

Signal Hill Recreation Reserve management plan

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Acknowledgements:

Landcare Research vegetation assessment

Matt Vance, Dunedin City Council: landscape assessment

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1.0 Introduction

1.1 Description of the Reserve

Signal Hill forms the north-eastern flank of the hills surrounding Dunedin, rising to a height of 400 metres. On its ridgeline, where a small area was gifted to the Dunedin City Council in 1926, the City's Centennial Memorial was constructed in 1940. Here a lookout, with road access from suburban Opoho, provides a superb panoramic view of Dunedin, the Otago Harbour, the Otago Peninsula and the hills beyond the city.

The slopes of Signal Hill are clearly visible from much of Dunedin and, together with the hills of Mount Cargill and Flagstaff, provide the city's scenic backdrop. This scenic quality, and its close proximity to a large student population in North Dunedin, means Signal Hill has been recognised for some years as a key recreation and landscape resource. Fires, however, have burned the face of the hill on numerous occasions, leading to an overgrowth of gorse. A variety of approaches to vegetation management have been taken in an attempt to control such noxious plant growth.

The question of appropriate future management of the reserve has been brought before the Dunedin City Council on a number of occasions. The latest proposal—that of an arboretum on the reserve—has considerable community support. In addition, previous consultation work carried out by Council during the preparation of the *Recreation Strategy for Dunedin City* (1995) identified support for developing the reserve for walking and mountain biking (see page 43 of that document).

This management plan has been written to ensure that the management of the reserve complies with the requirements of the Reserves Act 1977 (see Section 2.3 of this management plan), and that the development of the reserve maintains and seeks to improve the recreation opportunities it offers, its open space, natural and scenic values.

2.0 Management Planning For Reserves

2.1 Aims and Objectives of Reserve Management Plans

The mission statement of the Dunedin City Council is to, “maintain and enhance our Community for the long term well-being of our people and environment through innovative leadership and the provision of cost effective services” (*Dunedin City Council Strategic Plan*, 1998:8).

The mission statement defines a Reserve Management Plan as assisting the City Council in achieving three of its seven long-term strategic goals:

Goal 3. Community: to create and maintain a broad range of recreational, cultural and social opportunities and to support Community initiatives and linkages with other service agencies.

Goal 4. Environment: to promote a quality environment and sustainable management of our resources by encouraging environmental improvement.

Goal 5. Participation: to recognise Community aspirations for involvement in local government activities by establishing simple and effective channels for public information and participation.

2.2 Council's Role in the Management of Reserves

Reserve management plans guide both the day-to-day and long-term management of reserves, and may set a context for their future development. A plan's recreational aims and objectives are considered in the context of wider Council recreational strategy and policy. The documents providing this framework include the *Recreation Strategy for Dunedin* (1993) and its successor, the *Sport and Recreation Strategic Plan 2002*, which outline the priorities and guidelines for the provision of recreation services within Dunedin.

The Dunedin City Council has a statutory responsibility to manage reserves for the community under the Reserves Act 1977, and has been involved in the provision of this service since the 1860s. The Reserves Act prescribes a basic reserve management framework, with which this management plan must comply.

The primary purpose of strategic planning for Council's reserves is to ensure an accessible and equitable provision of recreation space for the people of Dunedin and visitors to the City. It is also intended to ensure recreation resources are managed in an environmentally and economically sustainable way.

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2.3 Management Planning Under The Reserves Act 1977

The Reserves Act 1977 is designed to protect appropriate public land, to designate its predominant values and to ensure the land is managed to promote those predominant values. To promote good management, the Act requires the development of Reserve Management Plans. These plans can vary greatly in their detail, but they must support the over-riding principles of the Act. The management plan preparation process is also prescribed by the Act.

The Community and Recreation Services Department of the Dunedin City Council has the responsibility to prepare management plans for Dunedin's reserves. These management plans should:

Provide for and ensure the use, enjoyment, maintenance, protection and preservation... and... the development, as appropriate, of the reserve for the purposes for which it is classified.
Reserves Act 1977 41(3)

In the case of Signal Hill, most of the land is classified as a Recreation Reserve (it is, in fact, a collection of individually gazetted and fee simple parcels of land). The primary purpose of a Recreation Reserve, under the Reserves Act 1977, is to:

Provide areas for the recreation and sporting activities and the physical welfare and enjoyment of the public and for the protection of the natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreation activities, including recreational tracks in the countryside.
Reserves Act 1977 17(1)

The Act also requires the management of other values in a recreation reserve:

Where scenic, historic, archaeological, biological, geological, or other scientific features or indigenous flora or fauna or wildlife are present on the reserve, those features or that flora or fauna or wildlife shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve.
Reserves Act 1977 17(2)b

Management planning is also a process for determining the management direction that the Community and the Dunedin City Council would like to apply to reserves. This includes the identification of the ways in which management direction can be achieved. Management plans under the Reserves Act 1977 should outline Council's general intentions for use, development and maintenance of its reserves. The aim of the Reserves Act 1977 is to ensure that the reserve development meets the purpose of the reserve and through the public's involvement, ensure their

needs are facilitated while managing the resource in a sustainable manner.

2.4 Consideration of Other Management Documents

A Reserve Management Plan must comply with the broader aims, objectives and policies of Council, including those developed in the District Plan, Annual Plan and the Long Term Financial Strategy. Other non-statutory documents such as the *Recreation Strategy*, *Play Policy* and *Playground Priority Plan*, *Fees and Charges Policy* and the *Track Policy and Strategy*, also provide direction for the policies contained in management plans.

These plans have been considered by the Dunedin community and have been endorsed by Council. As such, they represent a set of commitments to a number of outcomes. This plan must have regard for the intentions of those documents.

The policies of the *Dunedin City Council Reserves Management Plan—General Policies* are an integral part of this management plan and other management plans, and are intended to be read with reference to specific policies in each of these plans. A consistent approach is required for the whole City. Policies on camping and the leasing of reserve lands provide examples of these two approaches.

Where any issue on a reserve is addressed by both the *Reserve Management Plan General Policies* and a management plan specific to that reserve, then the policies in the specific management plan take precedence.

The effect of these plans is considered in more detail in Section 6.0 of this plan.

2.5 The Review of Reserve Management Plans

Site-specific reserve management plans are subject to ongoing review and regular, comprehensive reconsideration at ten-yearly intervals. Public comment will be sought on each management plan as they are reviewed.

The separate document the *Reserve Management Plan—General Policies*, may be reviewed at the same time and within the same review process as the site-specific management plans, or through a separate review process. This means that while the *Signal Hill Recreation Reserve Management Plan* will be reviewed every ten years, the *Reserve Management Plan—General Policies* is reviewed more frequently. This allows policies common to all reserves to be updated on a regular basis. This creates a more flexible and dynamic management planning approach.

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3.0 Background Information

3.1 A History

The Dunedin City Council's ownership of land at Signal Hill began in 1926 with a donation of ten acres from Mr J.R. Smith for recreation purposes. A roadway was then constructed in 1934/35 to the hilltop (now the Signal Hill Road). Later in 1940 the land around the hilltop was cleared and planted as part of the New Zealand Centennial Commemorative Lookout development—an idea developed by the Dunedin Amenities Society.

On February 20, 1940, the foundation stone of the New Zealand Centennial Commemorative Lookout was laid. The Governor-General, Sir Cyril Newall, opened the structure on 3 April 1941. The lookout was not completed until 1955 and was built for £5,731. At the time land surrounding the lookout supported remnants of kanuka and native bush with populations of exotic weed species, mainly gorse and broom. Efforts were made to improve the surrounds of the lookout by planting both native and exotic plants. These have largely failed to survive.

In the 1959/60 financial year, the Burns Scenic Reserve, being 97 acres of thick bush covered land adjacent to the Signal Hill Recreation Reserve, reverted from Dunedin City Council management to Crown administration (Department of Conservation). The Department of Lands and Survey allowed the development of a telecommunications transmitter on part of the land in 1964. The Reserve was named after the Reverend Thomas Burns (1796-1871), religious leader of the Otago settlement and first minister of the First Church. The area surrounding the Centennial Memorial and the Burns Scenic Reserve was cleared as a firebreak in 1972, with some tracks cut through the gorse to provide access from Ravensbourne to Logan Park.

Land purchase dates are described in Section 3.2.

By 1984 the land on the southern slopes was then covered mostly in native bush, which was considered worthy of protection. The northern slopes were cleared and largely open. Maintenance, however, had always been a problem, and in 1984 a proposal was put forward to develop the reserve as an arboretum ('Operation Backdrop'). Early endeavours to improve the site involved subsidised labour to develop the reserve, but a lack of funding saw the then Dunedin City Council Parks Department undertake small landscape improvements. Over the following 20 years, the land that was cleared has reverted back to weed species with a scattering of *Pinus radiata*. Since 1977 the gorse-covered slopes have been the focus of several control regimes (including some grazing).

During the 1980s and 1990s the area north of the New Zealand Centennial Commemorative Lookout car park was cleared of noxious weeds and re-established with flax and other hardy native plants. A gorse-covered section east of Logan Park High School was also partly cleared and planted with eucalypts. However, vigorous re-growth of gorse has seen only a few plantings survive. More recently, members of MountainBiking Otago and the Otago University Mountain Bike Club have been restoring and extending the existing track network on the reserve. The main accessway is kept open by the Council to ensure access for fire fighting. Telecom NZ and the Dunedin City Council Water Department have also buried a fibre optic cable and water supply pipeline across the reserve, creating additional tracks.

3.2 Land Units Within The Reserve

The Signal Hill Recreation Reserve is made up of a number of parcels of land owned or acquired by the Dunedin City Council over the past 30 years (Refer to Site Plan). Most of the reserve has been classified as Recreation Reserve with the remaining land around the Signal Hill Lookout being fee simple land. The land unit containing a Dunedin City Council water reservoir (Lot 1 D.P. 11801, Dunedin City Council, 1.1506 hectares) is not subject to this plan. The total land area encompassing the reserve is approximately 86 hectares. See Table 1 and Figure 1 for details of land units.

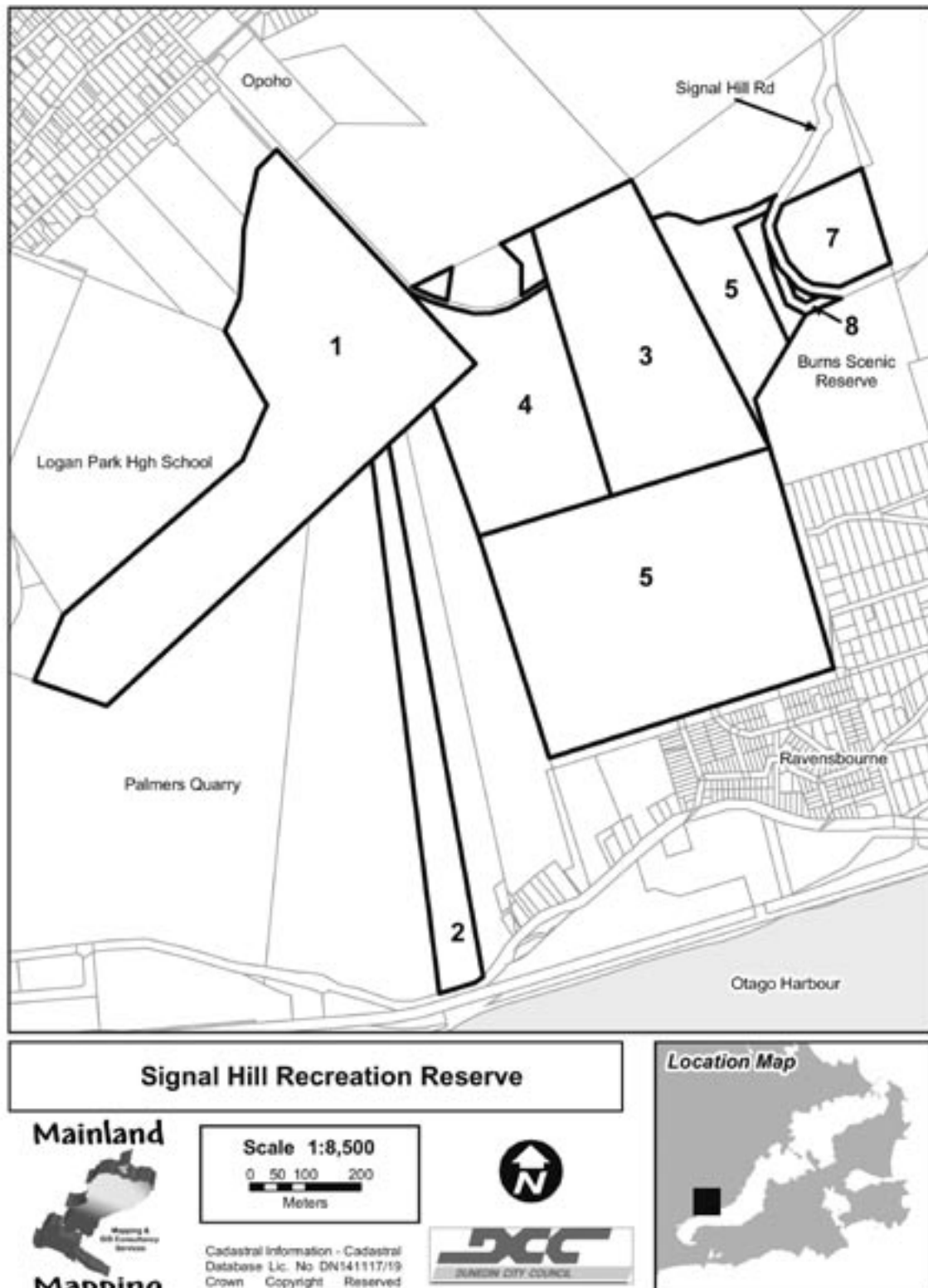
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Table 1: Legal Land Descriptions

Unit	Appellation	Status	Held by Council	Classified	Officially Named	Certificate of Title Ref
1	Section 71 Blk IX North Harbour and Blueskin SD 24.498 ha.	Recreation Reserve G. 1982 p 2170 All GN 579526	Vested in DCC by G. 1982 p 2170. All GN 579526	Recreation Reserve G. 1984 p 2365 All GN 620706	Signal Hill Recreation Reserve G 1984 p 2365 All GN 620706	CT Otago 33502
2	Part Section 53 Blk IX North Harbour and Blueskin SD (DP 241) & mines a minerals under Proclamations 2356 & 1520 8.4531 ha	Recreation Reserve G 1985 p 5631 Pt GN 660410	Vested by G. 1985 p 5631. Pt GN 660410 (Sec 14 resolution)	Recreation Reserve Gazetted 1985 p 5631 Pt GN 660410	No	CT 177/115
3, 4 & 5	Sections 1 of 30, 54 and Pt 2 of 30, Blk IX North Harbour and Blueskin SD 46.7136 ha	Recreation Reserve G 1985 p 5631 Pt GN 660410	Vested by G. 1985 p 5631. Pt GN 660410 (Sec 14 resolution)	Recreation Reserve Gazetted 1985 p 5631 Pt GN 660410	No	CT 4B/56
6	Lot 1, DP 21874 4.1544 ha	Local Purpose Reserve (Scenic) Vested on deposit of DP 21874 - on 24.4.1991	Vested on deposit of DP 21874 on 24.4 1991	Recreation Reserve by resolution of Council on 27 March 2000.	No.	CT Otago 2158
7	Pt Section 66 Blk IX North Harbour and Blueskin SD 3.8266 ha	Fee simple	DCC fee simple	N/A – Fee simple land	N/A	CT OT 220/20
8	Closed Streets Blk IX North Harbour and Blueskin SD 0.0857 ha and 0.2254 ha	Fee simple	DCC fee simple	N/A – Fee simple land	N/A	CIR 5439 and CIR 5440

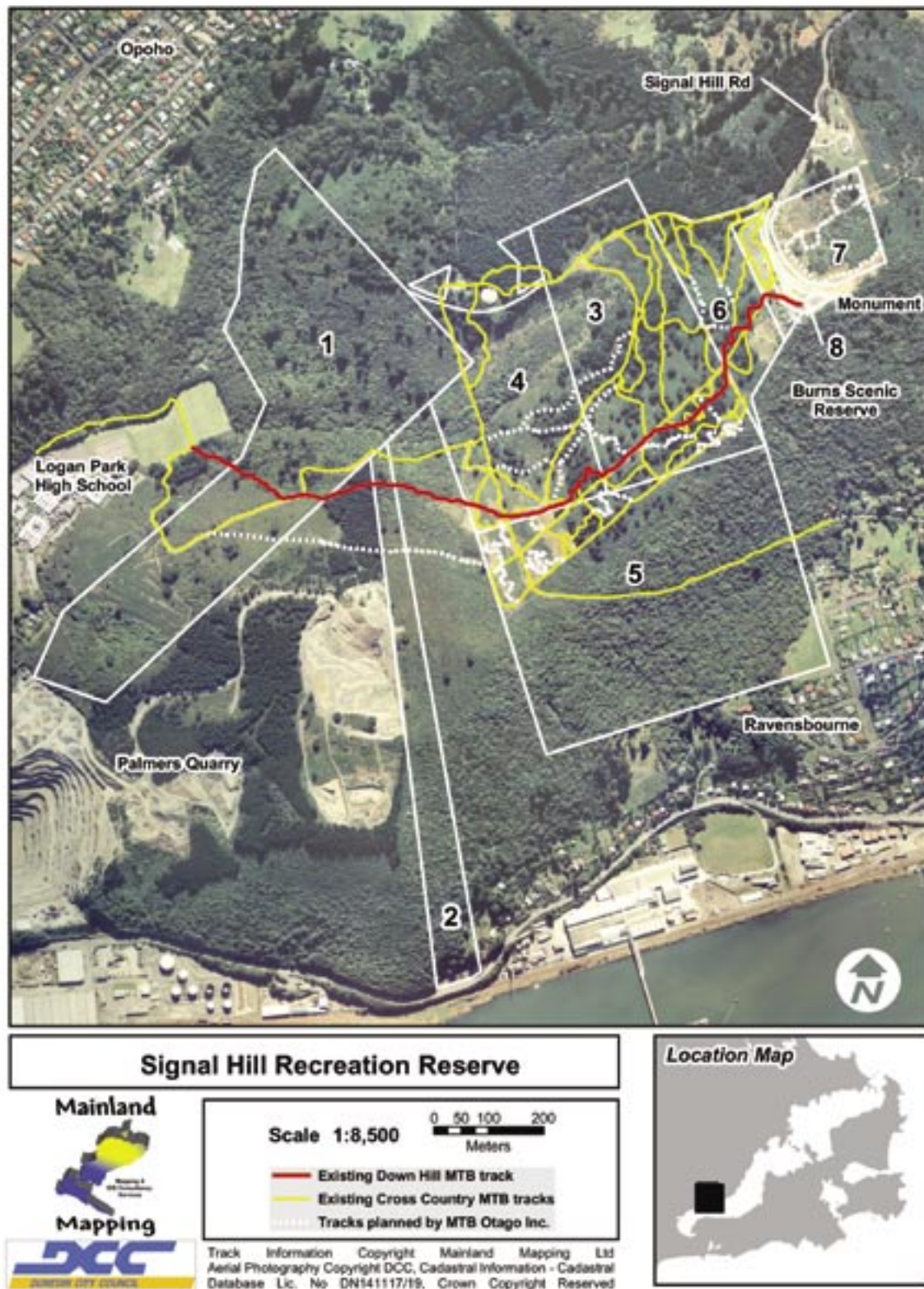
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Figure 1: Signal Hill Recreation Reserve: Diagram of land units



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Figure 2: Signal Hill Recreation Reserve: Aerial photograph of land units



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3.3 Previous Plans for the Reserve

The 1974 District Scheme had the objective to 'gradually improve the slopes of Signal Hill by public acquisition and major landscaping so that the whole northeast slope to the City and Ravensbourne will match the quality and character of the western hills and Peninsula backdrop to the hills.' The District Scheme also recognised the importance of Signal Hill as a scenic rural backdrop to the City and the need to 'seek the enhancement of this function.'

Preservation of bush by the eradication of encroaching noxious plants and wild goats was the main objective of the then Parks Department. However, the objective to establish arboretum plantings of conifers amid grazed pasture and walking tracks was only realised around the lookout and the area surrounding the summit. The grazing of sheep on the remainder of the reserve was for pasture management and weed control, but was a questionable activity insofar as encouraging the regeneration of native bush.

The development of walking tracks at a later stage served the purpose of creating pedestrian links between Logan Park, the Town Belt, Signal Hill Memorial, Burns Scenic Reserve and Ravensbourne (Figure 4). The Council also envisaged picnic facilities and seating for park users. In 1971 the Council's aim was to plant and regenerate native species around the Centennial Memorial and Lookout. This work has been progressing slowly.

Previous management issues included:

- the desired boundaries of the reserve,
- whether the native bush could regenerate through gorse,
- what effective methods could be employed to control and eradicate noxious plants.

The development and management principles proposed by the Council in 1984, when the Recreation Reserve was formally gazetted, was to maintain as much native vegetation as possible in the valleys and rain-shadows for the reasons of cost, soil

and water conservation and ecological preservation. The second priority was to eradicate gorse and other noxious plants to reduce the incidence of fire and improve visual quality (the Dunedin City Council currently seeks to control goat and possum numbers on the reserve via a maintenance contract).

The Council's overall intention in terms of management in the 1980s was to create a 'farm park environment' by protecting all significant stands of native vegetation with grazing beneath, and public access to the area by way of tracks and picnic areas. There were also proposals to construct a scenic drive from the lookout to Ravensbourne via Wanaka Street.

In 1998 the Dunedin City Council approved the *Track Policy and Strategy*. This supported the *Recreation Strategy for Dunedin (1993)* by identifying Signal Hill as a designated area for mountain biking and walking. The consequent aim of MountainBiking Otago and the Otago University Mountain Bike Club is to develop and maintain tracks on Signal Hill for a variety of fitness and skill levels, and for both recreational riding and competition. Currently most of the existing tracks are of a standard suitable for more experienced cyclists.

In addition the Dunedin City Council supports a proposal to develop appropriate parts of the site as an arboretum. A new proposal was submitted to the Dunedin City Council in July 1998. In summary, the arboretum is expected to include a 'library of trees' from around the world, including New Zealand natives. Mountain biking and walking were included as key site activities. The group responsible for the arboretum proposal is now actively involved in forming a Trust that can operate in partnership with the Dunedin City Council to develop and manage the arboretum to approved plans.

This management plan allows for the revegetation of the reserve with native and exotic tree species in a manner that will support and enhance the primary purpose of the reserve.

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4.0 Physical Description

4.1 Access

Several routes offer vehicle access to the sections of land that make up the Signal Hill Recreation Reserve. However, access from these is generally difficult. The steepness of the bush covered southern hills precludes the construction of a road from Monowai Street, Ravensbourne. The unformed portion of Blacks Road abutting Section 71 has an unsuitable grade and the main vehicle access point is Signal Hill Road. Some pedestrian and cycle access is made through Logan Park High School.

Signal Hill has several tracks offering walking and mountain biking access. These are detailed in the brochure Signal Hill Reserve and Jubilee Park Mountain Biking Tracks (2002). A track extends from Ravensbourne, following a buried water supply pipeline. Tracks also lead from the lookout, with the most obvious route following a straight, steep track created by Telecom's installation of a buried fibre optic cable.

Additional access tracks for mountain bikers, pedestrians and vehicles may be required to enhance recreation opportunities and development of the reserve.

4.2 Landscape

An assessment of the existing landscape character of Signal Hill was completed by a Dunedin City Council landscape architect in July 1999. The key findings of this report were (verbatim):

Landscape Character and Values of the Site and its Context

Location of the site is on the northern rural fringe of urban Dunedin. Flagstaff, Swampy Summit and Mt Cargill join Signal Hill in forming a topographical and wilderness amphitheatre that gives much of the enclosed character to the visual experience of the city. The south facing slopes roll from the plateau of Signal Hill lookout down to Logan Park in the south-west and Ravensbourne to the south-east. These slopes are punctuated with valleys and undulations covered in thick vegetation and the dark colours which add to the contrast with the urban forms of the city beyond.

Signal Hill is considered part of a landscape conservation area within the city boundaries. These areas are characterised by their high visibility from major public viewpoints and their containment of the denser urban landscapes of Dunedin City. Collectively these areas make a significant contribution to the landscape quality of Dunedin City. Physically these areas are defined by their open rural character with minor cultural modification and significant areas of native vegetation. The Dunedin District Plan recognises this area as a Landscape Conservation area [note, this classification in the plan was later modified] and indicates

the following elements of landscape character as being important:

- The visual dominance of natural landform and other natural elements such as remaining native vegetation, over cultural or human made landscape elements.
- The extent, integrity, coherence and natural character of the major natural elements such as landform, streams and areas of indigenous vegetation.
- The extent and quality of views from principal scenic routes and view points.

This distinct landscape character is made up of the following specific physical elements:

- Steep undulating topography
- Mixture of exotic forestry and weed species punctuated by tracts of native revegetation.
- Coarse textures denoted by vegetation
- Predominant dark colouration based on broom and Pinus species.
- Low impact walking and vehicle tracks
- Low impact structures

These elements are the result of relatively low levels of modification to the natural landscape character.

The potential threats to maintaining or enhancing landscape character

Broad elements of landscape character have the potential to be eroded by change in the use of the reserve.

- The visual dominance of natural landform and other natural elements such as remaining native vegetation, over cultural or human made landscape elements.
- The extent, integrity, coherence and natural character of the major natural elements such as landform, streams and areas of indigenous vegetation.
- The extent and quality of views from principal scenic routes and view points.

Future development of the reserve may involve activities, which have potential adverse effects if they are designed without landscape character in mind.

Activity	Effect on Landscape Character	Mitigation
Buildings and Structures	(a) and (c) (letters as per list above)	Avoid locations on ridgelines, use non-reflective colours
Earthworks	(a), (b) and (c) (letters as per list above)	Following contours, the revegetation of batters
Vegetation removal	(a) and (b) (letters as per list above)	Revegetation and/or management of weed species
Tracks	(a), (b) and (c) (letters as per list above)	Following contours, revegetation of batters

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Future development of the reserve should show design, which effectively minimises any adverse effect on existing landscape character and enhances or maintains the values that contribute to the enjoyment of the reserve.

Conclusions

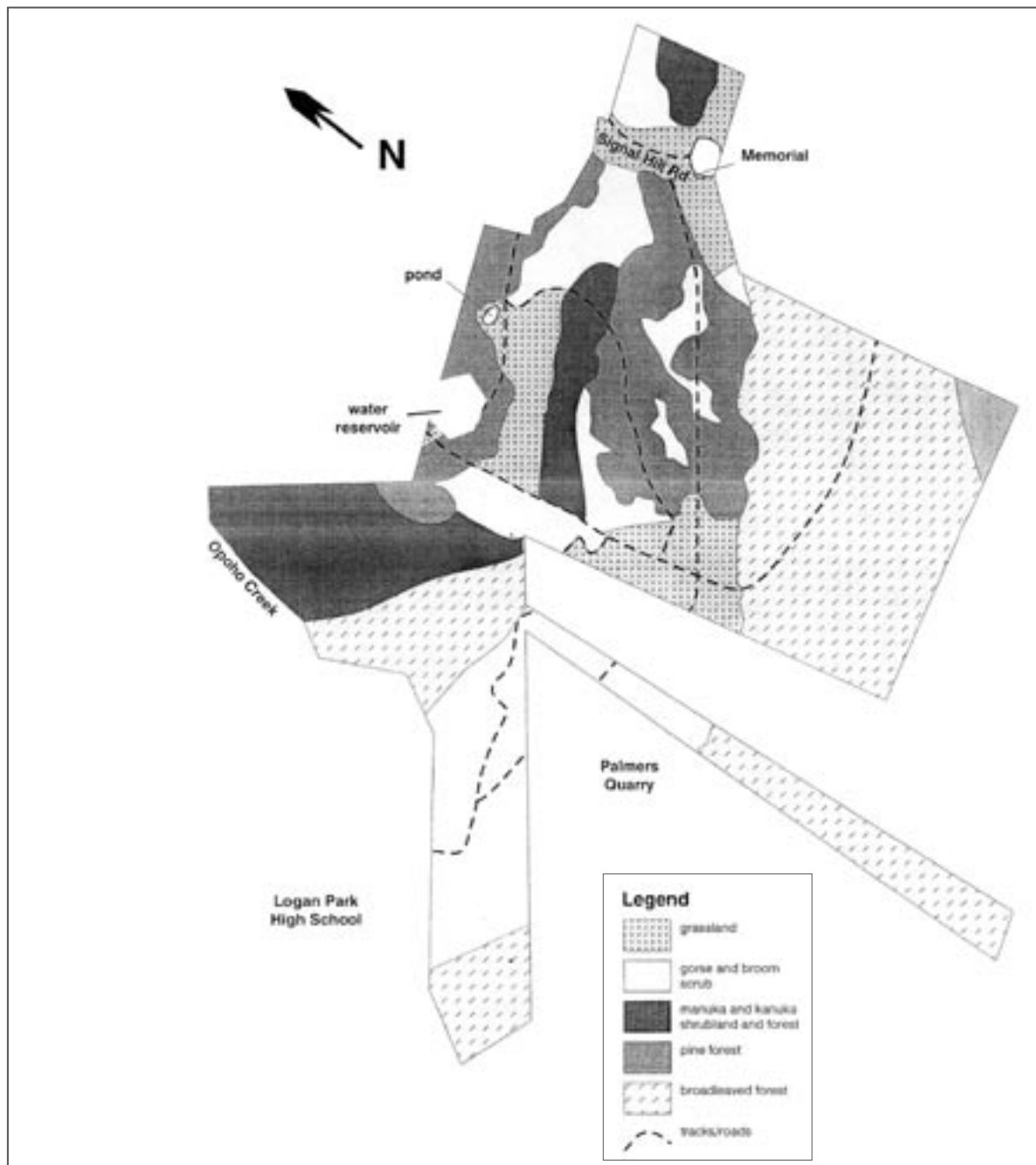
- (1) The Resource Management Act 1991, the Reserves Act 1977 and other statutory planning documents written under their authority place emphasis on protecting landscape quality.
- (2) The landscape characteristics of the site have been identified as having significance in the broader landscape context.

- (3) Development of the reserve should utilise design and mitigation to avoid any adverse effect on identified landscape character.

4.3 Vegetation

In July 1999, Landcare Research completed the following vegetation survey of the Signal Hill site (Figure 2). The survey identified a vegetation management programme for the reserve focusing on the management of pest plants and animals, allowing gradual reversion of the reserve to predominantly native bush. The programme did not consider the use of exotic plant species, which this management plan permits.

Figure 3: Signal Hill Recreation Reserve: Vegetation



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The following summarises the report's key findings:

Objectives

- Review the vegetation within the Signal Hill Recreation Reserve with consideration to core vegetation areas, buffer vegetation areas, vegetation tiers, special features and condition.
- Compile a report and map to show a prioritised framework in the form of a management programme for regular maintenance and environmental rehabilitation of [notable] vegetation areas.
- Identify in the report and on a map, core vegetation areas that would be retained and included as part of an arboretum development.
- Establish standardised assessment criteria (grading system) for vegetation assessment that enables the ongoing comparison with future assessment information.

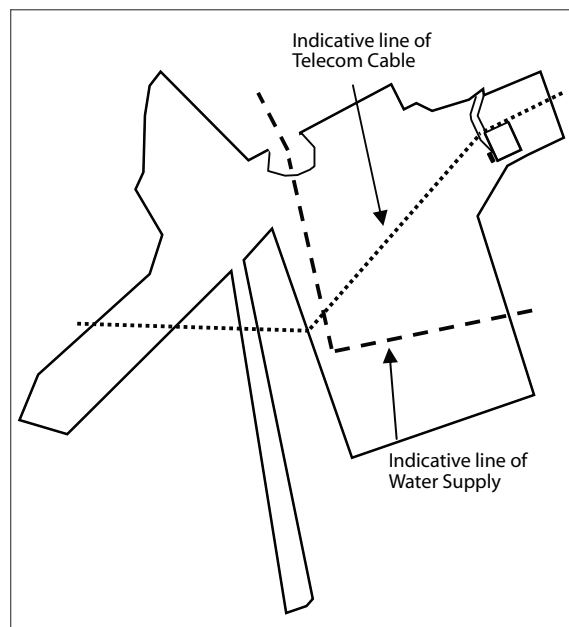
Main findings

- Five broad vegetation types were identified: grassland, gorse and broom scrub, manuka and kanuka shrubland and forest, broadleaved forest and pine forest.
- Manuka and kanuka shrubland and forest, and broadleaved forest, comprise significant native vegetation that would need to be cleared for successful establishment of planted trees.
- Replacement of the other vegetation types with planted trees would not result in diminution of significant vegetation in the Signal Hill Recreation Reserve, but would reduce the area available for natural re-establishment of native vegetation in the long term.
- There are no acute threats to significant vegetation in the reserve.

4.4 Site Services

Fibre optic cables were laid across the reserve in 1988 by Telecom New Zealand. The line of the cable has created a wide, steep and largely straight track across the reserve from west to east. The approximate lie is given in Figure 4. Similarly, the Dunedin City Council operates a water supply pipe across the reserve from the reservoir north, and south, forming the Ravensbourne Track. Obviously, both these services affect any digging and planting activities. At any time, either service may require excavation. In accordance with Council's *Reserve Management Plan-General Policies* for Reserves, liaison with Dunedin City Council Water and Telecom will be required to locate either service, should works be programmed along either line.

Figure 4: Site Services



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5.0 Current Reserve Use and Issues

5.1 Current Use

Casual recreational users and tourists use the Signal Hill Recreation Reserve on an informal basis. One of the main uses of the reserve is to visit the Centennial Memorial Lookout and experience the views of the Dunedin City landscape. Tour buses visit the Memorial Lookout for this reason, and many Dunedin residents also visit the Lookout when showing visitors around Dunedin.

Walkers, including those with dogs, use the reserve on a casual basis. Students living in Ravensbourne also walk through the reserve (over the hill via the track from Rimu Street) as an access-way to Logan Park High School. Figure 5 shows the layout of walking and mountain biking tracks within the reserve.

The Dunedin City Council's *Recreation Strategy for Dunedin* (1993) has identified the reserve as a mountain biking venue, and it has also been promoted as suitable for mountain biking in the brochure *Mountain Bike Rides in Dunedin* (1998). Known users of the reserve have booked events such as mountain biking competitions, including regional and national events. The level of casual recreational use for mountain biking is unknown. Mountain bikers ride the area below the Memorial Lookout via a number of tracks, and on one track descending from the Dunedin City Council Water Reservoir. However, wet conditions make the tracks descending the hill to Logan Park High School very slippery, and ascent is difficult without walking the bikes. The existing tracks are detailed in the brochure *Signal Hill Reserve and Jubilee Park Mountain Biking Tracks* and have now been mapped and signposted to indicate a suitable level of skill for each track.

Members of MountainBiking Otago Inc., the local mountain biking club, have invested many hours in the clearing of vegetation and the development of tracks for mountain biking on Signal Hill Recreation Reserve. MountainBiking Otago Inc. continues to actively develop tracks, and to work in partnership with the Dunedin City Council for the future development of the reserve as a mountain biking area.

Four-wheel drive vehicles and motorbikes have been using the reserve illegally for a number of years. Barriers and gates have been installed but have been vandalised occasionally. The size of the reserve and its topographical layout makes policing the site difficult.

Feedback from community meetings indicated the following welcome users of Signal Hill:

Runners; Serious walkers; Casual walkers; Dog walkers; Mountain bikers; Orienteers; Children; Skiers

(rarely); Tourists; People with disabilities; Drivers (on road); Sightseers

The same groups identified unwelcome users: Motorcyclists; Four-wheel drivers; 'Hoons'

Horse riders have also been identified as infrequent users of the site, but the damage to walking and riding tracks caused by horses is significant and it is desirable that they continue to be excluded from using the Reserve as required by the existing DCC by-laws.

5.2 Conflicts

Recreational conflict has been reported between walkers, mountain bikers and people with uncontrolled dogs, and between mountain bikers and motorised vehicles. Despite this there have been no major incidents, but disagreement has arisen over what are felt to be safe and appropriate activities for the reserve.

Concerns have been raised about the eradication of feral goats. A lack of fencing to control the impact of goats on regenerating vegetation, and a lack of co-ordinated management between the Dunedin City Council and adjoining landowners to reduce the feral goat populations, are the main problems.

The fire hazard created by unchecked gorse growth has conflicted with the desire to use gorse as a nurse crop for native plants.

Graffiti and vandalism of the Centennial Memorial Lookout has been recorded on a number of occasions. The semi-remote location and a large area of smooth tar seal that makes up the car park has encouraged 'wheelies' around the memorial. The noise of this activity is reported to affect neighbours. Litter is a problem around the memorial, especially broken glass.

5.3 Impacts on Neighbours

Several community meetings were held by the Dunedin City Council to identify key impacts on neighbours to the reserve. This included current impacts and potential impacts should any developments occur.

The primary impact of any development or management regime for the reserve is the effect on the quality and condition of landscape, as viewed from the suburbs of Dunedin. Any development involving significant clearing of vegetation on visually prominent areas will be seen as far as Mornington and is likely to attract attention. Similarly, users of the reserve would witness a change in the landscape with the removal of the pines and regenerating bush.

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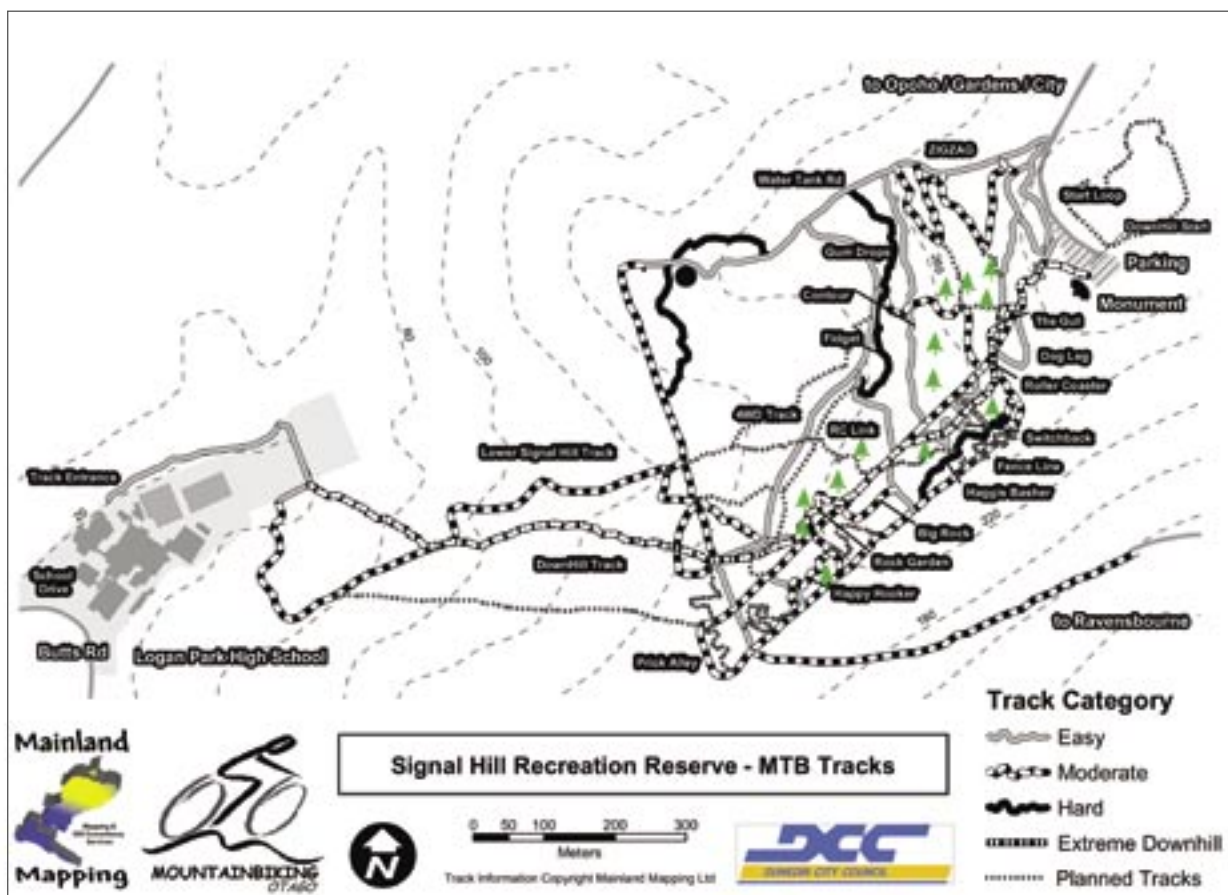
The risk of fire will need to be actively managed as use of the site increases and bush develops on site and adjacent to the reserve. The change in vegetation from thick gorse to individual plants and trees will go a long way to reducing this risk. Council maintains the existing fire access tracks and these will need to be maintained as part of a fire control policy.

The likely increased volume of traffic on Signal Hill Road is of concern for the residents of Opoho. The current road is sealed but narrow on its approach to Signal Hill. Increased traffic flows together with more visits by large vehicles (such as buses) need to be planned for in the medium to long-term to reduce traffic hazards.

The security of property is a concern of the Logan Park High School as a result of an increase in the number of people accessing the reserve from North Dunedin through the school. An agreement exists to allow reserve users to access the reserve through the school's grounds. While this has worked with the present level of users, increased usage will require more formal access to be provided. The recent development of the new athletics track and clubrooms at Logan Park will increase the number of cross-country runners using Signal Hill for training and competition.

Any clearance of vegetation on the slopes above Ravensbourne is likely to increase drainage and erosion problems for private residents below the reserve. The current vegetation cover on that face of the site is the most mature on the reserve. Current management of that site includes ring-barking large sycamore trees to limit their spread, but otherwise this area is to be managed to maintain its bush cover.

Figure 5: Signal Hill Recreation Reserve tracks



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6.0 Pre-Existing Management Controls

This section summarises policies and rules that limit, control or promote certain activities within the reserve.

6.1 Dunedin City Council Track Policy and Strategy

The Dunedin City Council *Track Policy and Strategy* develops a regional context for the management and development of tracks. As such, it seeks to secure a balanced approach to track development and management and it considers the Dunedin City Council's suite of tracks in light of those managed by the Department of Conservation and crossing private land. The Track Policy and Strategy has been endorsed by Council, and has gained broad agreement amongst Dunedin's walking and mountain biking organisations.

Any track development within the reserve should take account of the policies developed by the strategy. With regard to Signal Hill, the document identifies the desire to develop an 'easy multi-use track' within the reserve, and at the date of developing this management plan, part of that track had been identified, upgraded and mapped. This is the only new development proposed in the strategy.

A multi-use track is considered to include walking and running, and mountain biking. The document states that (policy 15.2), "Tracks are multi-use facilities unless otherwise identified by a decision by Council or legislated in statute against a particular use."

The policy also allows for closure of tracks for exclusive use during special events and takes a positive approach to resolving conflicts of use.

The *Track Policy and Strategy* is considered an advisory document for this management plan.

6.2 Reserve Management Plan-General Policies

The *Reserve Management Plan-General Policies* document covers all basic issues of the day-to-day administration of reserves in Dunedin. The *Signal Hill Recreation Reserve Management Plan* does not replicate those policies as they are under constant and separate review. If a policy within this document contradicts the *Reserve Management Plan-General Policy* document, this management plan has precedent.

The following considerations have policies within the General Policies document:

Administration Policies

Proposed District Plan	Trees and tree management
Community consultation	Fencing
Enforcement	Naming of reserves
Council as an effected party	Fire Control
Tangata Whenua, Mana Whenua and Iwi	Heritage Conservation

Use Policies

Use of reserves	Abandonment
Exclusive use	Chargeable facilities
Commercial use	Refuse and waste disposal
Encroachments	Camping
Occupation agreements	Play-space development
Network Utility Operators	Fireworks displays
Liquor licences	Car parking
Signs	Reserve lighting
Tracks	Sportsfield lighting
Circuses and side-show operators	Changes in Recreational Facility Use
Aircraft and helicopter landings	Plaques and commemorative trees
Use of hazardous substances	

Development and Change Policies

Landscape
Buildings and structures (including playgrounds)
Play-space development
Changes in recreational facility use

6.3 Play Policy, and Playground Priority Plan

The above two documents relate to the reserve due to the location of the Monowai Road Playground on the east corner of land unit 5 (Figure 1) of the reserve. The management of the playground is advised by these two plans, and this management plan relies on the Play Priority Plan to address playground development, management and maintenance issues. The Monowai Road Playground is considered of very poor play value by the Playground Priority Plan.

6.4 Transitional Dunedin City District Plan (Dunedin Section) and Dunedin City Council Proposed District Plan

The provisions of the Transitional Dunedin City District Plan (Dunedin Section) must be considered until the new Dunedin City Council Proposed District Plan is fully operative.

Under the transitional plan the reserve is entirely designated 'Recreation' and land unit 1 (as per the identifying numbers in Figure 1) has an underlying Rural Zone. Limitations to the management of vegetation refer to the need to 'conserve and protect' 'notable trees' (none is listed for the reserve) and 'significant trees' (trees with a trunk diameter of 500mm measured 1.2 metres above ground), excepting crop and shelter belt trees, and the protection of other significant vegetation.

Under the Dunedin City Council Proposed District Plan the reserve is zoned as Rural, permitting a more flexible approach to vegetation management (only notable trees are protected). However, land units 3,6,7 and 8 are within a Landscape Area, being on or near the ridgeline. Any work on those land units must give regard to the visibility of the effects from main public viewpoints (which will include viewpoints within the reserve, especially from the lookout).

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7.0 Aims, Objectives and Policies

7.1 Introduction/Explanation of terms

Management Aims

The aims of any management plan should stand the test of time and require little in the way of amendment, even when a plan is reviewed. The aims of this Management Plan reflect the classification of the reserve under the Reserves Act 1977. They provide a framework for any future proposals for development/enhancement, or any other form of action which may have an impact on the reserve.

The aims are written as statements of outcome. That is, looking at the reserve in the future and seeing what has been achieved.

Management Objectives

The objectives of a management plan elaborate on the means necessary to achieve the established aims. They should be oriented towards action and provide the basis for developing specific policies on matters that reserve managers may need to address.

The management objectives operate as a filter to be used to assess the suitability of all activities within the reserve, and to identify the controls required to maximise benefits and to minimise impacts. The degree to which the activities affect the objectives (or the management activities which enact the objectives) will define the management policies.

Management Policies

The policies become the means by which objectives are achieved. Over time, as certain specific objectives are attained or require change, relevant policies will also be amended. The policies in the management plan guide all current and future aspects of the reserves, and provide the framework for continuity of management.

Note that all general management policies for reserves are described in a separate document entitled *Reserve Management Plan—General Policies*, which should be read in conjunction with this Plan. The *Reserve Management Plan—General Policies* fully apply to the management of Signal Hill Recreation Reserve, unless they are specifically over-ridden by the policies of the Signal Hill Recreation Reserve Management Plan. The reader should refer to the *Reserve Management Plan—General Policies* as if it were a physical part of this plan, but note that those policies are under constant review to ensure continual relevance.

The aims, objectives and policies are in no order of priority.

7.2 Reserve management partnerships

Aim

1. The Dunedin community is proud to be involved in the continuing development of a key natural and recreation asset for Dunedin City.
2. Council has fostered active relationships with interested parties in order to achieve part or all of the aims of this management plan

Comment

Council has aspirations that it may be possible to form partnerships with organisations to enhance development of the Reserve. Those organisations may be able to access and provide additional funding sources and effort not directly available to Council.

The Reserve has been the subject of numerous revegetation and recreation development proposals. While most of these proposals have had merit and have gained support, the implementation of any plan has been fettered by a lack of long-term commitment and funding. The consistent theme of these developments has been for a multi-purpose recreation and revegetation with a mix of exotic and native species.

Any infrastructural developments must recognise the status of the Reserve as protected public land, and must therefore be of benefit to the community over the long-term and be compliant with the purpose of the Reserve (as per this management plan and the Reserves Act 1977).

Objective

1. Development partners work in co-operation with each other and the Dunedin City Council towards an agreed outcome and within the policies and objectives of this management plan.

Policies

1. The Dunedin City Council may work with one or more partners to achieve the aims and objectives for Signal Hill Recreation Reserve described in this management plan.

7.3 Vegetation development

Aims

1. The Reserve provides an attractive backdrop to the city. The mix of native and exotic plants complement the other green spaces that frame Otago Harbour. View corridors from the Reserve's lookout have been preserved, and many locations within the Reserve afford excellent views of the city and the harbour.
2. Native vegetation on Signal Hill has been maintained and enhanced, and provides habitat for birds and insects while protecting vulnerable

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slopes from erosion and excessive water run-off. Exotic plantings enhance the landscape and recreational values of the Reserve and merge harmoniously with neighbouring Reserve land (particularly Burns Scenic Reserve).

Comment

Servicing the recreation needs of city residents and visitors is the primary objective of Reserve management (as per its Reserves Act 1977 classification as a Recreation Reserve). The management and protection of indigenous flora and fauna is a secondary objective.

Any new developments must protect—and certainly not threaten—the most important existing natural features of the site. This includes any mature or semi-mature native vegetation and the Reserve’s significance as a landscape feature. However, the use of the site for recreation is its primary purpose, and some minor vegetation removal may be required for the formation of tracks.

Objectives

1. To protect, enhance and develop existing indigenous vegetation and desirable exotic plants within the Reserve.
2. To enhance and protect the landscape values of the Reserve, with consideration of its visual prominence from Dunedin City, and the views gained from the Reserve.

Policies

1. To protect and enhance areas of native plants in advanced stages of succession (to be guided by the Landcare vegetation assessment).
2. To permit the use of native and exotic plants to improve the Reserve’s ecological and landscape values.
3. To permit the removal of vegetation where required, and where agreed by the Dunedin City Council, for the development of tracks, to allow a development plan to proceed, and for the better management of the public Reserve.
4. To permit the establishment of structures where these are needed to achieve the aims of this management plan and where detailed in the development plan, and to ensure these structures are limited in their visibility from outside the Reserve.
5. To include the Reserve in the City’s pest management programmes to reduce the impacts of pest plants and animals on the Reserve’s desired vegetation cover.

6. To preserve the views of the city and harbour from key positions within the Reserve, particularly the Centennial Memorial Lookout. Vegetation trimming or removal will be permitted where necessary to preserve significant viewing areas.
7. Any comprehensive development proposals for the Reserve’s vegetation cover will be detailed in a development plan and made available for public consultation.

7.4 Recreation activities

Aims

1. The Signal Hill Recreation Reserve offers appropriate recreational opportunities and associated facilities for residents and visitors to Dunedin City.
2. Reserve design and management encourages appropriate activities and is harmonious with neighbouring Reserve land.
3. To educate visitors to the Reserve about its values, and to encourage a sense of individual guardianship.

Comment

Servicing the recreation needs of city residents and visitors is the primary objective of Reserve management (as per its Reserves Act 1977 classification). Section 5.1 of this report discusses the primary recreation uses of the Reserve.

It is noted that existing Council by-laws currently exclude horses and motorised vehicles from Reserves unless areas are specifically defined for those purposes.

Policies

1. To manage the Signal Hill Recreation Reserve as a multi-purpose recreation resource, focusing primarily on walking, mountain biking, orienteering, sightseeing and the appreciation of the Reserve’s natural values.
2. The section on ‘Tracks’, ‘Use of Reserves’ and ‘Exclusive use’ in the *Reserve Management Plan—General Policies* apply.
3. Track development will comply with the policies of the Dunedin City Council *Track Policy and Strategy*. As such, they will be classed as multi-purpose by default, unless the Dunedin City Council approves specific exclusions.
4. Tracks suitable for a wide range of physical abilities will be developed.
5. Any new track development or track enhancement within the Reserve, which relies on access across private land at any point, shall proceed only once formal agreement with the private landowner has been reached.

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6. To limit the development of tracks near the boundaries of the Reserve and public land where unwelcome trespassing may result or where safety issues exist (in particular, the boundary of the Reserve and Palmers Quarry).
7. Special events, which are compatible with the site, are considered an appropriate use of a multi-purpose recreation site like Signal Hill Recreation Reserve. Applications for the holding of events on Signal Hill Recreation Reserve must be addressed to the Dunedin City Council (Community and Recreation Services Department, or its equivalent), and will be assessed for their compatibility with the aims of this Reserve Management Plan and Council's *Reserve Management Plan—General Policies* document. All special events must have bookings.
8. The section on 'Dog Control By-law 1997' or its successors applies. It is noted that Signal Hill Recreation Reserve is described in the Bylaws as a Reserve where 'controlled dogs are permitted without a leash'.
9. To provide educational information about Reserve values and development within the Reserve.
10. The open space developed as a playground within the Ravensbourne area will continue to be developed as a play area in accordance with the priorities developed in Council's *Playground Priority Plan*.
11. Signage will be used to promote safety and minimise conflicts between recreational user groups.

7.5 Structures and buildings

Aim

1. Structures and buildings within the Reserve enhance development and use of the Reserve and are compatible with the Reserve's recreation, cultural, ecological and landscape values.

Comment

Revegetation and development of the Reserve may require the construction of shade houses and other buildings to house implements and machinery. However, their construction and location must be such that they do not unduly compromise the recreation, cultural, ecological and landscape values of the Reserve, and do not create problems in the long-term use and management of the Reserve change.

Objective

1. To manage the location, design and construction of buildings within the Reserve to reduce their impact on the recreation, cultural, ecological and landscape values of the Reserve.

Policies

1. Any structures or buildings on the Reserve not owned by Council must be on land leased to an appropriate public agency, such as a trust or association.
2. Any such structures or buildings must be relocatable.
3. Council must approve the design and construction process of any structures or buildings.

7.6 Vehicle access

Aim

1. Vegetation, tracks and recreational use of the Reserve are not significantly affected by the use of service vehicles within the Reserve.

Comment

Motorised vehicles, if used inappropriately or excessively, have the potential to damage the natural environment and recreation assets within the Reserve. However, their use is necessary for the Reserves management and development.

Objective

1. To manage the use and impacts of vehicles within the Reserve.

Policies

1. Vehicle access by the general public will be limited to legal roads, and the sealed carparks within the Reserve.
2. Vehicle access beyond car parks within the Reserve will be permitted only for service vehicles (including those authorised by the Dunedin City



Photo: Chris Arbuckle

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Council to service the Council's water reservoir adjacent to the Reserve), and vehicles associated with Reserve development and management, events recognised and approved by the Dunedin City Council, and emergency services (including for training purposes).

3. Vehicle access will generally be limited to formed vehicle routes within the Reserve to reduce their impact on tracks and vegetation, excepting the need for emergency vehicles to have freedom of movement.
4. Signage will be used to promote safety and minimise conflicts between recreational user groups and service vehicles.

7.7 Plant and animal pest control

Aim

1. The effects of pest plants and animals are minimised.

Comment

Landcare Research's vegetation assessment programme identified a set of short, medium and long-term objectives for the management of pest plants and animals on the Reserve (see Appendix One). Work toward achieving these recommendations would improve the quality of the existing environment for native plants and animals and exotic trees. The Reserve also shares boundaries with land managed by the Department of Conservation and private landowners. Operating a pest management programme in isolation from the work undertaken by these neighbours significantly reduces the effectiveness of the effort.

Objective

1. To manage invasive exotic plants, pest animals and indigenous flora and fauna in a co-ordinated manner with the managers of adjoining land.

Policy

1. The Dunedin City Council will review its pest management programme for Signal Hill in consultation with the Department of Conservation. The Landcare Research report, Vegetation Assessment: Signal Hill Recreation Reserve, July 1999 will be used as a guide. Until such time, the Council will continue its current pest management programme.

7.8 Disposal, acquisition, gazettal and encroachments

Aim

1. The size and shape of the Reserve best suits the recreational and natural values of the site.

Comment

The existing boundaries of the Reserve are irregular in shape, and the linking of some sections with tracks is limited by the need to cross private land. Where possible, Council should pursue opportunities for land swaps and the purchase of additional land to create a more manageable and useable land unit.

Objective

1. Council takes advantage of opportunities as they arise to increase the size of the Reserve and to rationalise its boundaries.
2. Council relies on the legal status of the land within the Reserve to control inappropriate activities.

Policies

1. Council may increase the size of the Reserve through land acquisition if that land enhances the recreation, landscape, heritage, ecological and/or cultural values of the Reserve.
2. Any additional land will be gazetted under the Reserves Act 1977 as Recreation Reserve and managed under this plan.
3. Council consider stopping the legal roads within the Reserve (top of Signal Hill Road and the section of Blacks Road which partly circuits the water reservoir) and incorporating the land within the Reserve, to enable closure of the Reserve to vehicles at specific times to reduce vandalism and littering and to improve management control generally.
4. If any area of the Reserve does not meet the aims and objectives of this management plan, its disposal may be pursued.
5. To limit the impacts of encroachment by neighbouring landowners within the Reserve by, when necessary: identifying the Reserve's boundary where inappropriate encroachment exists; advising land owners of the existence of an encroachment; defining a time limit within which the inappropriate encroachment should be removed; and by assisting neighbours in developing a local environment within the Reserve that supports the Reserve's values and which enhances the landscape values of the Reserve land.

7.9 Commercial activities

Aim

1. Any commercial activities carried out within the Reserve are compatible with the Reserve's recreation, landscape, ecological, cultural and heritage values and increase the public's ability to enjoy the Reserve.

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Comment

Commercial activities can serve to increase the visitor's enjoyment of an area. They may also impact upon other visitors and the values of the Reserve. In many areas, visitors may not be aware that other Reserve users are taking part in a commercial activity (such as paragliders, guided walkers or mountain bikers). Other commercial activities are difficult to control or are normally of no concern, such as a commercial photographer covering a wedding party. It is therefore problematic when considering blanket exclusion or freedom to carry out commercial activities within public open space areas.

The policies of the Dunedin City Council *Reserves Management Plan—General Policies* apply in the case of occupation agreements for utilities, such as water supply and telecommunications.

Objective

1. To control the types, locations and intensity of commercial use of the Signal Hill Recreation Reserve to maintain the Reserve's landscape, recreation, cultural, ecological and heritage values.

Policies

1. Commercial activities will be permitted within the Reserve where they are compatible with, or do not unduly affect its primary purpose, and recreation, landscape, ecological, cultural and heritage values.
2. Commercial users of the Reserve will require a concession (lease, licence, permit or easement under Section 59(a) of the Reserves Act 1977), or a formal agreement under Section 53(f) of the Reserves Act 1977, where their activity is considered to impact upon the Reserve's primary purpose or its recreation, landscape, ecological, cultural and heritage values.
3. Applications for use of the Reserve for commercial purposes will be considered by the Dunedin City Council, who will consult with affected parties before considering the appropriate form of concession (a lease, licence or permit).
4. Any proposal which incorporates the construction of a facility will be advertised publicly, and a draft decision advertised by the Dunedin City Council for submissions before any decision is reached and a concession is issued.

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Appendix One:

July 1999 Landcare Research vegetation assessment: Recommendations

Recommendations

Management should have the following aims:

In the short term:

- Removal of goats and reduce possum densities.
- Control Darwin's barberry.

In the medium term:

- Reduce pine and sycamore tree density.
- Prevent pine seedling establishment.
- Where intensive management is not practicable, protect gorse and broom scrub to allow natural regeneration of native vegetation.
- Maintain tracks to limit erosion and weed establishment.
- Monitor and if necessary control invasion by Hazel pomaderris.

In the long term:

- Replace stands of mature pines with vegetation appropriate to the reserve.
- Replace gorse and broom with native species.
- Remove invasive non-local native shrubs from the reserve.

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Appendix Two:

Extract from the minutes of a meeting of the Dunedin City

Council held on Monday 8 December 2003

17 SIGNAL HILL RECREATION RESERVE MANAGEMENT PLAN

A report from the Reserves Planner appended the final version of the Signal Hill Recreation Reserve Management Plan, incorporating amendments as a result of public submissions.

It was moved (Chin/Hanan):

“That the Council adopt the final version of the Signal Hill Recreation Reserve Management Plan, incorporating amendments as a result of public submissions.”

The Council’s thanks were extended to everyone involved with the process.

Following discussion the motion was put and carried.