of Stewarts Creek below Highcliff Road. At a lower elevation, Stewarts Creek passes between narrow alluvial flats, but in general the zone is occupied by steep slopes, apart from gentle topography in the head of Battery Creek. The upper tributary of Stewarts Creek below Peggys Hill has a moist forest character, but most of this zone is covered by dry hillslopes. The predominant cover of the zone is pasture but it also includes significant stands of moist and dry indigenous broadleaved forest and scattered smaller stands of indigenous forest and shrub-land. Moist forest occurs only in the upper

catchment below Peggys Hill. Elsewhere, hill slopes support forest that is dry in character, with frequent kowhai in the canopy. Gorse is widespread and has been subject to aerial spraying operations in places. Almost continuous linear strips of gorse scrub occupy the low elevation riparian margins of Stewarts Creek. Small rock outcrops are present in places and there are scattered groves of tall macrocarpa and radiata pine. The moist indigenous forest remnant has been fenced to exclude stock and its margins are subject to the same indigenous restoration programme as described above for the Peggys Hill zone.

Further removed from the settlements of Broad Bay and Portobello, the Stewarts Creek zone exudes a sense of rural remoteness. The presence of archaeological sites, including the lime kilns on a neighbouring property, the ruinous standing house of the Stewart family and the ruins of the enclosed Rutherford's farmstead, strengthen the significance of this area. Rutherford's road, consisting of a complex of stone features, is still formed and useable, providing an auspicious beginning to recreational journeys for people wanting to explore the Peninsula's past. Combined with the strong physical landforms and natural vegetation of this zone, it is a place for encouraging human interaction and reflection.

The ecological restoration project that began in this zone in 2010 is the basis of further restoration activities that centre on the waterways of this catchment. Stock exclusion from the riparian margins of Stewarts Creek, accompanied by restoration planting, will create a strong vegetative framework in this catchment that enhances freshwater values and habitat for fauna. The accessible and relatively flat valley floor of the Stewarts Creek catchment makes it a suitable site for consideration of native tree woodlots that serve to provide timber products, protect waterways and enhance biodiversity. These highly sensitive forest management operations form a part of the ecological restoration.

2. Purpose of the Management Plan

The whole-of-property management plan for the Hereweka/Harbour Cone property provides a policy framework that serves to strategically integrate the multiple objectives that the Dunedin community has for this property. It is a document for all stakeholders involved in the use of the property, including those charged with managing the property and other local stakeholders implementing conservation, heritage or cultural projects.

Future decision-making will be guided by this Management Plan, ensuring that the management and enhancement of the property is based on sound principles. This Hereweka/Harbour Cone Management Plan will also ensure that all activities and enhancements align with the values of the property and the stated aims/objectives and policies within this Plan.

The Management Plan provides guidance and direction on the following key issues:

- Minimising potential conflict between the property's values and various uses of the property.
- Facilitating public access to and through the property for a range of users and uses.
- Facilitating appropriate community use of the property.
- Minimising the provision of infrastructure but ensure that it is adequate to protect and enhance values.
- Ensuring existing infrastructure is compatible with the property's values and, if not, implement ways to mitigate or remedy negative effects.
- Ensuring new infrastructure is compatible with the protection of the property's values.

- Considering the use of existing buildings to enhance the property's values.
- Ensuring long-term visitor accessibility and enjoyment of the property's values.

The Management Plan will help to inform the future legal status of the property, as well as the ownership and governance structure. This Management Plan has been prepared to be consistent with the Reserves Act 1977, but as no decision has yet been made whether to gazette the property, it remains unbound by the restrictions of this Act.

2.1 Development and Management Options

In January 2008, the Dunedin City Council approved purchase of the 328 hectare property on the Otago Peninsula that has become known as Hereweka, or Harbour Cone. The Council purchased the land to protect its significant landscape, ecological, heritage and cultural values and in recognition of its potential recreational and tourist values.

In June 2009, in seeking to understand the potential options for recouping some of the purchase price of the property, the Dunedin City Council commissioned consultants to prepare a report to explore how a range of development options would impact upon the values of the property.

Millar and Moore (2009) developed and explored six options for consideration. Each option was considered to conform to the Council's vision and guiding principles for management of the property to varying extents, while attempting to provide for some recouping of the costs associated with purchase and ownership.

The options were as follows:

- Option 1: Protect the values, subdivide as provided for in the District Plan and sell.
- Option 2: Protect the values, subdivide as provided for in the District Plan and sell part of the site, retaining the remainder in public ownership.
- Options 3, 4, 4a and 4b: Retain most of the site in public ownership, but suggest subdividing and selling various discrete parcels.

Each of the options listed above were assessed for their performance against the vision and guiding principles, as well as the requirements to recoup or minimise financial costs where possible. The criteria used were as follows:

- Does the proposal maintain or enhance the natural environment values?
- Does the proposal maintain or enhance the visual landscape values?
- Does the proposal maintain or enhance the cultural/historic heritage values?
- Does the proposal maintain or enhance the recreational values?
- Does the proposal maintain or enhance the economic values?
- Does the proposal maintain or enhance the social values?
- Does the proposal contribute positively to management of the Otago Peninsula environment generally?
- What are the financial implications for Council?

In summary, Options 1 and 2 proposed subdividing the property into small holdings and relied on management of the effects of private ownership and compliance by the new owners to sustain the identified values of the

property. Subdividing and selling the lots would recoup a significant proportion of the purchase costs and minimise ongoing management costs to Council, but would also involve considerable impact of new buildings and associated infrastructure in the landscape. The report concluded that the fragmentation and the associated private ownership of the property did not fit with vision for the property and did not provide sufficiently for sustaining the identified values.

Options 3, 4, 4a and 4b proposed retaining the bulk of the property under a single ownership structure, emphasising flexibility and responsiveness to site character and placing emphasis on the regeneration and enhancement of the values of the property. In retaining a significant asset, Options 3 – 4b protected potential future recreational, economic and social opportunities. It was also considered that ownership by and for the public would enhance opportunities for community involvement and benefit.

The report concluded that Option 4b was the best of these options on the basis that it provided the best balance between environmental protection and enhancement and recouping of costs. Option 4b proposed retaining most of the property in public ownership to continue to be managed as a working farm and to protect and enhance its values. To assist with recouping of Council's purchase and ongoing management costs, housing was identified as being appropriate in areas where it was considered that they would have a low impact on the values of the property. Proposed areas for subdivision to provide for residential use were kept as small as practicable to minimise impacts on the farming operation.

Option 4b proposed three areas that could potentially be subdivided and sold.

- (i) A cluster of five dwellings at the northern edge of the property accessed from Bacon Street, with a sixth lot included that encompasses a large wetland area. This sixth lot of the 'Bacon Street cluster' would be jointly owned and managed by

the owners of Lots 1-5, and restoration of its natural values would be prescribed.

- (ii) Two sites at the end of the formed section of Camp Road.
- (iii) Two sites at the southern edge of the property off Sandymount Road. These sites were considered acceptable in the rural landscape, with strict design and appearance controls imposed on the basis that they are in relatively recessive locations or would be seen in the context of existing loose clusters of dwellings.

Option 4b also included provision for a heritage tourism venture based on Larnach's model farm. This expanded lot provided for a building site for the purpose of facilitating a small scale dairy farming operation as part of a heritage tourism venture. The management option is shown on the map in Appendix 5.

In reviewing the development and management options, the Council agreed that Option 4b was the preferred option; however it considered that the Larnach's model farm should stay in public ownership and should therefore be removed from any development option.

At its meeting on 15 June 2011, the Community Development Committee resolved that the Bacon Street Cluster was inconsistent with the management aims of the Plan and that Option 4b without the Bacon Street Cluster be approved for public notification.

At the Hearing, the Committee agreed with a significant number of submissions that the proposed subdivision on Sandymount Road could not be done in such a way that it was in line with the vision of the Management Plan, as it was a visually prominent site. It was therefore decided that the Sandymount Road subdivision proposed in Option 4b be removed from the final management option. It was considered that one small lot on Camp Road Lot could possibly be subdivided and sold at some future point.

The development option that has been adopted for Hereweka/Harbour Cone retains most of the property in public ownership with only one small area being potentially available for subdivision and disposal at some time in the future. This development would need to be assessed against the rest of the policies in the Management Plan at the time of implementation.

2.2 Process for Developing the Management Plan

The process of developing the management plan has identified priorities, assisting to resolve any uncertainty and potential conflict over various uses and expectations. The needs of the key stakeholders and the public have been clearly identified through their involvement in the process of developing the plan.

The process for developing this management plan involved extensive community participation. A public workshop started the planning process, providing an opportunity for all members of the community to contribute their ideas and aspirations for the property. Attracting 60 people, this full-day event generated a diverse range of objectives for the Hereweka/Harbour Cone property.

The second stage of the planning process involved the establishment of four working groups based upon four themes – heritage/cultural values, recreation and visitor use, land use and food production and ecology. Each working group met on two or three occasions to discuss the objectives for each theme. The membership of each working group consisted of community representatives and expert representatives of statutory authorities, local government, independent consultants and non-government authorities. Facilitated by the consultants employed to develop this Management Plan, these meetings provided a venue for filtering the ideas that had come out of the community workshop and subsequent debate about important issues. Complementing the

work completed by the working groups was the extensive advice provided by the contracted consultants, Forest Environments Limited, L&R New Zealand Limited and Wildlands Ecological Consultants.

Dunedin City Council staff then reviewed the management plan, providing constructive feedback from the perspective of Council as land owner and current manager. The consultants employed to develop this management plan then presented the draft plan to the Hereweka/Harbour Cone Steering Group and then to an open public meeting. These two events provided opportunity for further community input prior to the final draft being submitted to the Council.

To complete the process, the Dunedin City Council embarked upon formal consultation under the Local Government Act 2002. The process involved a submission period of a minimum 20 working days, followed by a hearing, decision on submissions and then adoption of the final Management Plan.

2.3 Consideration of Other Documents

Reserve management planning does not occur in isolation, as there are other broader documents that guide it. In developing this Hereweka/Harbour Cone Property Management Plan, the statutory Dunedin City District Plan is relevant. The Hereweka/Harbour Cone property is within the Rural Zone of the Dunedin City District Plan and is also covered by two Landscape Management Areas, the 'North West Peninsula Landscape Conservation Area' to the north of the main peninsula ridge and the 'Peninsula Coast Outstanding Landscape Area' to the south. Landscape management rules apply to these areas which seek to control 'principal threats' and 'other threats' as identified in the District Plan. All activities not specifically referred to in the Landscape Management Areas are classified according to the rural zoning of the land. Five potential areas of

significant conservation value have been identified, but not yet formally recognised, within the District Plan (Wildlands, 2008 a-e).

The Reserves Management Plan – General Policies was also used to inform the development of this management plan and is the default document for any scenario not covered in this Hereweka/Harbour Cone Property Management Plan. The General Policies cover all basic issues of the day-to-day administration of parks and reserves in Dunedin.

The Resource Management Act 1991 (RMA) in particular is relevant and provides overall direction in terms of sustainable management. The Management Plan must be consistent with the RMA, including documents prepared under the legislation such as the Dunedin City District Plan (2006) and the Kāi Tahu ki Otago Natural Resource Management Plan (2005).

Other legislation also has implications for the management of this property. These include the Reserves Act 1977, Historic Places Act 1993, the Conservation Act 1987, the Wildlife Act 1953 and the Ngāi Tahu Claims Settlement Act 1998.

The Ngāi Tahu Claims Settlement Act includes a number of mechanisms to recognise and give practical effect to Ngāi Tahu mana over taonga resources and areas of land and water. These mechanisms include statutory acknowledgements. A Statutory Acknowledgement is an acknowledgement by the crown of Ngāi Tahu cultural, spiritual, historical and traditional association with identified areas (Appendix 7).

All archaeological sites in New Zealand are protected under the Historic Places Act (1993). An archaeological site is any place where pre-1900 human activity has occurred and which can be investigated through archaeological methods. Forty-two historical sites and structures within the Hereweka/Harbour Cone area are known and recorded on the NZ Archaeological Association Site Recording Scheme (Walton 1999;

Middleton 2008) but, as yet, not within the Dunedin City District Plan.

Other non-statutory sources of information have been referenced in the bibliography of this document.



3. Hereweka/ Harbour Cone Property Values

3.1 Landscape and Land Use Values

The high elevation of the Hereweka/Harbour Cone property, and its position as a backdrop to many surrounding areas, contributes significantly to the quality and sense of place that it provides to the wider Otago Peninsula landscape. The distinctive conical form of Hereweka/Harbour Cone is a major landmark and landform feature with high levels of significance. It appears in numerous artworks and has been described as an iconic part of Dunedin's landscape.

The uniform pasture cover, characteristic of the property, allows the character of the natural landform to show through clearly and allows rocky outcrops and remnant stumps from the previous forest cover to be seen. The natural landform is highly expressive of its history of volcanism and erosion. The remnant bush areas coinciding with the steepest or wettest areas, unsuitable for grazing, reflect the landform patterns and enhance the naturalness of the landscape.

Likewise, the land use history of small scale dairy farming is also highly legible, again, largely due to the uniformity of the pasture cover. This allows the relic shelter plantings, stone walls and building ruins to be highly coherent.

The pastoral farming management regime is the process that maintains the current landscape pattern and character. It is important that appropriate pastoral use continues to maintain the large scale openness and character of the landform, whilst assisting with the delivery of a wider range of ecosystem benefits.

One of the greatest values of the property is its potential to implement and demonstrate a new model of land use that demonstrates multi-functionality. Multi-functionality aims to deliver a wide range of benefits. For this Hereweka/Harbour Cone

property, these benefits include food, landscape character, clean water, flood protection and water management, wildlife habitat, protection of cultural features and strengthened relationships with local communities.

As a community asset, the Hereweka/Harbour Cone property provides a tremendous opportunity to explore the role of community-based land use in defining the social and cultural wellbeing of citizens. In a carbon-constrained world, health, closeness to nature, open space and consuming and recreating locally have greater significance for land use management than previous priorities such as global commodity production and maintenance of vistas. In the multi-functionality model, these opportunities are not exclusive of one another but are a part of a functional and interactive landscape.

This property provides an important setting for heightening people's enjoyment, awareness and understanding of environmental, conservation, sustainability and heritage issues. Community members should be encouraged to explore initiatives that will assist with the enhancement of the property's values and that deliver benefit to local communities.

3.2 Ecological Values

The Hereweka/Harbour Cone property contains five patches of indigenous forest that have been assessed as being ecologically significant (Wildland Consultants 2008 a-e). Two of these patches occur on Harbour Cone, two in the upper part of Stewarts Creek, and one on the northeast face of Peggys Hill. Additional stands of kanuka treeland and forest occur in the northern part of the property, and are adjacent to more extensive areas of indigenous forest on adjoining properties (Appendix 1). Smaller patches of broadleaved forest and shrub-land are scattered across the property.

A number of locally important and nationally 'At Risk'¹ indigenous species are present on the Hereweka/Harbour Cone property and the property provides important moist forest habitat that is atypical of the Otago Peninsula. This habitat also supports a high diversity of indigenous fern species.

Indigenous forest on the property provides important food sources for indigenous avifauna and the forest remnants are important components of the network of small indigenous forest remnants in this part of the Otago Peninsula. Proximity to relatively large areas of indigenous forest centred on adjacent land at Dicksons Hill and the lower northern and eastern flanks of Hereweka/Harbour Cone will allow for flows of indigenous flora and fauna between these habitats and the areas of forest habitat on Hereweka/Harbour Cone.

The lower part of Smiths Creek supports five indigenous fish species and, as such, is a significant habitat for indigenous fauna. Streams on the property are in relatively good condition; however, there is potential for further improvement in terms of riparian management and removal of barriers to fish passage.

The main threats to features of ecological values of the property are stock browsing and weed invasion. Two of the significant forest patches have recently been fenced to exclude stock, but the remaining forest patches remain open to stock and are declining in condition as a result. Woody weeds are present in most indigenous forest patches and require control. There is considerable scope for restoration of indigenous vegetation on the Hereweka/Harbour Cone property and this has commenced within the recently-fenced areas. Additional indigenous restoration works should be prioritised to areas where the ecological benefits of restoration are high.

3.3 Cultural Values

Kāi Tahu have a long association with Muaupoko (Otago Peninsula) and the mauka (mountain) of the peninsula Hereweka (Harbour Cone). Permanent settlements occurred around the coast due to reliance on the sea as a means of transport and for the availability of kai moana and fish. Places for mahika kai, where food resources could be produced or procured, around Muaupoko were numerous. The tidal bays of the peninsula provided excellent tuaki (cockle), pātiki (flounder) and pāteke (duck). Other species caught by netting included red cod (hoka) and leather jacket (kōkiri/puamorua). The kake (female sealion) was sought from December to May, as was the whakahao (male sealion).

The practice of mahika kai, moving seasonally to gather food and tool-making resources from throughout the rohe (area), was a distinct feature of the lifestyle of Kāi Tahu tupuna (ancestors). The name Hereweka, a literal translation of which would be 'catch weka', refers to the place on the peninsula where the food resource of weka was found. Another suggested possible meaning of Hereweka is 'swift weka', also a reference to the birds that were once a plentiful food source.

Hereweka also features in the 'Tarewai tradition', captured in the oral histories of Te Rūnanga o Otākou and in published works. The story is told that, following an incident near the pyramids in the late 1700's, Tarewai, a Kāi Tahu warrior chief and several of his men were taken prisoner by Kāti Māmoe. The warriors were killed, while the wounded Tarewai made his escape into the surrounding dense bush. Hereweka has been identified in one account as the mauka site where Tarewai hid in a cave tending his wounds, recovering to remain a threat to Kāti Māmoe for many years.

There are numerous other Māori archaeological sites recorded on the Otago Peninsula around Hereweka including Little Papanui, a large village as evidenced by the abundance of moa and seal remains and richness of

¹ de Lange P.J., Norton D.A., Courtney S.P., Heenan P.B., Barkla J.W., Cameron E.K., Hitchmough R., and Townsend A.J. 2008: Threatened and uncommon plants of New Zealand (2008 revision). *New Zealand Journal of Botany* 47: 61-96.

artefact collections, Hoopers Inlet, Papanui Inlet and Papanui Beach, Pipikeratu, Taiaaroa Head (Pukekura) and Tarewai Point. Material from several sites has been reported, including seal, moa, small birds and fish.

Kāi Tahu sites are continually appearing around the peninsula coastline as erosion takes place. For example, a recent excavation at an eroding site at Sandfly Bay uncovered a small wrapped bundle of bird spears.

Much of the landscape of Muaupoko is dotted with sites of significance for Kāi Tahu. Although there may not be any identified sites within the Hereweka/Harbour Cone property to date, particular sites or places did not function in isolation from one another. All places were part of a wider cultural setting that included not only site as defined by the presence of archaeological remains, but all manner of highly valued places that were named by the earliest inhabitants of the area.

3.4 Historic Values²

The post colonial/pakeha historic value of the Hereweka/Harbour Cone property is the intact archaeological landscape, typical of nineteenth and early twentieth century settlement on the Otago Peninsula. This early colonial settlement relates to small ten acre dairy farms and also the larger estate of William Larnach.

The 1844 Otago purchase from Ngāi Tahu included most of the Peninsula to Taiaaroa Head (Pukekura). The Hereweka/Harbour Cone property was then subdivided into land titles in 1863 and many of the stone wall features on the property are boundary walls constructed along these first survey lines.

At the time of the 1863 subdivision, heavy bush covered the landscape. The first European settlers cleared the land to establish farming pasture. The

community consisted principally of small family dairy holdings. During the days of early colonial settlement, the family economy was dependant on producing butter from the daily milk. Farmsteads often consisted of a dairy as well as a cow byre for over-wintering cows. It was a subsistence economy, with perhaps twelve cows, a flock of hens and a few pigs, some of which would be sold to the butcher when large enough and with gardens producing other food for the family.

At the beginning of 1892, the Sandymount creamery opened and farmers took milk to this factory, which in turn was taken into a central factory in Dunedin where the milk company produced butter. The daily visit to the Sandymount creamery must have been a focal point for interaction in the community, as well as taking a large amount of time out of the day, as for many of the farmers, transporting the milk was often slow and sometimes difficult.

In the late nineteenth century, four dairy factories were working on the Peninsula. When the Sandymount creamery was operating at its peak, there were 30 dairy farms in the area, but by the close of this period, only six remained as sheep farming gradually replaced the dairy herds.

The Hereweka/Harbour Cone property boundary encases the upper reaches of Sandymount Road, where much of the Harbour Cone community's infrastructure and industrial activity was found. Further west, towards Dunedin at Pukehiki, other important community structures were located, such as the drill-shed and the Pukehiki Presbyterian Church.

Two of the limestone kilns, the site of the Sandymount School and the Sandymount creamery lie outside the property's boundaries but played an important role in the community. Two other sites within the property's boundaries are the Sandymount post office and a lime crushing plant.

William Larnach began buying land on the Peninsula in 1870 and by about the

² (Extracts from the 'Harbour Cone Project – Archaeological Assessment for the Dunedin City Council; Angela Middleton, November 2008)

mid 1880s had developed the "Camp Estate". This estate covered not only Larnach's original purchases in the area, but also the smaller sections of land originally granted by the Crown to earlier settlers and then amalgamated by Larnach. The Camp Estate included the castle and associated buildings and the farm buildings.

Within the Hereweka/Harbour Cone property boundary is Larnach's "Model Farm" (replacing an original steading) which was accessed through a grand arched entranceway and consisted of a byre, stable, barn and dairy and the farm manager's house. Constructed as a model of the ideal dairy farm, this must once have formed the heart of Larnach's self-sufficient farming operations.

Larnach is also likely to have constructed, or to have employed stone masons to build, some of the stone boundary walls. He also pioneered the use of wire fencing. Following William Larnach's death in 1898, his son Douglas and a solicitor sold off parts of the estate to other local landowners.

3.5 Recreation and Public Appreciation Values

The Hereweka/Harbour Cone property is considered special by many local Otago Peninsula residents and the wider Dunedin community. Its open landscape, elevated position and location on the Otago Peninsula are all key aspects of its public appeal.

Dunedin residents are proud of the Otago Peninsula landscape. The public are drawn to this property as it provides a unique opportunity where access is supported to explore and appreciate this area. This large property, with big open spaces of rural character, grazing stock and with few modern developments, also adds to its value. From the higher areas on the property, the views over large parts of the peninsula interior, inlets, coastline and open sea are undeniably spectacular.

The uniqueness of this property is also in its crumbling stone constructions and walling and big macrocarpa trees. On closer inspection historic roads, homes, property boundaries, hedge rows, orchard trees and a past settlement emerge from the landscape. This property and surrounds tell a story of early colonial settler life on the Otago Peninsula and the links with early colonial Dunedin. Being able to access this property and piece together its heritage is a stimulating experience.

The proximity of this property to the city means it is relatively accessible for many Dunedin residents. For the residents of Broad Bay and Portobello, this property is on their 'back door step' and is therefore a community asset.

The property can provide a range of recreational opportunities. Such use is and will be encouraged by the multi-use nature of the tracks and the provision of some infrastructure to facilitate access. Public access through the property is focussed on protecting the property's values while enabling a wide range of users an enjoyable experience.

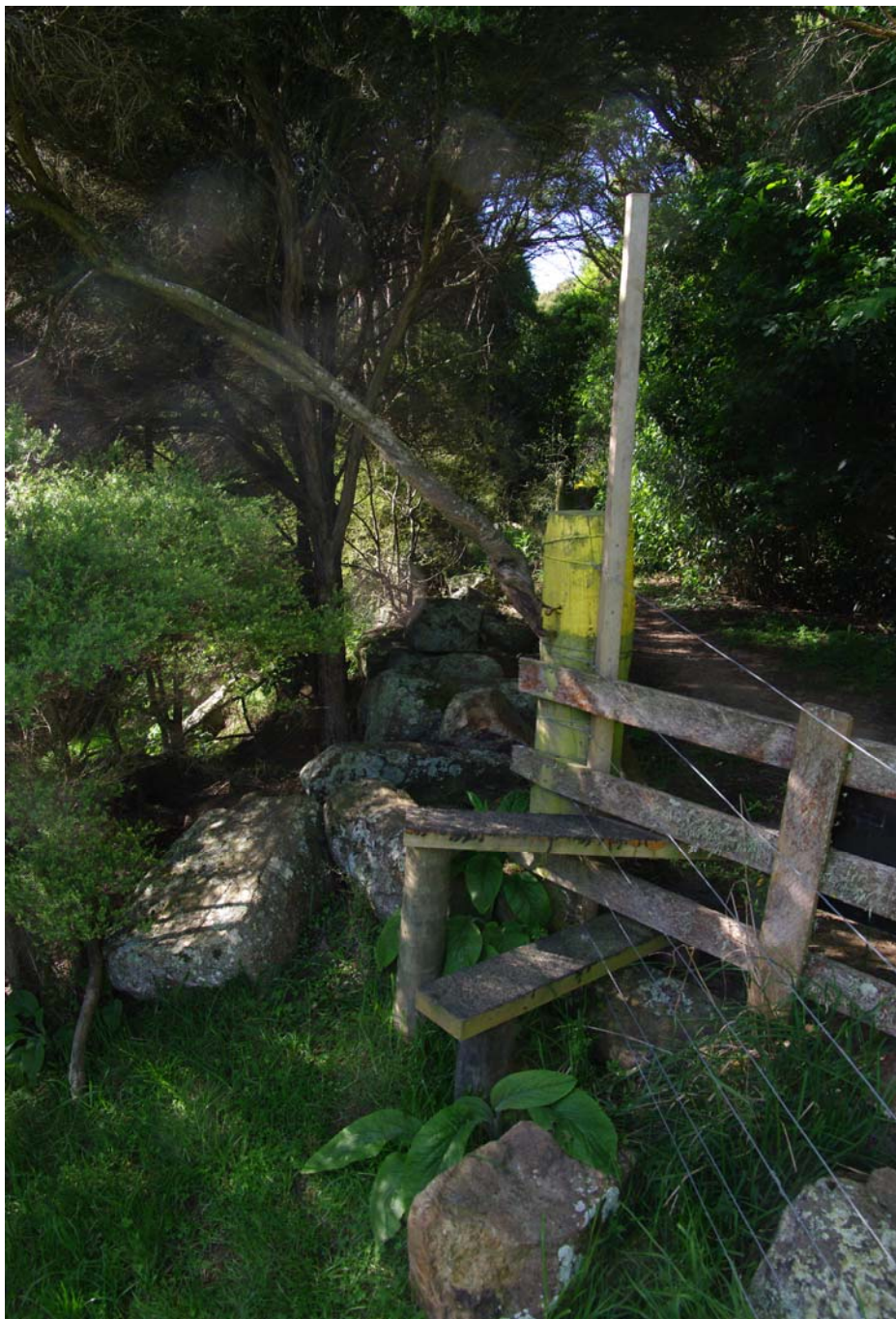
The large, open, flatter spaces on this property are suitable for passive activities. The proximity of these areas to the property's entrances, views and sites of interest, means that this property can easily satisfy people with reduced mobility or those with limited time to explore. In contrast, the steep hillsides and the network of tracks provide for users seeking a more physical challenge and an extended experience.

Supporting access and use of this property by the local and wider Dunedin community is important. Access provides an opportunity to learn about and appreciate the significant landscape, heritage, cultural and ecological values of the property.

The size of the property and quality of landscape where people can recreate, and participate in community initiatives and the enhancement of values, can contribute to the quality of life of visitors. The public use of the property and an understanding of the property's

values can create a community focal point and, in recognising the importance of publicly accessible land and shared community resources, will help to develop a collective sense of stewardship.

The presence of Hereweka/Harbour Cone, the open rural countryside, a rich cultural landscape and long views cross wide valleys, the peninsula and open sea, not only gives the visitor a sense of solitude, but a sense of exhilaration in being somewhere of significance.



4. Management of the Hereweka/Harbour Cone Property

4.1 Aims, Objectives and Policies

The aims, objectives and policies within this Management Plan have been prepared in terms of the Hereweka/Harbour Cone values and vision statement and other relevant guiding documents listed in the bibliography.

Success in managing the Hereweka/Harbour Cone property will be in being able to balance the protection of cultural and natural values of the property, while encouraging land use activities and the active participation of the community in its use.

When development and enhancement projects are being considered for specific issues and areas of the property, it is important that the policies within this management plan are interpreted in a holistic manner considering the property as a whole. Individual objectives and policies should not be read in isolation and must be implemented and applied consistently with reference to all of the plan's objectives and policies.

Management Aims

The aims of this Management Plan represent the long-term vision for the Hereweka/Harbour Cone property. Management aims complement the vision statement for the Hereweka/Harbour Cone property, providing a framework within which any future proposals for enhancement, or any other form of action which may impact on the property, can be considered.

The aims of this Management Plan reflect the expectations for the management of the Hereweka/Harbour Cone property. Aims are written as statements of outcome to allow the property to be assessed/measured/monitored against the achievements in future.

Management Objectives

The objectives of this Management Plan specify the means necessary to achieve the aims. 'Objectives' explain what the management intends to do. They are oriented towards action and provide the basis for developing specific policies on matters that the Council or the authorised governing body will likely need to address.

The objectives are used to assess the suitability of all activities and to identify the conditions/mechanisms required to maximise benefits and to minimise adverse impacts.

Management Policies

The policies are the means by which objectives are achieved – ie how to implement the objectives. Over time, as certain specific objectives are attained or require change, relevant policies will also be amended. The policies guide all future aspects of the property and provide the framework for continuity of management.

5. Governance, Administration and Legal Protection

The Hereweka/Harbour Cone property was purchased by the Dunedin City Council to protect its significant landscape, its ecological, heritage and cultural values and in recognition of its potential recreational values.

This Management Plan has been prepared as if it were a reserve managed by the Dunedin City Council and hence as if it were a reserve under the Reserves Act 1977 (eg authorities for leases). However, as no decision has yet been made whether to gazette the property, it remains unbound by the restrictions of this Act. As a consequence, the property is currently not protected as a community asset in perpetuity.

There are options for the governance of this property that protect the whole-of-property or specific sites for future generations. The whole property (or parts thereof) could be gazetted as a reserve under the Reserves Act 1977, which allows the administering body [Dunedin City Council], a voluntary organisation or a Board to control and manage a reserve. Activities such as recreation, heritage conservation, biodiversity enhancement and community initiatives would be permitted activities depending on the type of reserve classification and the purposes of the reserve listed in the gazette notice.

The Reserves Act 1977 also permits the control and management of land that is not a reserve by an administering body that is not the controlling authority. Other forms of site-specific protection could include QEII National Trust covenant protection of sites of significant conservation value.

If the property is to remain fee simple in the long-term, it will be necessary to legalise the access (in the form of easements) throughout the property to ensure the ongoing protection of community access.

Protection mechanisms such as covenants and public access easements should be considered in more depth if the Council should ever consider sale of the property, ensuring protection in perpetuity.

Any disposal of part of the property, including boundary adjustments, can be considered if they are consistent with the objectives of this Management Plan and the land's legal status. Section 2.1 of this Management Plan discusses the development options that have been considered by the Council as being appropriate for this property. Any disposal of the previously identified site at Camp Road needs to be assessed against the objectives of this Management Plan prior to initiating any disposal process, ensuring that the values of the property are not significantly affected. Public consultation will form a necessary part of any disposal process.

Given the popularity of the site and the ethos of stewardship for this property already evident in the local and wider Dunedin community it is considered preferable that, irrespective of ownership status, a Management Board is established that works with the Dunedin City Council to manage the property and administer this Management Plan. A Memorandum of Understanding developed between the Dunedin City Council and the Management Board would establish how this property is to be administered, giving due consideration to this Management Plan. The structure of the Management Board would need to be considered, but is likely to consist of community representatives who have governance experience and appropriate technical experience.

The Management Board would strive to continuously steer towards achieving the vision and aims of this Management Plan, making sure the day-to-day activities and management are always

aligned with the objectives and policies of this Management Plan. The Board members will articulate and promote the values of the property.

Management will meet on a regular basis to consider proposals for activities or enhancements, to be updated on issues (eg enhancement progress/wildlife monitoring/research/etc.), review financial management, to monitor the implementation of this plan, to authorise applications for funding and to determine future planning priorities.

Some aspects of the implementation of this Management Plan will likely require financial resources and input and expertise from relevant Dunedin City Council staff. The Management Board will actively source funding to implement this plan, though it is recognised that funding options will remain limited if the property remains under Council ownership.

Alternatively, the property could be vested with an independent charitable trust, removing the Dunedin City Council as administering body of the property but with a likely Council representative appointed to the Trust's Board. The charitable trust, whether already existing or created specifically to manage the Hereweka/Harbour Cone property, would both own and manage the property. This Management Plan would need to be updated to reflect this new ownership status.

A charitable trust is at an advantage in its ability to more easily secure contestable public funds to assist with the enhancement of the property. This needs to be weighed up against the ability of the Council to contribute consistent levels of expenditure to the property, albeit at maintenance management levels rather than at levels which will allow significant capital works to occur. Alternatively, if vested in a trust, the Council could commit to a long-term Memorandum of Understanding (MOU) that ensures a commitment to contributing annual funds to enable the delivery of core services, such as track maintenance. The Trust is then able to focus fundraising efforts towards obtaining

funds for biodiversity restoration, heritage restoration and other high-cost operations.

Regardless of the management and ownership structure adopted, management of the property will be in accordance with this Management Plan. This Management Plan will be under continuous review so that it can be adapted to changing circumstances or in accordance with increased knowledge.

This administration section primarily involves the establishment of a Management Board and the implementation of this Management Plan. There are, however, administration issues (eg commercial use) detailed in other sections of this plan that are not repeated in this section.

Throughout this Management Plan the term 'appropriate approvals' is used when stating issues that require consultation and approval. The relevant 'appropriate approvals' differ depending on each scenario. 'Appropriate approvals' can include Hereweka/Harbour Cone management, the statutory role of organisations, administering bodies and any other relevant parties as identified by Hereweka/Harbour Cone management. Protocols of how management decisions will be processed (including the relevant 'appropriate approvals') will need to be developed.

5.1 Aims:

1. The Hereweka/Harbour Cone property is administered in accordance with this Management Plan.
2. The Hereweka/Harbour Cone property is legally protected using mechanisms which protect the values of the property, in perpetuity.

5.2 Objectives:

1. To achieve efficient, effective and lawful delivery of the aims, objectives and policies of this plan and ensure the administration of

the Management Plan is consistent with the property's values.

2. To ensure the management structure and governance model protects the property's values in perpetuity.
3. To secure the legal protection of the Hereweka/Harbour Cone property, to protect values and ensure appropriate public use in perpetuity.
4. To ensure the Management Plan remains current, reflecting changing circumstances and increased knowledge.

5.3 Policies:

1. To secure the most appropriate form of legal protection of the property (or parts thereof) as a community asset (incorporating the property's values) in perpetuity.
2. All authorities granted will be issued by the Dunedin City Council, or authorised governing body, unless otherwise agreed.
3. Consideration of the disposal of part of the property is to be

assessed against the objectives of this Management Plan.

4. Public notification for boundary adjustments or disposal of property is required.
5. To establish a Management Board with a Memorandum of Understanding with the Dunedin City Council (including form of the Board) – unless formally replaced with an alternative governance option and approach.
6. Protocols between the Management Board and the Dunedin City Council will be developed to process management decisions.
7. Management will meet regularly to provide governance, ensuring accurate implementation of this Plan.
8. Management will actively source funding for the implementation of the Plan.
9. This Management Plan should be kept under continuous review, with a general review at the end of ten years.



6. Landscape and Land Use

6.1 Visual Landscape and Land Use

The Hereweka/Harbour Cone property contributes significantly to the distinctive landscape character of the Otago Peninsula. It is a landscape that provides evidence of its formative processes, in terms of both its natural qualities and cultural features. Pasture cover over the majority of the property, and the absence of disjointed vegetation patterns, allows the natural landform of rocky outcrops and remnant stumps from the previous forest cover to be clearly seen. This natural landform clearly illustrates its history of volcanism and erosion. The remnant bush areas enhance the naturalness of this landscape.

The visual values of this property are important internally but also highly valued more widely as much of the property is elevated and therefore forms the backdrop for many surrounding areas. Its natural/rural character contributes significantly to the quality and sense of place of the wider Otago Peninsula landscape. The distinctive conical form of Hereweka/Harbour Cone is a major iconic landmark and landform feature with high levels of significance for the Dunedin community.

The land use history of small scale dairy farming is also highly legible, again largely due to the expansive areas of pasture cover. This allows the relic shelter plantings, stone walls and building ruins to be highly visible. Importantly, the property is remarkably free of modern developments.

The high significance of Hereweka/Harbour Cone and the Otago Peninsula for manawhenua and the 'pristine archaeological landscape of historic occupation' (Middleton 2008) of early European settlement in Dunedin makes this property and the surrounding areas an important cultural landscape.

The landscape significance of the area is recognised in the Dunedin City District Plan by its inclusion within Landscape Management Areas. The values identified in the Plan can be summarised as natural/rural character (the subservience of built to natural elements), the presence of indigenous vegetation, wildlife and historic heritage elements and the significant views.

Minimising the impact of structures, plantings and other developments that negatively impact on the rural/natural character and significant landscape values of the property is crucial. It is therefore important that enhancement projects for this property, such as new woodlots or expanded areas' native vegetation, consider future impacts on this highly valued landscape.

There are specific areas of the Hereweka/Harbour Cone property that require further detailed spatial planning to ensure that all activities and enhancements are undertaken in a sympathetic manner and considered within the context of the greater values of the property. The need for detailed planning to minimise potential conflict between the property's values and various uses of the property is of particular importance on sites where public use may be high. In particular, these areas include the Bacon Street Management Zone, the main entrance in the Stewarts Creek Management Zone, the historic site of Larnach's model dairy farm in the Smiths Creek Management Zone and the site of the current woolshed in the Smiths Creek Management Zone, which is a potential site for a Visitor Hub.

The Bacon Street Management Zone, for example, is an area that has value as a place for ecological restoration, open space for local residents, potential as a site for community initiatives such as orchards and as part of recreational routes. Rather than considering each value and enhancement individually, it is appropriate that they be considered together, for this Management Zone as

well as in the context of the whole property. This will enable consideration of the potential effects of one activity on another, along with cumulative effects of different activities to achieve the aims.

6.1.1 Aim:

1. The Hereweka/Harbour Cone visual amenity, natural character and heritage landscape values are protected and enhanced in accordance with the long-term vision of this Management Plan.

6.1.2 Objectives:

1. To protect and enhance the visual amenity values of the property and in particular the visual coherence of the natural landform.
2. To protect and enhance the natural landscape character values of the property.
3. To protect and enhance the heritage/cultural landscape character values of the property.
4. To reduce potential conflict between the property's values and uses.
5. To enhance land use and landscape values on the Hereweka/Harbour Cone property considering all the potential developments, activities and initiatives in specific sites.

6.1.3 Policies:

1. Avoid significant earthworks that detract from natural landform character and if they are necessary, ensure they are designed to integrate with the natural landforms.
2. Protect existing areas of indigenous vegetation and enhance their natural character.
3. Provide for new plantings or other revegetation to be established in a manner that integrates with or highlights, the natural landforms, and is responsive to the natural

processes and conditions of the site.

4. Locate and design any buildings and other structures/built elements to minimise their visual impact on the natural character.
5. Ensure that all enhancement activities and developments are compatible with sustaining the cultural and heritage landscape values of the property including minimising the potential adverse effects of modern/new structures, and maintaining appropriate pastoral land use character.
6. Protect the structures and plantings that contribute to the heritage landscape character and manage to appropriately sustain their values.
7. Ensure property enhancement is designed to be sensitive to all of the property's values and is in accordance within this management plan and other relevant secondary plans.
8. Ensure detailed planning is undertaken for specific sites where public use activities may conflict, where concentrated public use may occur, and where such use may impact on the property's values.

6.2 Land Use and Catchment Functions

One of the greatest values of the Hereweka/Harbour Cone property is its potential to implement and demonstrate a new model of land use that demonstrates multi-functionality. Multi functionality aims to deliver a wide range of benefits. For this property these benefits include food, landscape character, clean water, flood protection and water management, wildlife habitat, protection of cultural features and strengthened relationships with local communities.

Underpinning such a model is a resilient landscape that can self-regenerate. The historic replacement of complex natural

ecosystems with simplified farming practices has led to the landscape unable to either self-regenerate or provide the full range of environmental services that it used to naturally (eg stream ecology).

Effective management of water encompasses both soil and water management, including the maintenance of soils to facilitate rainfall infiltration, vegetation barriers to slow movement of water down slopes, year-round soil vegetative cover and maintenance of natural vegetation in riparian areas, wetlands and other strategic areas of the catchment. Such a well-managed rural landscape can provide protection against extreme natural weather events such as flooding.

Waterways form an integral link in the Hereweka/Harbour Cone and Otago Peninsula landscape. They are "the lungs of the land", connecting the hills to the sea. Targeting the permanent and seasonal wetlands and waterways as corridors in the landscape is the first element of a sustainable land management strategy for Hereweka/Harbour Cone. This involves encouraging and re-establishing some local indigenous flora and fauna, patterns, processes and connections. Restoring the waterways will also provide a strong natural context and permanent framework for the pastoral farm.

The removal of tall woody vegetation from steep slopes to create pasture within the Hereweka/Harbour Cone property has accelerated soil erosion. The landscape has to a large extent been shaped by land sliding on all scales over thousands of years, and deforestation has contributed to accelerated land sliding. More common and superficial shallow soil erosion is a very visible negative impact of pastoral land use, affecting downstream communities and the natural environment by removing fertile topsoil, and causing damage through silt deposition in valley floors.

Climate change is likely to increase the frequency and intensity of extreme weather events such as windstorms and

flooding (NIWA, 2008), therefore increasing the risk of soil erosion. Erodible hill country is present across approximately 50 percent of the Hereweka/Harbour Cone property, and this will be subject to increasing risk.

The establishment of trees and scrub on the most erosion prone areas is also a priority on this property. Steep-sided gullies and open faces that are vulnerable to erosion will be planted with either indigenous or exotic species over time, coinciding with the manipulation of grazing intensity and in some instances, complete removal of livestock. In high-risk areas of erosion, rapidly establishing a tree cover with deep root systems is a priority to ensure that the probability of further erosion is minimised (refer Appendix 1). However, land sliding and erosion are naturally occurring processes, and it is accepted that re-establishment of woody vegetation cover will only slow down, not halt, these processes.

6.2.1 Aim:

1. Critical catchment functions and ecosystem services, including flood control and climate stabilisation, soil formation and water purification, are enhanced.

6.2.2 Objectives:

1. To protect and enhance the values of the property by minimising the risk of flooding, land instability and erosion.
2. To reduce the rate of sedimentation of waterways within the catchments of the Hereweka/Harbour Cone property and adjoining properties within those catchments.
3. To protect and improve the natural character of waterways.

6.2.3 Policies:

1. Develop and implement a revegetation plan for the establishment of appropriate tree species on slopes and gully systems that are eroding or show

indication of high potential for sheet erosion or gully erosion.

2. Develop and progressively implement a plan to protect and restore waterways, streams and wetlands by fencing off and planting the buffer zones (in conjunction with Section 7).
3. Progressively remove/modify engineered stormwater systems and reinstate natural waterways wherever practicable and where infrastructure would not be at risk from this action.
4. Avoid building permanent facilities and structures in areas that are prone to flooding and land instability.

6.3 Sustainable Farm Management

Grazed pasture is now the dominant vegetation cover on the Hereweka/Harbour Cone property, reflecting the history of firstly, dairy farming, and now, largely sheep farming. Farming operations are essential to the maintenance of the rural character of the property and the open space that results. Sheep farming also provides a cost effective means of retaining these open space settings without compromising other property values.

Looking ahead, the Management Body has the opportunity to implement an exemplary farming system. Rather than operating to maximise farm production and revenue, the management of the property will emphasise multi-functional land use management, including maintenance of landscape values, facilitating safe recreational use and the progressive protection of riparian areas, wetlands, steep gully systems, natural ecosystems and cultural heritage sites from the impacts of grazing. This will include appropriate fencing of revegetation and riparian zones and significant sites of biodiversity value.

The farmed property is also important in that it provides a rural experience for

urban people, particularly children, with access to operational farms. To protect the heritage values of the property, to minimise soil compaction and erosion, and to ensure visitors feel safe in the presence of farm animals, sheep farming is considered the only appropriate grazing stock for this property.

At the time of writing, the property is leased for the purpose of grazing stock. The lease recognises that there are public walking tracks on the property and ensures that public access is available, except when during lambing. Once the Management Plan is adopted, the Council or the Management Body are required to liaise with the Lessee to discuss any effects the plan may have on the management of the land during the remaining term of the lease.

Due to the nature of the property, it is important that the farm lessee has an understanding of the property's many values and knowledge of how farming has the potential to impact (both negative and positive) on these values. Provision of infrastructure such as gates and stiles and location of fence lines will not only assist in ensuring that the farming operation does not detract from landscape values, recreational access, and enhancement of biodiversity or heritage values but that all non-farming activity does not impact or impede on the farming of the property. Ongoing communication between the Management Board and the Lessee will be essential to the success of this management model. Once the current lease expires in 2016, the Management Body will be able to assess whether a lease is the appropriate management tool or if other options are available to provide protection for the values of the property while maintaining the farming operations.

Many of the existing modern structures that are part of the Hereweka/Harbour Cone property are part of the farm's management and should not be compromised. The woolshed and yards at 1299 Highcliff Road are the operational hub of the farming operation.

Overtime some farming structures may become redundant as needs change or as their function is superseded. Before the decision is made to dispose of buildings or infrastructure, it is important that their future value to the property is carefully evaluated.

Animal welfare considerations are becoming increasingly important for the management of farming animals both in New Zealand and internationally. High standards of animal welfare are not only a legal obligation, but a moral obligation. Providing animals with shelter from adverse weather conditions and from the extremes of heat and cold is essential. This can be provided by shelter belt plantings, existing historic shelterbelts or new plantings established for erosion control.

As part of the New Zealand Government's policies for tackling climate change, in the future the agricultural sector will need to start taking the cost of carbon emissions into account in their business and production decisions. Therefore, to be a leader in sustainable land use management, the Management Body should assist the farm lessee to understand the level of emissions arising from farm operations, seek to reduce their levels of emissions in the future and ensure that all legal obligations of the Emissions Trading Scheme are met. Demonstrating an awareness and understanding of the implications of livestock farming on greenhouse gas levels is also a fundamental component of demonstrable environmental stewardship. These greenhouse gas emissions need to be considered alongside any carbon sequestration that will occur as a result of biodiversity restoration and woodlot development.

6.3.1 Aims:

1. Farm operations assist to enhance the multiple values of the Hereweka/Harbour Cone property.
2. Farming practices are implemented in accordance with best practice sustainable land management principles, animal welfare

considerations and implementation of environmental best practice.

3. Farming systems will build social capital, encouraging community participation in food production systems.

6.3.2 Objectives:

1. To implement a farming operation on the Hereweka/Harbour Cone property that assists in the enhancement of the property's values, demonstrating a multifunctional management emphasis.
2. To implement sustainable farming practices that demonstrates the multi functional emphasis of managing the property.
3. To implement a farming operation that will meet best practice standards in animal husbandry and welfare and environmental care.
4. To recognise the importance of acknowledging and reducing carbon emissions in managing the property.
5. To encourage farming systems that allow for community participation and benefit.

6.3.3 Policies:

1. Retain pastoral sheep farming across the property, except in areas subject to conditions imposed by heritage conservation plans, sites of significance to manawhenua, approved revegetation or other environmental programmes and relevant community initiatives.
2. Regularly review the extent of sheep farming across the property. Stock may be permanently restricted from parts of the property when approved ecological, heritage and/or community initiatives commence on site.

3. The Management Body will continue to liaise with the current lessee to ensure that the farm management plan:
 - a. Demonstrates sustainable farming management practices that will assist in the enhancement of the property's value.
 - b. Demonstrates best practice in animal welfare and husbandry.
 - c. Recognises the public good element and primary focus/land use of areas of the property
 - d. Maintains appropriate stocking rates of sheep so as to minimise soil compaction and erosion so as not to negatively impact on the other values of the property, namely the recreation and cultural heritage values.
 - e. Ensures farm management of stock does not negatively impact on sites of value priorities, including fenced areas of significant conservation value and areas of planted tree crops.
 - f. Ensures that the emissions that arise from livestock farming are monitored and mitigated where possible.
4. The Management Body will consult with the lessee when revegetation or development is proposed on the property that may impact on the farming operations.
5. The Management Body will liaise with the lessee regarding public access during the lambing season (September to November).
6. When the current lease expires in 2016, review the best options for retaining a farming operation which complements and enhances the aims of the Hereweka Harbour Cone Management Plan.
7. To provide infrastructure to facilitate compatibility between farming and the property's other values in accordance with policies within other sections of this management plan.
8. To ensure the property infrastructure is maintained wherever practicable and desirable. Any removal or disposal of infrastructure will be considered where it:
 - a. Adversely affects the natural and heritage values of the property.
 - b. Is not of historic or cultural importance.
 - c. Is not of importance to tangata whenua.
 - d. Ceases to be necessary for any approved or foreseeable potential use in the property.
 - e. Is demonstrably uneconomic to continue to upgrade or operate.
9. Consider favourably proposals for farming systems that have positive benefits for the local community.

6.4 Local Food Economies

Though the current pastoral farming on the Hereweka/Harbour Cone property is based upon the traditional global commodity production model, there is potential for this to become more localised in its focus. There is growing interest in localism, with consumers increasingly seeking produce from smaller scale economic activity using environmental best practice and from a local source. The Hereweka/Harbour Cone property, as an iconic community asset, has potential to meet the expectations of local consumers in their desire to purchase locally and from a landscape to which they are connected.

Small scale community initiatives (whether commercial or purely for the community good), that are compatible

with the main farming operation, can increase the community use and stewardship of the Hereweka/Harbour Cone property. Bee keeping is one example of a land-based commercial initiative that is compatible with the current sheep farming operation. An 'open community orchard' is another example of a community initiative.

Sustainable land use is best achieved by encouraging neighbouring communities to develop an empathy with their local landscape. The development of local food economies will develop identity-driven relationships which will assist to shift consumption behaviour to favour the purchase of goods and services that nurture the land and its dependent communities.

Community members should be encouraged to explore initiatives that will assist with the enhancement of the property's values and that deliver benefit to local communities. Such a system deserves encouragement, investigation and facilitation.

6.4.1 Aims:

1. Farm production systems facilitating production for local consumption are encouraged.
2. Local communities benefit from the property through appropriate small-scale land use initiatives.

6.4.2 Objectives:

1. To support small-scale cottage industry where compatible with the main farming operation and where it does not negatively impact on the property's values.
2. To support initiatives that promotes localism and/or strengthens the local economy.

6.4.3 Policies:

1. Proposals for cottage industries will be considered and applications must demonstrate a knowledge of the property's many values and the compatibility and potential effects of the proposed activity on these

values and actions taken to avoid, remedy or mitigate any adverse effects.

2. All cottage industry and local community initiatives on the property require the appropriate approvals.
3. Support research into the potential of the property for local food production systems that link directly to local consumers.
4. The sections 'Commercial Use' and 'Occupation Agreements' and other relevant sections of the Dunedin City Council Reserves Management Plan – General Policies should be read in conjunction with this plan.

6.5 Forest Woodlot Management

The Hereweka/Harbour Cone property is largely devoid of planted woodlots in either of its catchments, with just one small *Pinus radiata* / *Cupressus macrocarpa* woodlot at the historic site of Larnach's model dairy farm. New forest woodlots will be considered where they have ecosystem or public benefit and are compatible with the visual landscape values and other values of the property.

New woodlot areas, whether of exotic or native species composition, will be managed for environmental benefit and for timber and non-timber forest products. The design and layout of woodlots will promote the protection, restoration and conservation of waterways, erosion-prone slopes and visual coherence (refer Appendix 2). Woodlots play an important role in enhancing indigenous biodiversity and can provide a more cost-effective method of creating functioning ecological corridors throughout the pastoral landscape.

When planning for new woodlots, timber tree species will be chosen that are suited to the local growing conditions and produce products that are of high-value to local markets. There is

potential for some woodlot stands to be managed as a renewable resource of community firewood supply. In areas of difficult access and steep topography and to reduce the dependency on fossil fuels, development of woodlots should be tree types that are able to be managed without machinery.

Given the high values of the property and the potential future conflicts that will arise from poorly planned harvesting operations, a model of sensitive forest management should be implemented. Continuous cover forest management is advocated, using age and species diversity to ensure continual maintenance of the forest canopy and a largely self-regenerative forest.

The public stewardship of this property creates a unique opportunity for long-term research into the potential of growing native trees for timber, as well as restoring biodiversity. The lack of existing knowledge and data sees the Hereweka/Harbour Cone property ideally positioned as a place where such forest management can be studied to inform similar forest management elsewhere of best practice and techniques.

Poplar, willow and eucalyptus woodlots established for erosion control and catchment protection also provide opportunities for the long-term improvement in indigenous biodiversity. By fencing off these woodlots from livestock and through careful silvicultural practice, a vigorous native understorey could be established through natural seed dispersal.

The establishment of new forest woodlots, whether of indigenous or exotic species, creates opportunities to sell carbon credits under the Emissions Trading Scheme (ETS). The Permanent Forest Sink Initiative (PFSI) is a mechanism that has particular merit for forest management that is primarily aimed at environmental restoration. The PFSI is complementary to the ETS, but limits any harvesting of the forest until a minimum of 50 years, at which point in time harvesting must be of the continuous cover model rather than clearfell. Areas that will definitely not be harvested, such as areas being restored

for indigenous biodiversity, are also eligible for the PFSI. A covenant with the Crown needs to be registered on the title, binding all future landowners. At that 50 year milestone, there is the potential for forest owners to remove the covenant and disengage from the PFSI scheme. The possibility of securing ongoing income from the establishment of new forests on this property should be considered by the Management Body, providing a potential method for the funding of some capital projects.

Aging trees that pose a risk to property visitors from falling trees or limbs will be removed. Likewise, wilding exotic trees that are not appropriate from an ecological or landscape perspective should be removed over time. The management and potential removal of trees at heritage sites (including trees considered as weeds) is an archaeological process and therefore requires the appropriate approvals.

On an open currently largely grazed property with an intricate landform such as this, inappropriate woodlot establishment poses considerable risks to visual landscape values. For this reason, any proposals for woodlot development will be subject to rigorous assessment of their effects on landscape if and when proposed.

6.5.1 Aim:

1. Appropriately located and designed woodlots provide timber and non-timber forest products and environmental and social functions.

6.5.2 Objectives:

1. To plan and manage forest woodlots for research, timber products, biodiversity, energy production, land stability management, waterway protection, livestock shade, recreational and other purposes where this does not negatively impact on the property's values.
2. To ensure the design and layout of woodlots contributes to the enhancement and functioning of indigenous biodiversity.

6.5.3 Policies:

1. Plan and implement the establishment of multi-functional woodlots for erosion control purposes, timber production, biodiversity and energy production where consistent with the property's values.
2. The location of native and/or exotic tree species woodlots will enhance ecological connectivity through the property.
3. Age and species diversity in the composition of woodlots is preferred, so as to enhance ecological and spatial stability.
4. Continuous cover forest management is advocated, ensuring maintenance of the forest canopy and minimisation of environmental effects.
5. Retain existing woodlots/shelterbelts where they are necessary for land stabilisation or if they have amenity or historic significance.
6. Manage for indigenous understory within exotic woodlots where appropriate.
7. Analyse the costs and benefits of selling carbon from newly established woodlots and sites of indigenous restoration and consider entering the Permanent Forest Sink Initiative (PFSI).
8. Ensure removal of tree species identified as weeds aims to achieve full utilisation of timber values and if on or near heritage sites, ensure that appropriate approvals are obtained.
9. Landscape assessments of any specific new woodlot proposals will be undertaken, ensuring the acceptable integration of woodlots within the landscape.



7. Ecology

7.1 Ecology Management Zones and Priorities

The Hereweka/Harbour Cone property is a large site and protection and enhancement of its ecological values requires considerable resources. It is unlikely that sufficient resources will be available to undertake all the necessary and desirable activities at once. 'Necessary' and 'desirable' provide a useful framework for prioritising ecological activities.

The immediate priorities should involve protecting existing indigenous vegetation and controlling major ecological weeds. This is a priority as existing indigenous forest vegetation is suffering from attrition and controlling ecological weeds when they are less abundant is a more practical and cost-effective approach.

Indigenous restoration activities should initially focus on infilling gaps in existing indigenous forest stands and then on restoring indigenous vegetation to new sites.

Once indigenous habitats have been protected and enhanced, it may be appropriate to focus on species reintroductions.

Division of the Hereweka/Harbour Cone property into management zones will assist with operational management by breaking down tasks into areas where objectives can be achieved more easily. A basis for dividing the property into five management zones is described in Section 1.5.

Short term management actions and priorities are described and illustrated in more detail in the Hereweka/Harbour Cone property Implementation Plan (a secondary plan to this Management Plan).

7.1.1 Aim:

1. Management of ecological values occurs in a coordinated and systematic manner, according to assessed priorities.

7.1.2 Objectives:

1. To manage ecological values on the Hereweka/Harbour Cone property within the context of management zones.
2. To continue to update priorities for ecological management within Hereweka/Harbour Cone.

7.1.3 Policies:

The following policies are in order of priority:

1. Protect and enhance small indigenous forest remnants and control sycamore and Chilean flame creeper in the Smiths Creek Management Zone.
2. Control Chilean flame creeper in the Stewarts Creek and Peggys Hill Management Zones.
3. Protect and enhance dry forest remnants in the Harbour Cone and Stewarts Creek Management Zones.
4. Promote indigenous forest regeneration within stands of sprayed gorse in the Peggys Hill Management Zone by seeding with fast-growing fleshy-fruited species such as poroporo (*Solanum laciniatum*).
5. Facilitate natural indigenous forest regeneration in the Harbour Cone and Bacon Street Management Zones. This facilitation will include control of gorse, but aerial spraying of herbicide will not be used.
6. Restore podocarp-dominant forest and indigenous riparian vegetation on low elevation alluvial landforms in the Bacon Street and Stewarts Creek Management Zones.

7.2 Existing Indigenous Vegetation and Habitats

Only approximately 5% of the Otago Peninsula retains an indigenous forest or shrub cover (Johnson 2004). The Hereweka/Harbour Cone property however, has fared slightly better, with just over 14% cover. This indigenous woody vegetation is mostly restricted to steep and/or rocky sites, with the largest stands on the north-eastern faces of Peggys Hill, the upper slopes of Harbour Cone and on steep slopes in the upper part of the Stewarts Creek catchment (Appendix 1). The Smiths Creek catchment has relatively little indigenous forest and shrub-land remaining and an effort should be made to preserve and enhance all of the existing remnants in this catchment.

Most of the indigenous forest and shrub-land vegetation on the Hereweka/Harbour Cone property has been strongly modified by stock damage, resulting in regeneration failure and depletion of understorey and ground cover vegetation. Forest fragments that have been 'opened up' in this way are vulnerable to wind damage and these are experiencing dieback on their margins due to this. If not addressed, this process will over time convert forest to tree-land and then to grassland.

The principal areas of moist forest on Peggys Hill and in the upper part of Stewarts Creek have recently been fenced to exclude stock. These stands of moist forest have an intact canopy but the fenced areas contain a considerable amount of pasture, which has been partially planted with native trees. In contrast, none of the dry forest stands have been fenced to exclude stock and they are generally internally fragmented, with canopy openings and grassy patches present.

Mature indigenous forest has much higher habitat value than forest in the early stages of restoration and it is much easier to retain existing indigenous vegetation than to restore it. Therefore, it is important that the property's remaining areas of indigenous woody vegetation be protected and enhanced.

Management of the existing forest remnants should be integrated with restoration projects so as to enhance the existing forest values and also to buffer existing forest remnants from edge influences such as exposure to wind, weed invasion and stock browse.

Appendix 2 provides detail of existing vegetation across the Hereweka/Harbour Cone property.

7.2.1 Aim:

1. Existing areas of indigenous vegetation and habitat are protected and enhanced to improve ecological functions and viability.

7.2.2 Objective:

1. To maintain and enhance the condition of existing areas of indigenous vegetation to ensure that high quality habitats exist for indigenous flora and fauna.

7.2.3 Policies:

1. Protect existing areas of indigenous vegetation from the potentially adverse effects of farming, public use and other potentially adverse activities.
2. Develop an indigenous vegetation and habitat management plan within each management zone.
3. Monitor the ecological condition of existing areas of indigenous vegetation and habitat at five to ten year intervals.
4. Ensure enhancement of existing areas of indigenous vegetation will not negatively impact on the property's cultural, landscape and heritage values.
5. Ensure enhancement of existing areas of indigenous vegetation will not negatively impact on the property's indigenous fauna.

7.3 Habitat Restoration

The existing pattern of forest vegetation on the Hereweka/Harbour Cone property provides some evidence of the likely historic pattern. On Peggys Hill (at 401m above sea level, the second highest hill on Otago Peninsula) and in the upper part of Stewarts Creek, the influence of fog and drizzle from the prevailing north-east and south-east weather events has created relatively moist conditions. Indigenous forest in these areas supports plant species that are not present in dry conditions. These include the ferns crown fern (*Blechnum discolor*), *B. colensoi*, soft tree fern (*Cyathea smithii*), *Rumohra adiantiformis*, filmy ferns (*Hymenophyllum* spp.), and *Trichomanes venosum*. Peggys Hill and the upper part of Stewarts Creek are two of the most important sites for indigenous ferns requiring damp habitats on Otago Peninsula. The emergent podocarp miro (*Prumnopitys ferruginea*), which also favours moist forest, is also present on Peggys Hill and in Stewarts Creek, which are its sole locations on Otago Peninsula. The moist forest canopy is characterised by fuchsia (*Fuchsia excorticata*) and mahoe (*Melicytus ramiflorus*), with *Coprosma rotundifolia* and soft tree fern in the understorey.

Elsewhere on the steep mid-slopes and rocky areas, the dry forest vegetation is present that is more typical of the Otago Peninsula. This dry forest is characterised by narrow-leaved lacebark (*Hoheria angustifolia*) and/or kowhai (*Sophora microphylla*) in the canopy, and *Coprosma crassifolia* in the understorey above 'dry forest' ferns such as *Asplenium hookerianum* and *A. flabellifolium*.

Low elevation alluvial forest is no longer present on the Hereweka/Harbour Cone property, but would likely have supported forest in which tall podocarps such as kahikatea (*Dacrycarpus dacrydioides*), matai (*Prumnopitys taxifolia*), and totara (*Podocarpus totara*) would have thrived, together with lowland ribbonwood (*Plagianthus regius*), and kowhai and narrow-leaved lacebark in streamside habitats. The

lower parts of Smiths Creek and Stewarts Creek (below 60m elevation) have suitable habitat for this kind of forest and these sites are a priority for its re-establishment.

Active restoration will be required to restore indigenous forest on other parts of the property. Strategically, the priority for restoration should be the riparian zones of important waterways, which will benefit in-stream habitats as well as coinciding with the low elevation landforms where alluvial forest requires restoration. This would also enhance connections to areas of indigenous forest adjacent to Hereweka.

Habitat restoration can also help to link indigenous vegetation and habitats on the property to adjacent patches of indigenous habitat on other properties. This can help to increase the size of habitat patches and, therefore, the size of fauna populations that these habitats can support. In addition, connectivity between different parts of the landscape can be enhanced and fragmentation of habitat patches reduced. There are good opportunities to increase connectivity with indigenous habitats on neighbouring land in the Bacon Street, Harbour Cone and Stewarts Creek management zones.

Other priorities for active restoration are the internal and external gaps within and between patches of dry forest on steep slopes in Stewarts Creek. Active restoration will also be a priority when areas of indigenous forest that contain canopy gaps are fenced to exclude stock.

Peggys Hill has considerable importance for ecological restoration due to its existing indigenous forest, moist forest habitat and the potential for forest vegetation to reduce landsliding instability on the lower slopes. Recently-sprayed gorse on the steep slopes of Peggys Hill could help to protect regenerating indigenous tree species. Indigenous regeneration could be facilitated by seeding these dead gorse stands with fast-growing fleshy-fruited indigenous tree species that will attract frugivorous indigenous birds that are likely to disperse

additional indigenous tree species to these sites.

Natural regeneration of indigenous forest in pasture vegetation is occurring on some locations on the property, but is not prevalent. On the eastern and northern slopes of Harbour Cone, kanuka (*Kunzea ericoides*) is invading rough grassland, while mingimingi (*Coprosma propinqua*) is present on dry forest margins in Stewarts Creek and probably represents establishment in pasture. These two species are examples of browse-resistant indigenous trees and shrubs that could be used to improve canopy cover in the presence of stock. Encouraging natural regeneration in the presence of livestock will require a manipulation of grazing pressure over time and, in some cases, the removal of grazing.

Where natural regeneration of indigenous forest is occurring close to, or at sites of significant heritage value, the management of this vegetation regeneration will be informed by a whole-property archaeological assessment and subsequent prioritised archaeological conservation management plans.

The Hereweka/Harbour Cone Property Implementation Plan contains more detail on a process for encouraging natural regeneration of kanuka, the immediate priorities for restoration planting, and it describes a process for selection of appropriate species for different landforms and habitats on the property.

7.3.1 Aim:

1. Indigenous vegetation and habitats are progressively restored, improving the extent of indigenous vegetation cover.

7.3.2 Objectives:

1. To progressively restore indigenous vegetation on the Hereweka/Harbour Cone property, integrated with protection of indigenous forest.

2. To re-establish lowland podocarp forest on suitable sites within the property.
3. To restore the indigenous forest cover and in-stream ecological values of the riparian zones of important waterways.
4. To protect and connect stands of indigenous forest vegetation within the Hereweka/Harbour Cone property and in adjacent properties, so as to facilitate the movement of indigenous fauna.
5. To facilitate natural indigenous forest regeneration where this is occurring.

7.3.3 Policies:

1. Develop a Habitat Restoration Plan that is based upon Management Zones, to identify and prioritise sites for restoration of indigenous vegetation and ecological values, integrating with the enhancement of areas of existing indigenous vegetation.
2. Implement the Habitat Restoration Plan over time, regularly reviewing priorities for the implementation of restoration activities based on the ecological requirements of indigenous vegetation, habitats and species.
3. Maintain and protect the habitat restoration projects that have been established in advance of the adoption of the Hereweka/Harbour Cone Management Plan.
4. Protect areas of habitat restoration from any adverse effects of farming, public use and other potentially adverse activities.
5. Undertake experimental trials of different restoration techniques, so as to determine the best and most cost-effective indigenous restoration techniques for particular landforms on the property.

6. Monitor restoration projects on the property, using the information to inform future restoration projects.
7. Facilitate natural indigenous forest regeneration in appropriate sites.
8. Manipulate stock grazing levels to aid the regeneration of natural indigenous forest in appropriate sites. Remove stock grazing on those sites where it is considered beneficial for the regeneration of natural indigenous forest.
9. Advocate for the restoration, protection and enhancement of indigenous vegetation on adjacent properties.
10. Retain the cultural value of historic farmsteads by maintaining appropriate curtilage of pasture around them. Management of natural regeneration processes occurring at, or close to, sites of significant archaeological and heritage value will be informed by archaeological assessments and archaeological conservation management plans.

7.4 Management of Rare and Threatened Species

The Hereweka/Harbour Cone property currently provides habitat for several locally important species and some nationally important species. These include the locally important trees miro, narrow-leaved lacebark, kowhai, lowland ribbonwood, Hall's totara, *Melicope simplex*, *Streblus heterophyllus*, and the mistletoe *Ileostylis micranthus*, and the nationally At Risk – Declining climber *Brachyglottis sciadophila*.

The Hereweka/Harbour Cone property is also the location of a historical record of the Threatened – Nationally Vulnerable tree *Olearia fimbriata*, which has not been recently seen at the site, but which could be reintroduced. Another species that could be considered for introduction to the property is *Helichrysum selago* var. *tumidum*, which is currently known from rock outcrops at Cape Saunders

and Lovers Leap, but which could potentially grow on marble outcrops at the Hereweka site.

Hereweka means 'catch weka' and refers to the area being a place where the food resource of weka was found. Buff weka (*Gallirallus australis hectori*) were historically indigenous to the eastern South Island and Southland but became locally extinct from the South Island. Buff weka is a taoka species to Ngāi Tahu. Papatipu rūnaka, including Otākou rūnaka, have supported its reintroduction to islands in Lakes Wakatipu and Wanaka, and to the adjacent Stevenson's Peninsula. Otākou rūnaka are strong advocates for reintroduction of buff weka to the Hereweka/Harbour Cone property. A discussion on the factors requiring assessment when considering the reintroduction of locally and nationally important species is attached in Appendix 6.

South Island rifleman (At Risk – Declining) are known to be present in forest adjacent to Hereweka/Harbour Cone, and are likely to utilise kanuka forest on the property from time to time. As forest cover in this part of the property increases in extent, rifleman are likely to become more common.

Both Smiths Creek and Stewarts Creek are known to support populations of the threatened freshwater invertebrate koura (*Paranephrops zelandicus*; Chronically Threatened – Gradual Decline) which suggests that current habitat quality in these streams is reasonably good. Stewarts Creek has not been fully surveyed for fish and this represents an information gap. At least one barrier to fish passage exists in Smiths Creek and other barriers may be present. Improvement of stream habitats through removal of barriers to fish passage and planting of appropriate riparian vegetation may result in other locally or nationally important fish species colonising these streams, including giant kokopu (*Galaxias argenteus*) and long-finned eel (*Anguilla dieffenbachii*).

Translocations of threatened species, either to the site or away from it, need

to be undertaken according to Department of Conservation processes and in consultation with iwi.

7.4.1 Aims:

1. Existing populations of locally and nationally important flora and fauna are stable or improving.
2. New populations of locally and nationally important species are established if appropriate.

7.4.2 Objectives:

1. To maintain or improve existing populations of any locally or nationally significant species within the property.
2. To provide for the recovery or re-establishment of populations of appropriate indigenous species in suitable habitats within the property.
3. To improve the quality of habitats so that locally and nationally important species with populations on adjacent land can naturally colonise the site.

7.4.3 Policies:

1. Document the status of existing populations of locally and nationally important species.
2. Work with expert stakeholders regarding the reintroduction and management of locally or nationally important species that are appropriate for the property.
3. Survey aquatic values in Stewarts Creek, including assessment of any potential barriers to fish passage.
4. Reassess at five to ten year intervals the status of existing and new populations of locally and nationally important species within the property.
5. Facilitate the natural regeneration of kanuka forest in the Harbour Cone Management Zone, to provide

improved habitat for South Island rifleman.

7.5 Weed Control

Several ecological weeds are present at Hereweka and include sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), gorse (*Ulex europaeus*), elder (*Sambucus nigra*), radiata pine (*Pinus radiata*), macrocarpa (*Cupressus macrocarpa*), gooseberry (*Ribes uva-crispa*), Scotch broom (*Cytisus scoparius*), Darwin's barberry (*Berberis darwinii*) and blackberry (*Rubus fruticosus*). Of these species, gorse and hawthorn are widespread and relatively abundant, while elder is widespread at low density. Sycamore is present at only a few sites but is actively spreading. The remaining species are at relatively low abundance in indigenous vegetation. Weeds also include the non-local indigenous species rangiora (*Brachyglottis repanda*), which is present in the upper part of Stewarts Creek.

Climbing weeds such as Chilean flame creeper (*Tropaeolum speciosum*) are also present. Other climbing weeds such as old man's beard (*Clematis vitalba*), banana passion fruit (*Passiflora tripartita*), and bomarea (*Bomarea caldasii*) appear to be absent or at very low abundance at Hereweka. These and other ecological weeds with the potential to invade the site should be subject to surveillance, so that any new weed incursions can be swiftly detected.

Many weeds are entering the Hereweka/Harbour Cone property from sources on neighbouring properties. To effectively manage weeds in a sustainable and cost-effective manner, it is important that cross-boundary management of weeds is implemented. Instigating discussions with landowners that adjoin the Hereweka/Harbour Cone property is an important first step in a coordinated weed control programme.

Initial priorities for weed control are described and illustrated in the Hereweka/Harbour Cone Implementation Plan.

7.5.1 Aims:

1. Ecological weeds are controlled to levels that do not threaten indigenous biodiversity or indigenous ecological processes.
2. Ongoing monitoring ensures that any invasions of new weeds are controlled.

7.5.2 Objectives:

1. To ensure that the indigenous species, habitats, and ecological processes on the Hereweka/Harbour Cone property are protected and enhanced through appropriate management of ecological weeds.

7.5.3 Policies:

1. Develop and implement a weed-control programme that aims to eradicate sycamore, rangiora, Himalayan honeysuckle, Darwin's barberry and Chilean flame creeper and substantially reduce hawthorn and elder, during the period of this management plan.
2. Gorse and broom are to be controlled to low levels on the property unless they are facilitating the development of indigenous vegetation. Include management of these weeds within the weed control programme.
3. Document weed control activities by recording GPS coordinates of the locations of significant ecological weeds and reporting on weed control methodology and outcomes.
4. Undertake annual surveillance to detect any new weeds or additional occurrences of existing weeds.
5. Ensure the weed management responsibilities of the farm lessee meet the objectives of the Management Plan and coordinates with other weed management on the property.

6. Coordinate weed control in conjunction with adjoining landowners when appropriate.

7.6 Pest Animal Control

There has been no formal assessment of pest animals on the Hereweka/Harbour Cone property, but pests likely to be present include possum (*Trichosurus vulpecula*), ferret (*Mustela furo*), stoat (*M. erminea*), weasel (*M. nivalis*), rabbit (*Oryctolagus cuniculus*), European hare (*Lepus europaeus*), hedgehog (*Erinaceus europaeus*), ship rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*) and house mouse (*Mus musculus*). These pest animals are likely to be having widespread detrimental effects on indigenous vegetation and species within Hereweka. Control of larger bodied pest animals such as possums and mustelids is generally more feasible than for smaller bodied species such as rats and mice.

The Otago Peninsula Biodiversity Trust is working with the Otago Peninsula community towards a 'pest free Otago Peninsula'. Possums have been identified as the initial priority for pest control. A coordinated approach to pest control is highly beneficial because pests on the margins of a control area can usually rapidly reoccupy sites where control has been undertaken. Coordinated control across a large area can significantly increase the size of the protected 'core' area. It is important that management of the Hereweka/Harbour Cone property works with the Trust and local community so as to integrate pest control on the property with pest control in the wider area.

Control of specific pests also needs to consider interactive effects between different pest species. For example, control of mustelids may cause increases in rodents, which are a major mustelid prey item. Where pest interactions such as this are likely to occur, it is important to control each of the interacting pest species simultaneously.

Pest animal control of small mammals generally requires a network of traps and/or bait stations that need to be

checked and reset periodically. The time required to undertake this work represents a significant commitment. Use of volunteers from stakeholder groups and local communities can significantly decrease the costs.

Pest control should not be undertaken for its own sake, but to achieve specific ecological outcomes such as improving the population status of indigenous fauna. To assess the effectiveness of pest control, the predicted ecological outcomes should be monitored.

7.6.1 Aims:

1. Pest animals are controlled to levels that do not threaten indigenous biodiversity or indigenous ecological processes.
2. Ongoing monitoring ensures that any invasions of new pest animals are controlled.

7.6.2 Objective:

1. To ensure that indigenous species, habitats, and ecological processes

at the Hereweka/Harbour Cone property are protected and enhanced through appropriate management of pest animals.

7.6.3 Policies:

1. Develop and implement a pest animal control programme specifying the pests to be controlled, and appropriate pest control targets and pest density indices that have been shown to be relevant to biodiversity outcomes.
2. Ensure that pest interactions such as predator release are considered when planning pest control activities.
3. Integrate pest control on the Hereweka/Harbour Cone property with wider scale pest control work wherever possible.
4. Encourage volunteers to assist with pest control and/or monitoring.
5. Monitor the ecological outcomes of any pest control that is undertaken.



8. Heritage and Cultural Landscape

8.1 Recognition of the Cultural Values

Kāi Tahu have a long association with Muaupoko (Otago Peninsula) and the mauka (mountain) of the peninsula Hereweka (Harbour Cone). The practice of mahika kai, moving seasonally to gather food and tool-making resources throughout the rohe (area), was a distinct feature of the lifestyle of Kāi Tahu tupuna (ancestors). Hereweka was a part of the mahika kai network of trails, and was likely used for hunting and food gathering.

Hereweka means 'catch weka' and refers to the area being a place where the food resource of weka was found. Hereweka also features in Kāi Tahu oral history as one of the places where Tarewai, a Kāi Tahu warrior chief hid from Kati Māmoe warriors (Kāi Tahu Ki Otago, 2009).

It is necessary to recognise the significance of cultural landscapes not only in terms of the integrity of the sites of significance they contain but also on a wider scale. The Hereweka/Harbour Cone area is one part of the wider cultural landscape of the Otago Peninsula and needs to be considered in this context. Interpreting the significance of the wider cultural landscape, and the place of the Hereweka/Harbour Cone property within this landscape, is an important objective for Kāi Tahu.

It is important that the naming of Harbour Cone as Hereweka and the descriptive significance of the name in the traditions of Kāi Tahu should be recognised and not be lost. As the significant mauka of Te Rūnanga o Otākou, Hereweka and the surrounding landscapes should remain free from any inappropriate development/activity such as houses, roading or telecommunications. Enhancing this cultural landscape includes the restoration and enhancement of native bush with fruiting native trees and the potential to reintroduce weka.

A partial assessment of Māori archaeological sites on the property has been undertaken, however more work is required. A cultural opportunities mapping exercise with Te Rūnanga o Otākou will identify the opportunities Te Rūnanga o Otākou would like provided for in and around the Hereweka/Harbour Cone property. Such activities could include a joint manawhenua/community initiative to establish and promote use of traditional medicinal plants and various harakeke (flax) species for their weaving properties.

The statutory acknowledgement for Te Tai O Arai Te Uru (Otago Coastal Marine Area) is relevant to the Hereweka/Harbour Cone. Under section 313 of the Ngāi Tahu Claims Settlement Act Schedule 103, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic and traditional association to Te Tai o Arai Te Uru (refer to Appendix 7). The tangible evidence of this is protected under the Historic Places Act 1993.

8.1.1 Aim:

1. The Hereweka/Harbour Cone property is managed in a way that recognises the cultural significance of the area for manawhenua.

8.1.2 Objectives:

1. To identify and protect or conserve archaeological and cultural sites.
2. To ensure traditional access through Hereweka/Harbour Cone and support the harvest of cultural material or harvest of material for cultural purposes by manawhenua where appropriate.
3. To ensure any enhancement of Hereweka (mauka) and the Hereweka/Harbour Cone property is consistent with the cultural position of manawhenua and recognises this area as part of a wider cultural landscape.

8.1.3 Policies:

1. To support the protection and conservation of wāhi tapu and wāhi taoka and other significant Māori sites in a culturally appropriate manner.
2. Ensure an archaeological assessment of the Hereweka/Harbour Cone property includes the development of a resource inventory of sites and landscapes of significance to manawhenua.
3. Undertake a cultural opportunities mapping exercise with Te Rūnaka o Otākou.
4. Encourage the acknowledgement and use of the traditional names of the Hereweka/Harbour Cone property and the surrounding landscape.
5. Provide for traditional trail routes for manawhenua.
6. Policies within the 'Harvest of cultural material or harvest of material for cultural purposes' section of the *Reserves Management Plan – General Policies* apply.
7. To ensure that Hereweka/Harbour Cone remains free from any development and all developments and activities on the remainder of the Hereweka property are consistent with the property's cultural value.
8. To consult with Te Rūnaka o Otākou on all matters that may impact on the cultural landscape for manawhenua, including restoration of flora and fauna.
9. That all archaeological finds of Māori objects are notified to manawhenua.
10. That kaitiakitanga of manawhenua over cultural materials is observed.
11. Acknowledge the Te Tai O Arai Te Uru (Otago Coastal Marine Area)

relevant to Hereweka/Harbour Cone.

8.2 Historic Sites, Structures and Cultural Landscape

Forty-two historical sites and structures within the Hereweka/Harbour Cone area are known and recorded on the New Zealand Archaeological Association Site Recording Scheme (Walton 1999; Middleton 2008) (refer Appendix 3). None of these are registered with the New Zealand Historic Places Trust but all are protected under the legislation and archaeological provisions of the Historic Places Act 1993. Due to the extensive historic occupation of this area there are likely to be sites and items that to date remain unidentified (Walton 1999; Middleton 2008).

The cultural landscape of early colonial settlement extends beyond this property's boundaries. To retain the integrity of this wider landscape, it is important that historic sites and structures outside the property's boundaries and the surrounding areas are also recognised under the Historic Places Act 1993 legislation.

Public access to cultural and historic sites and structures on the Hereweka/Harbour Cone property is an important opportunity for residents and visitors to Dunedin to understand the area's Māori and early European settlement history. Some sites are, however, more sensitive and vulnerable to visitors than others. Wāhi tapu and wāhi taoka are very significant cultural areas and public access to such sites must be guided by manawhenua.

An initial scoping assessment was commissioned by the Dunedin City Council to identify the historic sites within the property (Harbour Cone Project, Archaeological Assessment for the Dunedin City Council; Middleton 2008). This report recommended that there are a number of archaeological sites made up of a complex of features that require more intensive research and/or investigation. Due to the

historical importance of the property and the potential vulnerability of sites with increased public access it is important that this further research and investigation occurs.

A more intensive archaeological assessment of known sites and the whole-of-property will identify the full extent of historic remnants and enable management to protect and enhance the historic value of the property.

It is important that an archaeological assessment for this property identifies which sites require conservation and management plans and prioritise the development of these plans. This prioritisation should be, among other considerations, influenced by issues regarding public access/use and visitor impact.

Archaeological assessments of individual sites and the whole-of-property must include the following considerations:

- Assessment in terms of significant sites for manawhenua and European.
- Early colonial settler sites and structures including stone walls, roads, early wire fences and drilled posts.
- Consider what era and time period of history sites and structures refer to.
- Historic orchards and plantings.
- Sections of current public roads through and around site – including culverts, etc.
- Heritage structures post 1900.

The development of Conservation and management plans will inform management as to which sites require monitoring, conservation or restoration and how this should be undertaken. These plans should also identify sites suitable for public access and use, hazards and actions required to protect the site from visitors and promote visitor safety. It is likely that some conservation and management plans will

be relatively simple, for example, monitoring of the site. In addition, it may be considered appropriate that several sites that require similar management be grouped in one plan.

Conservation and management plans must also include:

- Need for heritage planting, eg replacement of macrocarpa hedging showing historical alignments.
- Vegetation management.
- Identify non-historic items, ie rubbish, which should be removed.
- Impacts of livestock.

It is considered that sheep are the only appropriate livestock for grazing on this property as they have little impact on heritage sites.

It is a requirement that anyone who intends to carry out work that may damage, modify or destroy an archaeological site or heritage structure must have an authority from the Historic Places Trust (NZHPT). Because of the historical significance of the Hereweka/Harbour Cone property, it is important that management work with the NZHPT to develop the appropriate archaeological authorities for this property and, as part of these authorities, an 'approved works' schedule. Consultation with manawhenua is part of the authority process.

The participation of the public (under the supervision of experts) to assist with implementing conservation and management plans of heritage sites will be encouraged and supported. Anyone carrying out work on archaeological sites or heritage structures should not only have the appropriate approvals but must undertake the work in accordance with best practice (described in the 'International Council on Monuments and Sites' charter).

Due to the intense human history of the property in the past, there are likely to be objects that remain undiscovered.

These are protected under the Protected Objects Act 1975 and the Historic Places Act 1993. It is important that sites undergo a controlled surface collection, with an accompanying analysis and record of the site. This exercise must be undertaken with an archaeological authority, prior to encouraging visitor access. This will reduce the likelihood of people accessing the property to fossick.

Under the Historic Places Act 1993 all items found that are not taoka tūturu belong to the property's owner. To allow for future opportunities to enhance visitors' appreciation of the property, it is important that such items are only loaned to other organisations and can therefore be available for future onsite interpretation.

The high significance of Hereweka/Harbour Cone and the Otago Peninsula for manawhenua and the 'pristine archaeological landscape of historic occupation' (Middleton, 2008) of early European settlement in Dunedin makes this property and the surrounding areas an important cultural landscape.

8.2.1 Aim:

1. Protect and develop an understanding of the cultural heritage of the Hereweka/Harbour Cone property.

8.2.2 Objectives:

1. To prevent further deterioration of archaeological sites and structures.
2. To manage archaeological sites and heritage structures according to best practice.
3. To ensure archaeological items, sites and heritage structures are not removed or destroyed nor adversely affected by public use and farming practices.
4. To promote safe public access to archaeological sites and heritage structures.
5. To recognise opportunities for on-site interpretation that will

make use of appropriately collected protected objects.

6. To recognise the property as part of a cultural landscape.
7. To support the input of volunteers to protect and enhance heritage sites.

8.2.3 Policies:

1. Undertake an intensive archaeological assessment of the whole-of-property that includes establishing priorities to develop conservation and management plans.
2. Implement priorities to prepare conservation and management plans (identified in Policy 1).
3. Develop the necessary archaeological authorities, including an approved New Zealand Historic Places Trust works schedule.
4. Manawhenua are recognised as the guardians of all taoka tūturu as required under the Protected Objects Act 1975.
5. Manage archaeological sites and heritage structures according to their conservation and management plan and best practice.
6. Encourage supervised community participation in restoration works that is informed by the conservation and management plans.
7. Monitor public impact at sites and if deemed necessary restrict or exclude people from the site (or parts thereof).
8. Advocate that this property and archaeological sites, heritage structures outside its boundaries and the surrounding landscape are protected as a cultural landscape.
9. Consider the use of historic buildings for visitor purposes where such use does not compromise the

- historic value of the building or surrounding area.
10. Recognise that tree removal and vegetation management on archaeological sites and heritage structures is an archaeological process and requires the appropriate approvals.
 11. Ensure that farming livestock does not damage historic sites.
 12. Actively source funding to implement archaeological, historic and cultural conservation and restoration.
 13. The search for or removal of objects from the property is not permitted unless the appropriate approvals are obtained.
 14. All historic items found on the property (excluding taoka tūturu) belong to the property owner and will only be 'on loan' to other organisations as they may be required for future onsite interpretation.



9 Visitor and Commercial Use

9.1 Recreation Use

Public access has been a feature of the Hereweka/Harbour Cone property for many years. The property is used by local residents and its proximity to Dunedin means it is also enjoyed by the wider Dunedin community.

Its purchase by the Dunedin City Council and increased publicity and interpretation of the property's values will likely increase its popularity with Dunedin residents and tourists. For tourists, this will be influenced by the level of promotion it receives within the context of the Otago Peninsula.

Due to the size, topography and various values, the property provides a range of recreation opportunities from the very active to more passive activities. Public access is multi-use and therefore biking, walking and horse riding are permitted, although horse riding is an appropriate use in certain areas only. Mountain biking is also more suited to specific tracks.

The Hereweka/Harbour Cone property is a working farm and recreational use of the property must continue to be compatible with this use.

Due to the sensitivity of some of the historic sites and areas of significant biodiversity, the public will be encouraged to use designated tracks (marked routes) and areas. Motorised recreation (including 4WD vehicles and motor bikes) is not permitted as it is incompatible with some of the property's values and other users.

The steep terrain of most of the property means that many of the tracks are only for people with at least an average level of fitness and mobility and are classified as 'Hard'. However, flatter sites close to the main entry points provide easier access (described as 'Easier Access Areas'). Refer to Section 9.4 for further detail regarding these access descriptions.

The promoting of specific tracks for mountain biking and horse riding is new for this property and due to the sensitivity of the historic and (some) biodiversity sites, and to promote the safety and enjoyment of other users, these activities will be monitored. If necessary, tracks will be temporarily or permanently closed for these activities.

Because this property is a working farm, dogs are not permitted on the property (except for farm management purposes) and the property will be closed for public access during lambing season.

Uncontrolled camping is considered an inappropriate use of this property. The lack of toilet facilities, water supply and the property's proximity to the city and relative remoteness from neighbouring houses and possible conflict with farming are all reasons for concern. The acceptance of campervans or 'freedom camping' will be guided by Council policy. It may be that some roadside parking areas are suitable for camper vehicles to stay overnight. Toilet provision on the property and self-contained vehicles are key factors when considering such use.

9.1.1 Aim:

1. The Hereweka/Harbour Cone property is available for recreational use by the public.

9.1.2 Objective:

1. To support the use of the Hereweka/Harbour Cone property by a range of recreation users that is compatible with the property's values.

9.1.3 Policies:

1. Tracks are multi-use unless otherwise specified.
2. Motorised vehicles for recreational use are not permitted (this excludes vehicles for management and farming purposes).

3. Public access across the property is classified as 'Hard' (a classification of the Dunedin City Council Track Policy and Strategy for biking, walking and horse riding) except in identified 'Easier Access Areas'.
4. The public are encouraged to keep to marked tracks, 'Easier Access Areas' and specified sites of interest.
5. The impact of public access and use will be monitored and tracks and/or areas may be temporarily or permanently closed to all or some forms of public access if deemed necessary.
6. Public access is may be restricted during lambing season (September through to November). Dates will be clearly shown on signage and appropriately advertised.
7. Camping is only permitted when authorised.
8. Tolerance of overnight parking of camper vehicles/freedom camping is in accordance with Council policy.
9. Horses are permitted on specified tracks only.
10. Dogs are not permitted except for farm management purposes.

9.2 Visitor Use

The Hereweka/Harbour Cone property embodies features that are representative of the natural, historic and manawhenua values of the Otago Peninsula. As the majority of the Otago Peninsula is in private ownership with restricted public access, this property offers an accessible place where people are able to experience and learn about these values. As such, this property provides an important setting for heightening people's enjoyment, awareness and understanding of environmental, conservational, sustainability and heritage issues.

A positive aspect of community participation in protecting and enhancing the property's values is that it can promote an ethic of stewardship. Stewardship is an important long-term objective, which requires a genuine feeling of local ownership and control. To realise these benefits active community participation must be encouraged and facilitated, which can include design, ongoing management and maintenance of projects and spaces.

There are many opportunities for the local and wider community to work together on activities that support the objectives and policies in this plan. Such public involvement is encouraged, but all works must be under the close supervision of groups or organisations with relevant expertise and the appropriate approvals.

If necessary, partnerships between the Management Body of the property, individuals and organisations (eg manawhenua, businesses and community groups) could be developed. Furthermore, the property's Management Body may wish to develop formal agreements with community organisations or groups who have a strong and long-term relationship with the Hereweka/Harbour Cone property, in order to outline the activities or works they will undertake in partnership with the Management Body.

Examples of activities that can involve community participation include the following:

- a) Protection and enhancement of natural heritage and cultural heritage values (eg pest eradication and species recovery programmes and restoring stone walling).
- b) Property maintenance (eg building and track maintenance, mowing, pest control, litter control).
- c) Cottage industry and community food production (eg orcharding, bee keeping etc).
- e) Research on property issues and values.

- f) Developing and delivering education and interpretation programmes.
- g) Event management.
- h) Developing and delivery of recreation opportunities.

Programmes such as public talks, guided walks and experiential activities will be encouraged. Expert volunteers will, where appropriate, be encouraged to take a lead role in these programmes.

The Hereweka/Harbour Cone property provides a valuable opportunity to provide 'hands-on' learning opportunities in a variety of 'outdoor classrooms'. This would support parts of the national curriculum, linking with the enviroschools programme. Environmental education provides a vehicle for raised awareness of sustainable land management, ecological restoration, food production and an understanding of 'the rural'. This property also provides excellent opportunities for education on the local heritage, especially early European settlement history.

The Hereweka/Harbour Cone property also has potential to fill a gap in Dunedin's lack of specialist facility for an environmental education centre. Facility provision on the property could be used as a hub for environmental education, demonstration of multi functional land use, small-scale renewable technology, and social enterprise. Such a facility could also have a function as a base for outdoor education and recreation skills programmes or other community or group activities requiring indoor space. As discussed in Section 9.3, the provision of visitor infrastructure (eg interpretation and amenities such as vehicle parking and toilets) could also be a function of such a facility.

On-site research projects that further the understanding of the property's values and inform management will be encouraged. There is an opportunity to work with tertiary institutions to promote research of archaeological, cultural or historical sites, public and commercial use management cultural heritage

management, or how these aspects interrelate.

The property also provides potential for community members to experiment with pilot projects and experimental schemes that try out ways of change of how people connect with each other and their local environment. Research and trials may target themes such as sustainable food security, soil care, carbon sequestration, building organic matter and maximising the benefits for the water.

It is essential that all proposals for research or projects involving enhancement works (including earthworks, modifying existing structures or new developments) obtain the appropriate approvals. Approvals include the formal Management Body of the property and could also include authorities from the Minister of Conservation (responsible for granting permission regarding research relating to native flora and fauna refer to Section 7) and the New Zealand Historic Places Trust (NZHPT) (for all works in and around archaeological sites and heritage structures). In addition, any discovery of historic objects on the property will be dealt with in accordance with the NZHPT Accidental Discovery Policy. Refer to Section 8 for detail and specific policies.

Proposals to undertake specific research or development works must be in accordance with this management plan and any relevant secondary plans.

All organisations/groups working on or visiting the property are responsible for the safety of people in their charge (eg staff, volunteers, students).

9.2.1 Aims:

1. Community research, community initiatives and participation are supported and underpinned by an ethos of stewardship.
2. Research increases the understanding of the property's values, sustainable land use, functioning ecosystems and enhanced understanding of how communities can interact with the

environment in a sustainable manner.

3. Organisations, groups and volunteers are able to participate in the protection and enhancement of the property's values.
4. The property is used by educational institutions and groups.
5. The local communities benefit from the property through appropriate community initiatives.

9.2.2 Objectives:

1. To encourage appropriate research that increases the understanding of the property and informs management of the property.
2. To encourage organisations and groups with relevant expertise and authority to assist with the protection and enhancement of the property's values.
3. To encourage and support the use of the property for educational purposes that aims to enhance the public's awareness, knowledge and understanding of the property values and the wider environment.
4. To support and provide areas for community initiatives that help develop social cohesion, sustainable land use practices and an ethic of stewardship.
5. To consider provision of a facility for specialised education aimed at increasing knowledge of the environment, sustainability and heritage which could also provide an indoor base for other community or group activities and provide visitor infrastructure.

9.2.3 Policies:

1. To support the use of the property for education purposes.
2. To support the development of 'on-site' and 'off-site' information, interpretation, programmes and initiatives that can be used to

educate people on the property's values.

3. Encourage education programmes where they:
 - a. Do not negatively impact on the property values and other property users.
 - b. Contribute to people's understanding and appreciation of the property's values.
 - c. Raise awareness of environmental, sustainability issues and sustainable land management practices.
 - d. Increase people's outdoor recreation skills.
4. Applications/proposals for community initiatives, research or enhancement works require the appropriate approvals and must include potential effects of the proposed activity on the property's values and actions to take to avoid, remedy or mitigate any adverse effects.
5. Where appropriate, organisations, groups or people with relevant expertise will be encouraged and supported to carry out specific research and enhancement works.
6. All organisation, groups or persons are required to independently gain all relevant statutory authorities necessary to undertake their activities.
7. All organisations and groups are responsible for supervising people in their charge.
8. When relevant, policies within the 'Volunteers Working on Reserves' section of the Reserves Management Plan – General Policies apply.
9. Community initiatives are supported where compatible with the property's values and where

sufficient evidence of project planning and resourcing exists.

10. To support partnerships with the property's Management Body, manawhenua, individuals, businesses and community groups to work together on activities that support the objectives and policies in this plan.
11. To encourage links with tertiary and educational institutions to promote education and research.
12. To support research and trials that contribute to an understanding of environmental regeneration, sustainable land use and ecosystem functioning.
13. To work with interested stakeholders in considering the feasibility of an environmental education centre/visitor hub and base for community activities related to this property.

9.3 Visitor Infrastructure

The Hereweka/Harbour Cone property is highly valued for its landscape vistas, open space and rural character. The property is a great public amenity for both local residents and the wider Dunedin community.

To facilitate public use enjoyment of the property, some visitor infrastructure is necessary. However, such provision must not negatively impact on the property's character and values. To achieve this, visitor infrastructure will be kept to a minimum and sensitive to the property's values.

Public access will be encouraged in areas that are of interest to the visitor, for example, where there are good examples of the property's landscape, cultural, historic values and biodiversity. Encouraging access to specific sites is also determined by the vulnerability of the site, how accessible the site is and the risk to public safety.

The steep terrain of most of the property and the desire of the community to

maintain its rural character means that track provision is classified as 'Hard' (a classification of the Dunedin City Council Track Policy and Strategy for biking, walking and horse riding) and therefore minimal track construction is required. The development of new tracks will focus on marked pole routes that facilitate creating circuits of varying length, access areas of interest (cultural, heritage and biodiversity) and scenic points. Local access (eg to/from Portobello) and 'long distance' tracks linking with other areas on the Otago Peninsula will also increase the property's recreational value. Appendix 4 outlines the proposed track routes and visitor access points.

'Easier Access Areas' are identified in more moderate terrain where public access is less physically demanding. This definition also defines areas of concentrated public use (eg community initiatives and shorter circuits near main entrance points such as the Bacon Street entrance). Public use of these areas includes access across open farmland. To facilitate public access and enjoyment, visitor infrastructure in these areas may be at a higher level than on the remainder of the property. For example, easy access through fence lines and, if necessary, drainage or board walks and seating. Visitor amenities such as barbeque areas and picnic tables are not considered appropriate for this property.

The multi-use aspect of this property also requires some visitor infrastructure to accommodate all users and reduce potential conflict. For example, 'sprung' gates (rather than stiles) will enable access by horse riders, people with reduced mobility and mountain buggies and will also reduce potential conflict between public use and farming (ie gates not being left open).

Existing areas to park vehicles are currently on the shoulders of public roads. However, depending on the level of public use of the property, increased vehicle parking provision may be required. Such provision should consider increasing these 'shoulder' areas and the use of areas within the property such as at the designated 'main

entrance' and within the context of a 'Visitor Hub'.

Providing public toilets on the property is a possibility if deemed necessary. There is an existing toilet near the farm woolshed that, if improved, could possibly be considered for public use (this could be considered alongside the development of a Visitor Hub). Both settlements of Portobello and Broad Bay have public toilet facilities approximately five to six minutes drive from the designated main entrance to the property. Providing public toilets is also a consideration with regard to overnight vehicle parking.

Visitor infrastructure on the property is also required to provide visitors with information on the values of the property and to aid visitor management. Signs and interpretation information will increase visitors' understanding and appreciation of the property and its context in the wider landscape. Signage on this property is also required to direct visitors around their chosen routes. Details and policy regarding signage and interpretation is provided in Section 9.4.

The development of a 'Visitor Hub' for educational purposes and to provide additional facilities for visitors would be a positive development of this property. However, the location of such facilities must be sensitive to the character and values of the property. The benefit of a 'Visitor Hub' for visitors includes provision of toilets, a main site for interpretation and additional car parking. The use of an existing building is considered preferable to constructing a new one for a visitor hub.

The Roger's Farm House is the only remaining inhabitable dwelling on the property from the early European settler era. This house is in the area identified as a potential 'Visitor Hub' and its use for visitor purposes should be explored (eg onsite interpretation). This needs to be considered as part of an evaluation of the viability of restoring this building.

9.3.1 Aims:

1. Visitor infrastructure facilitates public enjoyment of the property

and takes practical steps to promote public safety.

2. Visitor infrastructure does not negatively impact on the values of the property.
3. Tracks enable local access to the property and facilitate the ability to access other areas on the Otago Peninsula.

9.3.2 Objectives:

1. To encourage public access onto and through the property where appropriate.
2. To facilitate public access to the property from neighbouring areas and links to the Otago Peninsula.
3. To recognise the topography of the property and provide 'Easier Access Areas' in suitable areas only while recreational access to the remainder of the property is classified as 'Hard'.
4. To provide minimal visitor infrastructure to facilitate multi-use access, protect the property's values and to promote public enjoyment and safety.

9.3.3 Policies:

1. Ensure that all visitor infrastructure is sensitive to the rural character and values of the property and will be adequate for the visitor.
2. Except for 'Easier Access Areas', all other tracks through the property are classified as 'Hard' and managed accordingly.
3. Pole markers will be used to identify tracks.
4. Visitor infrastructure can be greater in areas identified as 'Easier Access Areas' in order to facilitate use and enjoyment for those with reduced mobility but will still be sensitive to the character and values of the property.

5. The future use of historic structures for visitor purposes must be acknowledged and managed accordingly.
6. Access points will be provided and promoted for public use, including provision of adequate car parking spaces.
7. To undertake, where feasible, the necessary improvements to enable multi-use access throughout the property (or on specified tracks or areas) and to mitigate any potential conflict between users and farming.
8. Where appropriate, tracks will be developed to create circuits within the property, access suitable sites of public interest and provide linkages with adjacent areas and tracks.
9. To work with adjoining landowners to retain or develop and where necessary legalise public access through their property to specific sites of interest (having a historical link with the Hereweka/Harbour Cone property), to create circuits and to access surrounding areas on the Otago Peninsula.
10. Rubbish bins and litter control will not be provided.
11. The provision of public toilet facilities will be considered if necessary.

9.4 Signage and Interpretation

Signage and interpretation will increase users' enjoyment, understanding and appreciation of the property by detailing visitor access, explaining the significant values of the property and encouraging community stewardship. Well-planned signage will also aid in visitor management.

Signs will be used to discourage public access to areas that are vulnerable to visitor impact and also to inform the

public of appropriate use and specific unusual or significant hazards. Signage at entrances needs to contain information from the NZHPT on the legal protection of cultural sites.

Providing a system of track pole markers (to define the various routes) and direction signs at track junctions (where potentially confusing) will aid public use and enjoyment. Signage will also indicate entrance points and property boundaries and reduce the likelihood of accidental trespass onto private property.

Given the multi-use nature of tracks and the steep terrain, it is necessary to use track signage to inform the public of suitable track use (eg for mountain biking) and where relevant, the type of use not permitted (eg horse riding on some specific tracks).

The Hereweka/Harbour Cone property and surrounding area have many values that are of interest to the public. It is considered that on-site signage interpretation will have a crucial role in increasing visitors' understanding and appreciation of these values and to help promote an ethic of stewardship. Due to the complexity of the site and surrounding area (ie many values and layers of history), input from an expert in interpretation planning will be required. The style of interpretation signage must be sympathetic to the physical and historical landscape.

A 'Visitor Hub' (discussed in Section 9.3), brochures, the internet and collaboration and links with the Otago Peninsula community groups are all interpretation opportunities that could be explored.

9.4.1 Aim:

1. Signage and interpretation increases public enjoyment and appreciation of the property.

9.4.2 Objectives:

1. Interpretive material is provided to increase understanding of the property's values and promote an ethic of community stewardship.

2. Signs will be used to facilitate public access, appropriate public use and warn of significant hazards.

9.4.3 Policies:

1. To develop and implement a Signage and Interpretation Plan that promotes and protects the property's values.
2. To ensure the style of interpretation signage is appropriate to the physical and cultural landscape and has low visual impact.
3. To provide adequate signage to facilitate appropriate use of sites, areas and tracks.
4. To use signage to warn visitors of unusual or significant hazards, property boundaries and legal protection of cultural sites.
5. To support adjoining landowners to manage visitor access through signage.
6. To support the development of 'off-site' interpretation and secure future 'on-site' possibilities to promote the property's values.

9.5 Commercial and Exclusive Use, Special Events and Occupation Agreements

Use of areas within the Hereweka/Harbour Cone property for organised use (commercial or exclusive use or special events) is supported only if such use does not negatively impact on the property's values, including casual public use and enjoyment of the property. Applications to use the Hereweka/Harbour Cone property for these purposes on a permanent or temporary basis will be considered.

It is Council practice to work in accordance with the provisions contained in the Reserves Act 1977, even when the land is not subject to this Act. Therefore

authorities granted will be in the form of written approvals, leases, licences or concessions issued by the relevant Dunedin City Council department, or the property's Management Body. Proposals will be assessed against the aims, objectives and policies within this management plan and the relevant sections of the *Dunedin City Council Reserves Management Plan – General Policies*. The cumulative effect of having a number of organised uses on the property and the effect of this on the property's values (including casual public use and enjoyment) will also be a consideration when assessing proposals.

An occupation agreement may also be an appropriate means to legitimise a person, organisation or company to occupy part of the property. The agreement to farm the property is a relevant example for this property. Other occupation agreements include rights-of-way, water rights, storm-water discharge, drainage rights and underground facilities. Requests to access land or water will be considered where they are consistent with the objectives of this Management Plan, subject to the *Dunedin City Council Reserves Management Plan – General Policies* and any relevant legislation.

An authority to undertake commercial activities will be granted for a period of no more than 14 years (or, in the case of a licence, up to five years) with an annual review. It is considered necessary to review commercial use on an annual basis to ensure the activity continues to be compatible with the property's values.

To ensure that management will not be burdened with responsibilities and expenses that are directly related to such use, authorities granted are likely to include payment of an appropriate fee and to cover all costs related to their authority, including any other costs associated with their use (eg contribution to general visitor provision). The *Dunedin City Council Reserves Management Plan – General Policies* and the *Dunedin City Council Fees and Charges Policy* will be used to guide the level of rent payable.

Compliance with the relevant conditions of the Resource Management Act 1991, the Health and Safety in Employment and other relevant Acts and statutory authorities (eg Food and Hygiene regulations) and the Dunedin City District Plan, is the responsibility of the authority holder.

9.5.1 Aim:

1. Organised use is encouraged where it is compatible with, and does not negatively impact on, the values of property.

9.5.2 Objectives:

1. To allow organised use of the property where compatible with other users and where it does not negatively impact on the property's values.
2. To ensure that all commercial use and occupation of the property is authorised.

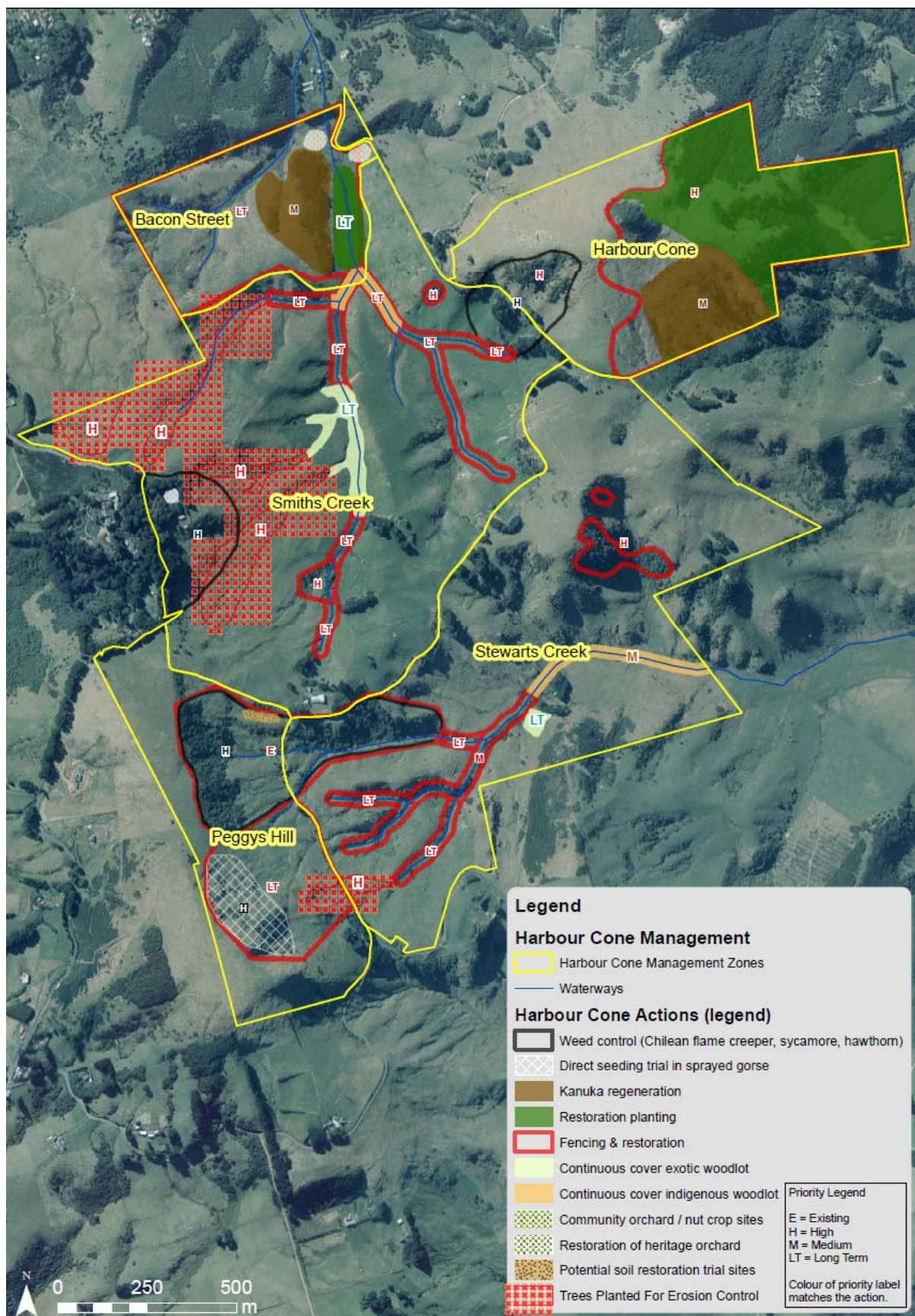
9.5.3 Policies:

1. The sections 'Commercial Use', 'Exclusive Use', 'Use of Reserves', 'Special Events' and 'Occupation Agreements' of the Reserves Management Plan – General Policies should be read in conjunction with this plan.
2. Proposals for organised use will be assessed against impacts on the property's values and benefits to the local community.
3. All costs associated with any organised use, including

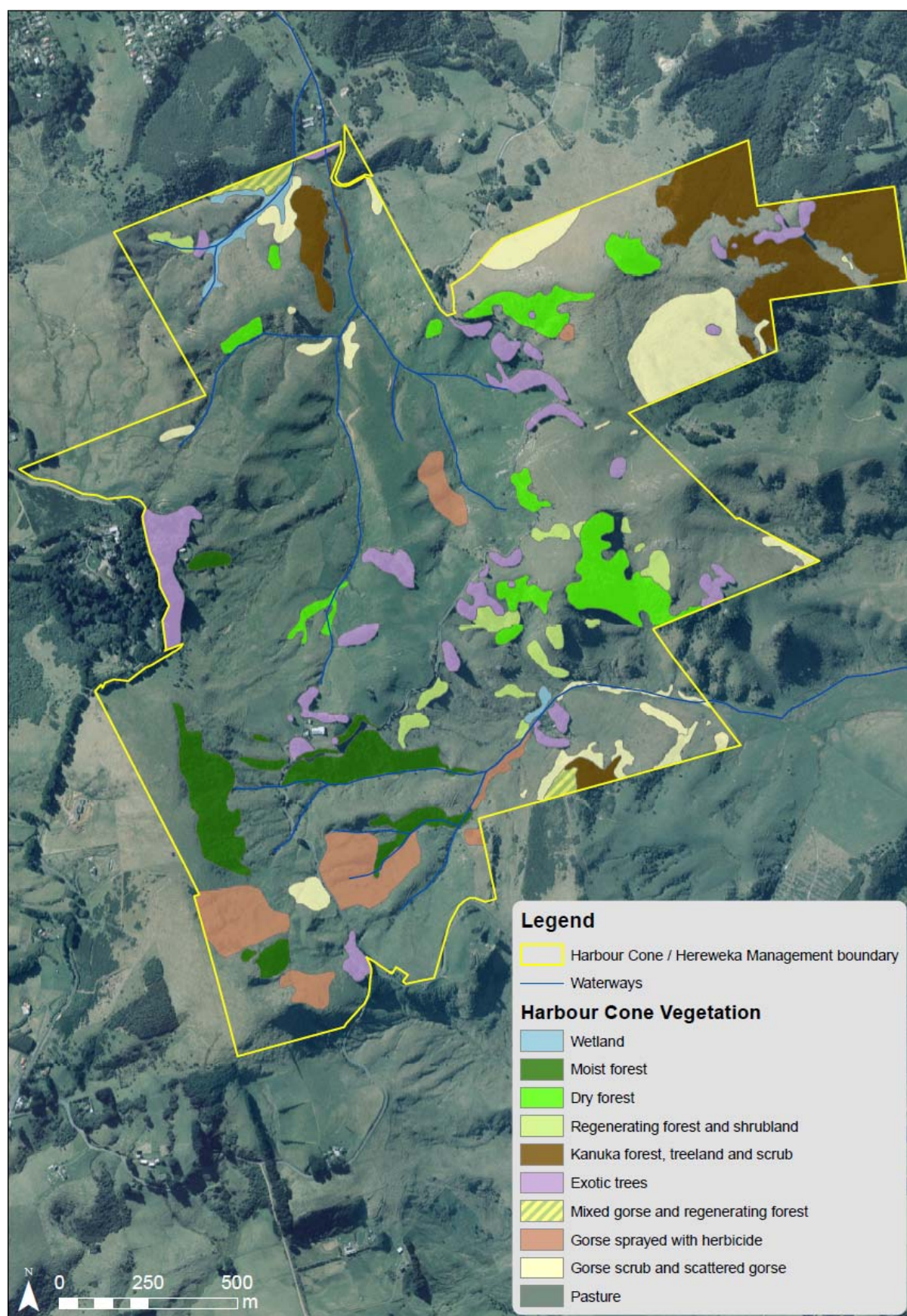
maintenance and monitoring potential impacts, will be met by the user unless specifically waived by the Council.

4. Commercial users may be required to pay an appropriate fee.
5. All organised use of the property will be reviewed on an annual basis and if use is deemed to have an adverse impact on the property and/or other property users, the authority holder must remedy these impacts or the authority granted may be withdrawn.
6. Public notification for leases and licences and occupation agreements is required.
7. The cumulative effect of organised use will be considered when assessing proposals.
8. Any groups using the property are required to independently gain all relevant statutory authorities necessary to undertake their activities.
9. Proposed changes to Commercial Use Agreements, informed by the objectives of the Management Plan, will be resolved through discussions between the Management Body and holders of Commercial Use Agreements.
10. The Management Body will appoint a representative to liaise with holders of Commercial Use Agreements and to resolve property use conflicts as they arise.

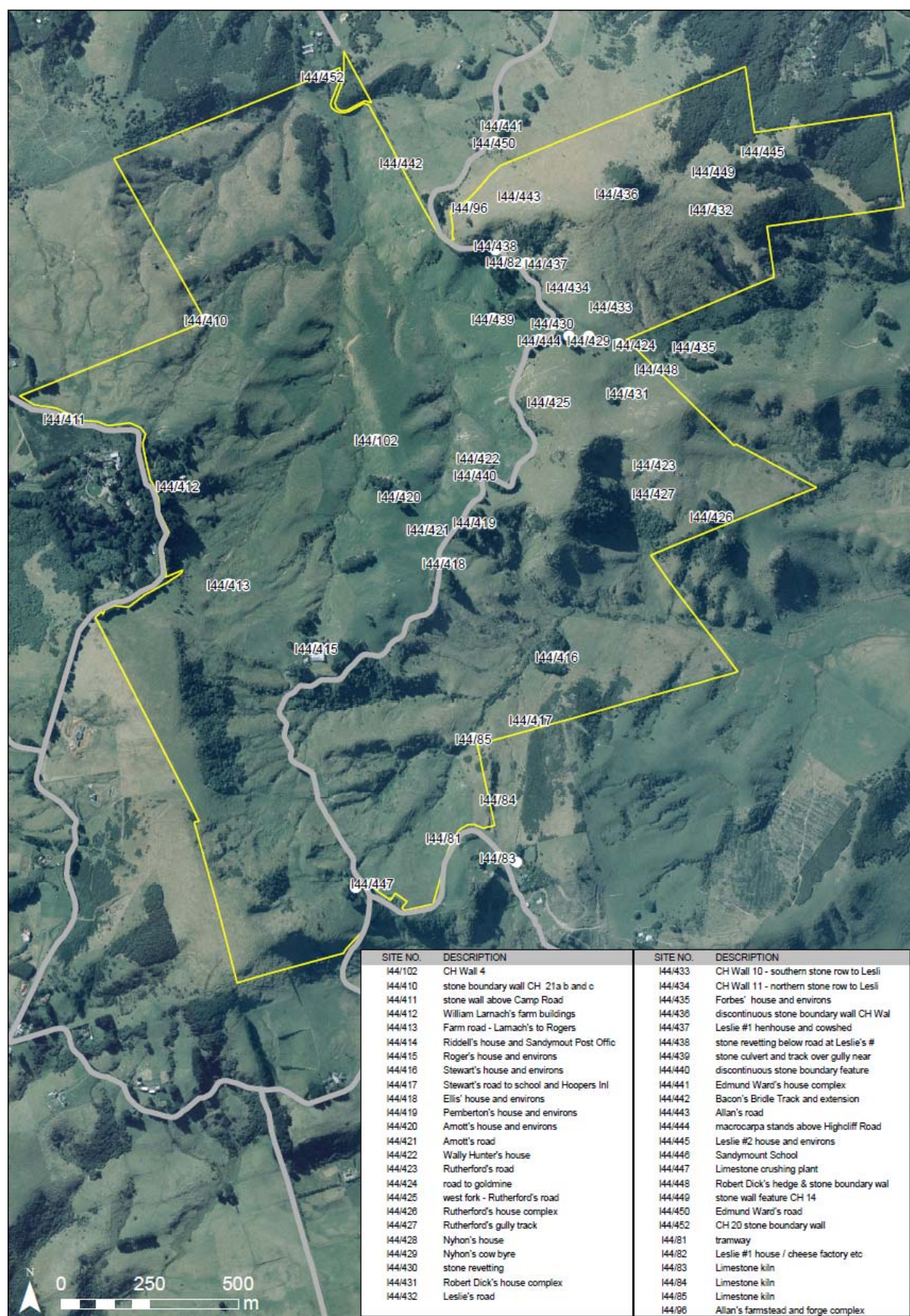
Appendix 1: Land Use Actions and Management Map



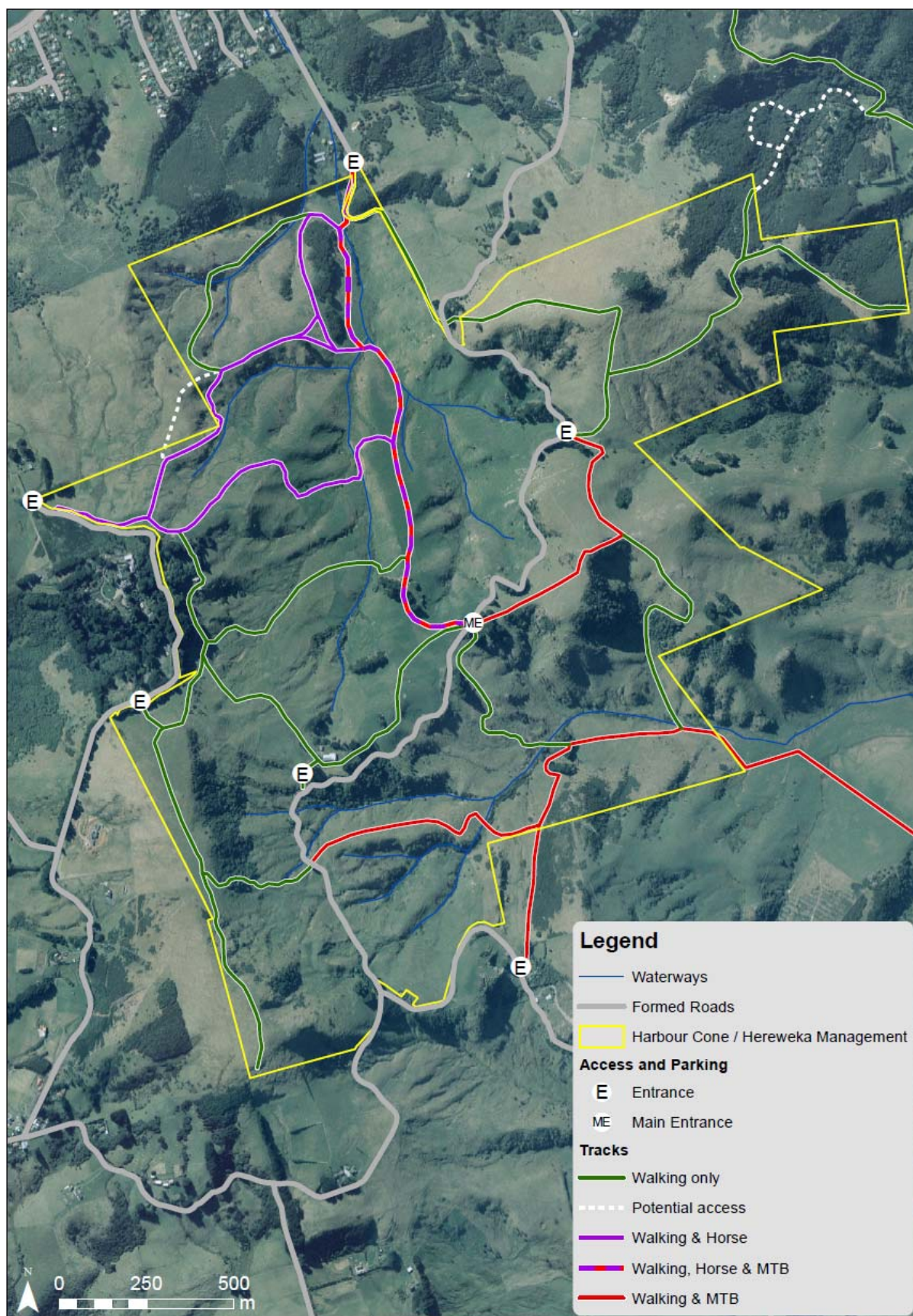
Appendix 2: Existing Vegetation (2011) Map



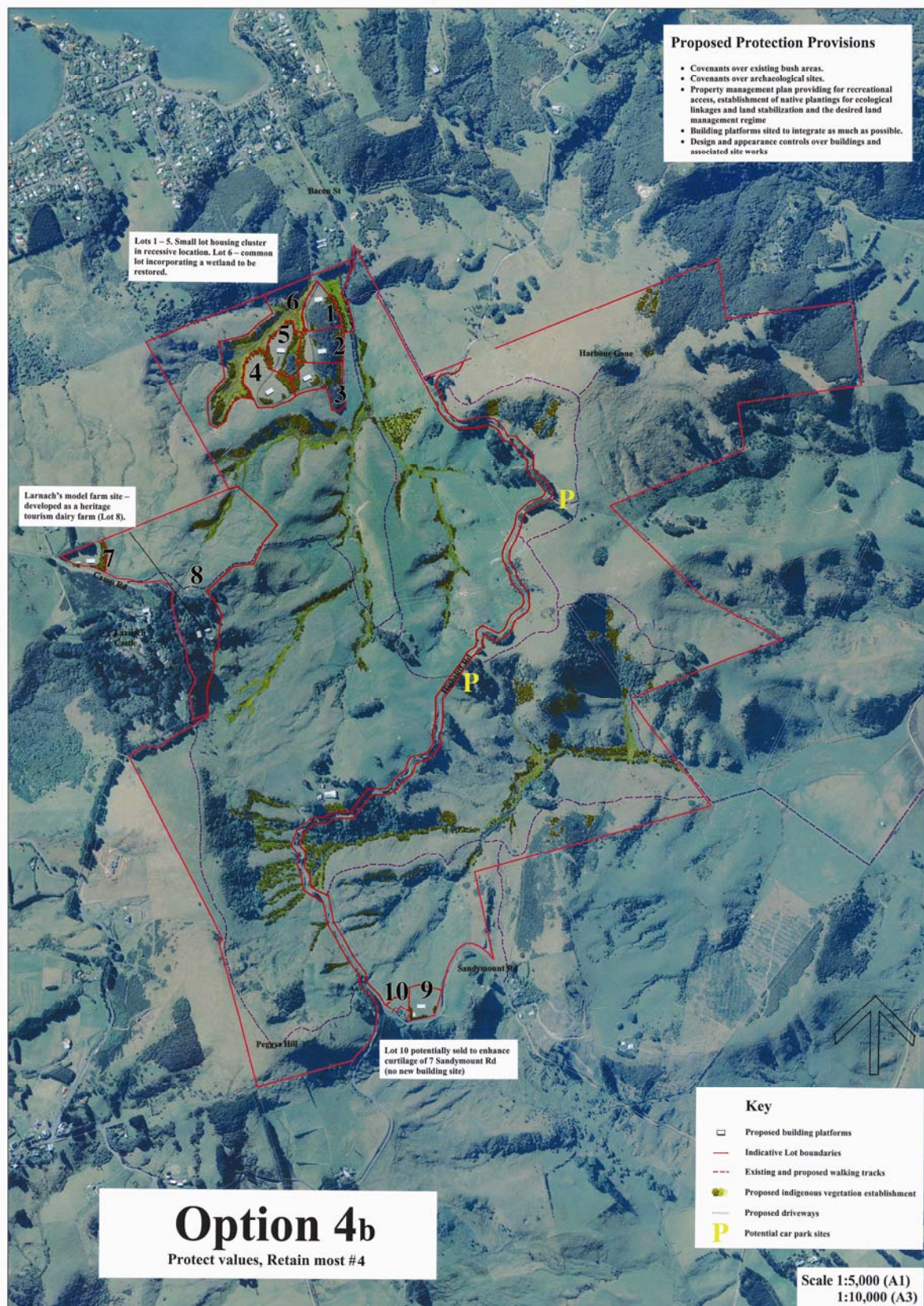
Appendix 3: Heritage Sites Map



Appendix 4: Potential Recreation Routes and Access map



Appendix 5: Development Option 4b Map (refer to Section 2.1)



Appendix 6: Discussion: The Potential for Reintroduction of Buff Weka (*Gallirallus australis*)

This discussion exists as an example of the complex factors requiring assessment when considering the reintroduction of locally and nationally important species.

Hereweka means 'catch weka' and refers to the area being a place where the food resource of weka was found.

Buff weka (*Gallirallus australis hectori*) were historically indigenous to the eastern South Island and Southland but became locally extinct from the South Island due to the effects of habitat loss compounded by predation from exotic pest animals. Fortunately, populations of buff weka had been established on Chatham Island and Pitt Island prior to their extinction from the mainland. This Chatham Islands population has been used as the source of buff weka for re-establishment of weka populations in Canterbury and Otago, although these have not always been successful.

Buff weka is a taoka species to Ngāi Tahu. Papatipu rūnaka, including Otākou rūnaka, have supported its reintroduction to islands in Lakes Wakatipu and Wanaka, and to the adjacent Stevenson's Peninsula. Otākou rūnaka are strong advocates for reintroduction of buff weka to the Hereweka/Harbour Cone property and would envisage a successful weka reintroduction as one that resulted in colonisation by buff weka of wider Otago Peninsula habitats in sufficient abundance as to sustain a managed harvest, as occurs on the Chatham Islands.

Weka favour landscapes with thickets of ground cover vegetation such as fernland, shrubland, and vineland, including those comprised of weedy species such as gorse and blackberry. However, areas that support abundant fleshy-fruited indigenous trees and shrubs are ideal. They predominantly eat fruits and invertebrates, but are also predators of lizards and chicks of other birds, including penguins. Weka form permanent territories but sub-adult birds disperse so as to establish new territories or replace the territories of other weka that have been killed.

Adult weka are vulnerable to predation by domestic dogs and cats, ferrets and stoats, while eggs and nestlings are vulnerable to

predation by hedgehogs and rats. Drought and periods of low rainfall are also factors that periodically reduce weka survival. Many weka are killed in collisions with road traffic. They are also vulnerable to pest control activities such as use of poison baits and leghold traps.

Buff weka would be vulnerable to all of the above influences at the Hereweka/Harbour Cone property. Dense ground cover vegetation is absent from most of the site, with the exception of gorse thickets and locally dense vegetation around buildings. Stock browsing in the indigenous forest remnants has resulted in major depletion of ground cover and understorey vegetation. The full range of weka predators is likely to be present on this property. Otago Peninsula experiences periods of low rainfall and drought and the Hereweka/Harbour Cone property is bisected by a well-used public road. Pest control activities would need to be designed to avoid weka bykill. On the other hand, weka are opportunistic and adaptable and, where they occur in good conditions with abundant food sources, can breed frequently and rapidly increase in numbers.

A major constraint involving weka is their potential for adverse effects through predation of other threatened indigenous fauna. For example, if buff weka were successfully established on the Hereweka/Harbour Cone property and dispersed into the wider area, they could potentially affect valued nesting shorebirds such as penguins.

The issues described above need to be given more consideration. If a feasibility study for buff weka introduction is undertaken, it should address all of the factors and indicators relevant to mainland sites, as specified in Appendix 8 of the Weka Recovery Plan (DOC 1999).

Appendix 7: Statutory Acknowledgement

Ngāi Tahu Claims Settlement Act Schedule 103

Statutory Acknowledgement for Te Tai o Arai Te Uru (Otago Coastal Marine Area)

The statutory area to which this statutory acknowledgement applies is Te Tai o Arai Te Uru (the Otago Coastal Marine Area), the Coastal Marine Area of the Moeraki, Dunedin Coastal and Molyneaux constituencies of the Otago region, as shown on SO Plans 24250, 24249, and 24252, Otago Land District and as shown on Allocation Plan NT 505 (SO 19901).

Preamble

Under section 313, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Te Tai o Arai Te Uru as set out below.

Ngāi Tahu Association with Te Tai o Arai Te Uru

The formation of the coastline of Te Wai Pounamu relates to the tradition of Te Waka o Aoraki, which foundered on a submerged reef, leaving its occupants, Aoraki and his brothers, to turn to stone. They are manifested now in the highest peaks in the Ka Tiritiri o Te Moana (the Southern Alps). The bays, inlets, estuaries and fiords which stud the coast are all the creations of Tu Te Rakiwhanoa, who took on the job of making the island suitable for human habitation.

The naming of various features along the coastline reflects the succession of explorers and iwi (tribes) who travelled around the coastline at various times. The first of these was Maui, who fished up the North Island and is said to have circumnavigated Te Wai Pounamu. In some accounts the island is called Te Waka a Maui in recognition of his discovery of the new lands, with Rakiura (Stewart Island) being Te Puka a Maui (Maui's anchor stone). A number of

coastal place names are attributed to Maui, particularly on the southern coast. The great explorer Rakaihautu travelled overland along the coast, identifying the key places and resources. He also left many place names on prominent coastal features. Another explorer, Tamatea, sailed along the Otago coast in the waka Tākitimu. After the waka eventually broke its back off the coast of Murihiku, Tamatea and the survivors made their way overland back to the North Island, arriving at the coast by the place Tamatea named O-amaru (Ōamaru).

Place names along the coast record Ngāi Tahu history and point to the landscape features which were significant to people for a range of reasons. For example, some of the most significant rivers which enter the coastal waters of Otago include: Waitaki, Kakaunui, Waihemo (Shag), Waikouaiti, Kāikrae (Kāikorai), Tokomairiro, Mata-au (Clutha), Pounaweia (Catlins). Estuaries include: Waitete (Waitati), Ōtākou (Otago), Makahoe (Papanui Inlet), Murikauhaka (Mate-au and Koau estuaries), Tahaukupu (Tahakopa estuary), Waipātiki (Wapati Estuary). Islands in the coastal area include Okaihe (St Michaels Island), Moturata (Taieri Island), Paparoa, Matoketoke, Hakinikini, and Aonui (Cooks Head).

Particular stretches of the coastline also have their own traditions. The tradition of the waka (canoe) Arai Te Uru and its sinking at the mouth of the Waihemo (Shag River) has led to the coastal area of Otago being known as Te Tai o Araiteuru (the coast of Arai Te Uru). Accounts of the foundering, the wreckage and the survivors of this waka are marked by numerous landmarks almost for the length of the Otago coast.

The boulders on Moeraki coast (Kai Hinaki) and the Moeraki pebbles are all

associated with the cargo of gourds, kumara and taro seed which were spilled when the Arai Te Uru foundered.

For Ngāi Tahu, traditions such as these represent the links between the cosmological world of the gods and present generations. These histories reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped the environment of Te Wai Pounamu and Ngāi Tahu as an iwi.

Because of its attractiveness as a place to establish permanent settlements, including pā (fortified settlements), the coastal area was visited and occupied by Waitaha, Ngāti Māmoë and Ngāi Tahu in succession, who, through conflict and alliance, have merged in the whakapapa (genealogy) of Ngāi Tahu whānui. Battle sites, urupā and landscape features bearing the names of tūpuna (ancestors) record this history. Prominent headlands, in particular, were favoured for their defensive qualities and became the headquarters for a succession of rangatira and their followers. Notable pā on the Otago coast include: Makotukutuku (Ōamaru), Te Raka-a-hineatea (Moeraki), Te Pā Katata, Pā a Te Wera, (Huriawa Peninsula), Mapoutahi (Purakaunui), Pukekura (Taiaroa Head), Moturata (Taieri Island). The estuaries from the Waitaki River to the Chaslands also supported various hapu.

Tūpuna such as Waitai, Tukiauau, Whaka-taka-newha, Rakiamoa, Tarewai, Maru, Te Aparangi, Taoka, Moki II, Kapo, Te Wera, Tu Wiri Roa, Taikawa, Te Hautapanuiotu among the many illustrious ancestors of Ngāti Māmoë and Ngāi Tahu lineage whose feats and memories are enshrined in the landscape, bays, tides and whakapapa of Otago.

The results of the struggles, alliances and marriages arising out of these migrations were the eventual emergence of a stable, organised and united series of hapu located at permanent or semi-permanent settlements along the coast, with an intricate network of mahika kai (food gathering) rights and networks that relied to a large extent on

coastal resources. Chiefs such as Korako (several), Tahatu, Honekai, Ihutakuru, Karetai, Taiaroa, Potiki, Tuhawaiki, and Pokene being some among a number who had their own villages and fishing grounds. Otago Peninsula (Muaupoko) had many kaunga nohoanga with a multitude of hapu occupying them. At one time up to 12 kaunga existed in the lower Otago harbour, some larger and more important than others.

The whole of the coastal area offered a bounty of mahika Kāi, including a range of kaimoana (sea food); sea fishing; eeling and harvest of other freshwater fish in lagoons and rivers; marine mammals providing whale meat and seal pups; waterfowl, sea bird egg gathering and forest birds; and a variety of plant resources including harakeke (flax), fern and ti root. In many areas the reliance on these resources increased after the land sales of the 1840s and 1850s, and the associated loss of access to much traditional landbased mahika kai.

Many reefs along the coast are known by name and are customary fishing grounds, many sand banks, channels, currents and depths are also known for their kaimoana. One example is Poatiri (Mt Charles — Cape Saunders) the name of which refers to a fish hook. Poatiri juts out into the Pacific, close to the continental shelf, and is a very rich fishing ground. Another example is Blueskin Bay which was once a kohanga (breeding ground) for the right whale, although it is well over 150 years since it has seen this activity.

Other resources were also important in the coastal area. Paru (black mud used for dying) was obtained from some areas. Some of the permanent coastal settlements, such as those at the mouth of the Mataau (Clutha River), and at Ōtākou and Purakaunui, were important pounamu manufacturing sites. Trading between these villages to the south and north via sea routes was an important part of the economy.

The Otago coast was also a major highway and trade route, particularly in areas where travel by land was difficult. Pounamu and titi were traded north with

kumara, taro, waka, stone resources and carvings coming south. Travel by sea between settlements and hapu was common, with a variety of different forms of waka, including the southern waka hunua (double-hulled canoe) and, post-contact, whale boats plying the waters continuously. Hence tauranga waka (landing places) occur up and down the coast in their hundreds and wherever a tauranga waka is located there is also likely to be a nohoanga (settlement), fishing ground, kaimoana resource, rimurapa (bull kelp — used to make the poha, in which titi were and still are preserved) with the sea trail linked to a land trail or mahika kai resource. The tūpuna had a huge knowledge of the coastal environment and weather patterns, passed from generation to generation. This knowledge continues to be held by whānau and hapu and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the coast. Numerous urupā are being exposed or eroded at various times along much of coast. Water burial sites on the coast, known as waiwhakaheketupapaku, are also spiritually important and linked with important sites on the land. Places where kaitangata (the eating of those defeated in battle) occurred are also wāhi tapu.

Urupā are the resting places of Ngāi Tahu tūpuna and, as such, are the focus for whānau traditions. These are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna and are frequently protected in secret locations.

The mauri of the coastal area represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu whānui with the coastal area.

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Appendix 9: Hereweka/Harbour Cone Property Management Plan Implementation Plan

The purpose of this Implementation Plan is to provide an order of priority to the implementation of management policies detailed in the Hereweka/Harbour Cone Management Plan. It is recommended that these priorities are implemented over a period of three years, from 2011-2014. At the end of this timeframe, priorities should be reviewed and a new Implementation Plan developed.

The whole-of-property Management Plan for the Hereweka/Harbour Cone property provides a policy framework that serves to strategically integrate the multiple objectives that the Dunedin community has for this property. It is a document for all stakeholders involved in the use of the property, including those charged with managing the property and other local stakeholders implementing conservation, heritage or cultural projects.

The Implementation Plan is informed by those objectives and policies of the Hereweka/Harbour Cone Management Plan that relate to each of the core values of the Hereweka/Harbour Cone property. These values are summarised as:

- The history, cultural significance and connection for manawhenua.
- The intactness of the archaeological landscape.
- The outstanding landscape and the significant landforms.
- The areas of significant conservation value.
- The recreational opportunities and the ease of access to open space for Dunedin residents.
- The potential of the property as a place for community learning and as an exemplar of sustainable land management practice.

Given the integrated nature of the Management Plan's objectives and policies, this Implementation Plan should not be considered in isolation but should be referenced back to the context of the Management Plan whenever possible. The Implementation Plan uses the objectives and policies of the Management Plan to focus the Management Body's time and resources on tasks that are considered to be high priority.

Given the relative short time frame that has passed since the Council purchased the Hereweka/Harbour Cone property and because this is the first Implementation Plan (and Management Plan) that have been produced for the Hereweka/Harbour Cone property, a number of the higher priority tasks that are described in this document are focussed on:

- Legal protection of the property.
- Establishing the most effective governance and management structure, thereby enabling sound management for the future.
- Further understanding the heritage and cultural values of the property and prioritising the protection of sites as a result of this increased understanding.
- Understanding ecological enhancement priorities and implementing works that protect existing values.
- Developing signage, interpretation and route markers to enable a safe and informative visitor experience.

Who Implements the Plan?

The priorities have been broken into a simplified order of key tasks that relate to achieving specific Management Plan policies and objectives. The Implementation Plan Table (Appendix 1) makes reference to task responsibilities and potential partnerships for

implementation of these specific tasks. However, as the management and governance structure has not been finalised, it is possible that these responsibilities may change over time and do not preclude involvement of other stakeholders. Reference has been made to the use of consultants when it is considered that this external expert input is needed.

Timing

The tasks listed in the Implementation Plan Table have been prioritised within timeframes. These timeframes are as follows:

- Priority 1: Implemented during July 2011 – end June 2012.
- Priority 2: Implemented during July 2012 – end June 2013.
- Priority 3: Implemented during July 2013 – end June 2014.

These timeframes are indicative only and are very dependent on other Council processes, such as the revision and subsequent adoption of the Annual Plan. As such, it is expected that there will be some fluidity as to when these tasks will be implemented. The ability for some tasks to be implemented by Council staff, rather than external contractors, may also increase the ability to implement some tasks more quickly than others.

Legally protecting the values of the property and ensuring public access in perpetuity is one of the highest priority tasks to be implemented. Sitting alongside this is the need to establish the most effective form of governance and management of the property.

Other tasks that have been prioritised centre around the protection of existing values. An archaeological assessment, which includes the development of a resource inventory of sites and landscapes of significance to manawhenua, has been highly prioritised. This assessment will determine priorities for the management of heritage sites and will also directly inform other management activities such

as visitor access, vegetation management and farm management on these heritage sites. A cultural opportunities mapping exercise will follow the completion of the archaeological assessment. The objectives for this project and the methodology for completing the work need to be planned in conjunction with Te Rūnanga o Otākou.

Slowing the erosion across parts of the property is a priority from the perspective of managing risk. Sensitive design and planning is essential to ensure that this is completed to a high standard. The actual revegetation project is considered to be a relatively low cost operation.

Other low-cost priorities include trialling alternative methods of facilitating the natural regeneration of indigenous vegetation. With guidance provided, such exercises can be easily implemented by knowledgeable members of the public and serve to inform other restoration projects that are proposed for the future.

Developing site-specific management plans for the restoration of existing areas of indigenous vegetation has also been prioritised. Most of these patches of indigenous vegetation are in a substandard state and need active management to ensure their ongoing maintenance of health and ecological functioning. Understanding the level of management that each patch of vegetation needs is important, directly informing the ability of the Management Body to plan and budget for the physical restoration works. Public funding is available for protection and enhancement of these biodiversity values and should be accessed immediately after the planning is completed.

To facilitate public use enjoyment of the property and to increase visitors' understanding of the property's values, some visitor infrastructure is necessary. Site-specific improvement of the marked tracks will need to occur in a number of places before enabling use by higher impact horses and mountain bikes. In addition, some new walking

tracks need to be marked to ensure ease of navigation.

A signage and interpretation plan will ensure the future location and design of interpretation panels and access signs are sensitive to the values of the property, whilst informing visitors of both the property's values and safe track routes that are available for recreation.

Hereweka/Harbour Cone Operational Implementation Plan Table

Priority 1: Implemented during July 2011 – end June 2012³

Priority 2: Implemented during July 2012 – end June 2013

Priority 3: Implemented during July 2013 – end June 2014

Objective	Relevant Policy	Key tasks Order of tasks	Task Priority Ranking	Stakeholders (and possible involvement)	Resources Required	Indicators of progress	Comments
Section 5.0 Objective 2 To ensure the management structure and governance model protects the property's values in perpetuity.	Section 5.0 Policy 3 To establish a Management Board with a Memorandum of Understanding with the Dunedin City Council, or an alternative governance option.	<ul style="list-style-type: none"> Assess costs and benefits of various governance and management structures. Decide on the most appropriate governance model for the property. Implement structure. 	Priority 1	<ul style="list-style-type: none"> Harbour Cone Steering Group. The Dunedin City Council. 	<ul style="list-style-type: none"> Council Staff time. 	<ul style="list-style-type: none"> Agreement is reached about the most effective form of management structure and governance model, within eight months of the adoption of the Management Plan. Official management and governance agreements are established and signed off within 15 months of adoption of the Management Plan. 	
Section 5.0, Objective 3 To secure the legal protection of the Hereweka/Harbour Cone property, to protect values and ensure public use in perpetuity.	Section 5.0, Policy 1 To secure the most appropriate form of legal protection of the property (or parts thereof) as a community asset in perpetuity.	<ul style="list-style-type: none"> Assess costs and benefits of the available legal protection mechanisms available. Decide whether the property will be gazetted as a Reserve. Develop policy to enable the legal protection of the property's values. Implement the policy. 	Priority 1	<ul style="list-style-type: none"> Harbour Cone Steering Group. Council Management Group. 	<ul style="list-style-type: none"> Council Staff time. 	<ul style="list-style-type: none"> Production of Council resolution that directs uptake of the favoured legal protection mechanism(s) within 12 months of the adoption of this Management Plan. Agreed legal protection mechanisms are adopted across the property within 24 months of the adoption of this Management Plan. 	

³ Indicative timeframes only

Objective	Relevant Policy	Key tasks Order of tasks	Task Priority Ranking	Stakeholders (and possible involvement)	Resources Required	Indicators of progress	Comments
Section 6.3.2 Objective 1 To prevent further deterioration of archaeological sites and structures.	Section 6.3.2 Policy 1 Undertake an intensive archaeological assessment of the whole property that includes establishing priorities to develop Conservation and Management Plans.	<ul style="list-style-type: none"> Assess options for funding the archaeological assessment. Engage archaeological consultants and undertake the archaeological assessment. Establish priorities to develop Conservation and Management plans. 	Priority 1	<ul style="list-style-type: none"> Historic Places Trust. Council heritage planning staff. Council parks staff. 	<ul style="list-style-type: none"> Consultant archaeologist (indicative cost \$6,000). 	<ul style="list-style-type: none"> Funding is secured and the Management Body commits to undertaking the archaeological assessment within 12 months of adoption of the Management Plan. Completion of archaeological assessment and provision of information within 18 months of adoption of Management Plan. Understand priorities for the development of Conservation Management Plans within 18 months of adoption of Management Plan. 	Refer to Heritage sites Map within the Hereweka/ Harbour Cone Management Plan.
Section 6.3.2 Objective 2 To manage archaeological sites and heritage structures according to best practice.	Section 6.3.2 Policy 2 Implement priorities to prepare Conservation and Management Plans.	<ul style="list-style-type: none"> Allocate funding to this task, determining the number of Conservation and Management Plans that can be produced annually. Begin development of Conservation and Management Plans on highest priority sites. 	Priority 2	<ul style="list-style-type: none"> Historic Places Trust. Council heritage planning staff. 	<ul style="list-style-type: none"> Consultant archaeologist (indicative average price \$3,000 per site). 	<ul style="list-style-type: none"> Funding is secured and the Management Body commits to developing Conservation Management Plans for the four highest priority sites within 12 months of the completion of the intensive archaeological assessment. Conservation Management Plans are developed for the four highest priority sites within 18 months of the completion of the intensive 	Refer to Heritage sites Map within the Hereweka/ Harbour Cone Management Plan.

Objective	Relevant Policy	Key tasks Order of tasks	Task Priority Ranking	Stakeholders (and possible involvement)	Resources Required	Indicators of progress	Comments
	potentially adverse activities.				\$25,000 per site. Range \$7,000 - \$40,000 per site). • Ongoing maintenance of sites (indicative \$10,000/annum for first five years).	programme of fund-raising, remnant protection and restoration, protecting and restoring one site every second year. • Beginning within 24 months of adoption of this Management Plan.	
Section 6.3.1 Objective 3 To ensure any enhancement of Hereweka (mauka) and the Hereweka/Harbour Cone property is consistent with the cultural position of manawhānua and recognises this area as part of a wider cultural landscape.	Section 6.3.1 Policy 3 Undertake a cultural opportunities mapping exercise with Te Rūnanga o Otākou.	• Clarify objectives for completing the cultural opportunities mapping exercise. • Engage Kāi Tahu Ki Otago, Te Rūnanga o Otākou, or an agreed consultant, to implement the mapping exercise.		• Te Rūnanga o Otākou. • Kāi Tahu Ki Otago (KTKO). • Hereweka/Harbour Cone Management Body.	• KTKO or agreed consultant (indicative \$6,000).	• Agreement with Te Rūnanga o Otakou as to objectives, protocol and strategy for implementing the task, within 24 months of the adoption of this Management Plan. • Complete the Cultural Opportunities Mapping Exercise within 36 months of the adoption of this Management Plan.	
Section 6.4.5 Objective 1 Interpretative material is provided to increase understanding of the property's values and promote an ethic of community stewardship.	Section 6.4.5 Policy 1 To develop and implement a Signage and Interpretation Plan that promotes and protects the property's values.	• Develop a Signage and Implementation Plan. • Construct and install interpretation and signage in a prioritised method.		• Interpretation specialist. • Archaeological consultant. • Te Rūnanga o Otākou. • Council parks staff.	• Interpretation specialist – development of Plan and design for interpretation (estimated \$10,000). • Contractor – installation (estimated \$10,000). • Production of interpretation signs	• Contract a specialist expert in interpretation and signage to develop a Signage and Interpretation Plan, and to develop the interpretation design for the property, within 24 months of adopting this Management Plan. • Begin production and installation of the highest priority signs and interpretation panels within 36 months of adoption of	

Objective	Relevant Policy	Key tasks Order of tasks	Task Priority Ranking	Stakeholders (and possible involvement)	Resources Required	Indicators of progress	Comments
					(estimated \$60,000).	this Management Plan.	
Section 6.4.4 Objective 1	Section 6.4.4 Policy 8						
To encourage public access onto and through the property where appropriate.	Where appropriate, track links will be developed to create circuits within the property and provide access to neighbouring properties.	<ul style="list-style-type: none"> • Create track links and circuits onto and throughout property. • Confirm track locations. • Establish priority of track developments. • Secure legal agreements with relevant neighbours where access is desired. • Confirm contractors for implementation. • Implement developments over time. 		<ul style="list-style-type: none"> • Local community (local and Dunedin) walking/ track groups. • Mountain Bike Otago. • Local pony club or other Dunedin equestrian groups. • Council parks staff. 	<ul style="list-style-type: none"> • Council recreation operational staff – planning. • Contractor and/or local groups. • Equipment to undertake drainage and construct boardwalks (estimated \$10,000). 	<ul style="list-style-type: none"> • Secure legal agreements with applicable neighbouring landowners, if access easements are required, within 24 months of the adoption of this Management Plan. • Tracks established and track markers and necessary signage in place within 24 months of the adoption of this Management Plan. • Any board walks completed within 48 months of the adoption of this Management Plan. 	Refer to Recreation – Proposed Routes and Access Map for indicative routes.