



THOMSONS BUSH

Management Plan

*'Southland
Forest Remnant'*

August 2004



RESERVES ACT 1977

Section 41

The Management Plan for the Thomsons Bush Reserve was approved by the Invercargill City Council by resolution passed at its meeting held on the 17th day of August 2004, after all submissions, objections and suggestions relating to the Management Plan had been disposed of and suggestions allowed.

The Management Plan shall come into operation on the 1st day of September 2004, and shall remain operative for a period of ten years.

Dated at INVERCARGILL this 31st day of August 2004



A handwritten signature in blue ink, appearing to read "L. Sherrin", written over a horizontal dotted line.

Mayor of the City of Invercargill

A handwritten signature in black ink, appearing to read "T. King", written over a horizontal dotted line.

Chief Executive Officer

CONTENTS

1.0	INTRODUCTION	4
1.1	Location.....	4
1.2	Access.....	5
1.3	History	5
1.4	Tenure.....	7
1.5	Adjoining Land Use	10
1.6	Soils / Geomorphology	10
1.7	Flora	10
1.8	Fauna	11
1.9	Amenity Value	12
1.10	Present Use	12
1.11	Present Management.....	13
2.0	MANAGEMENT OBJECTIVES	15
3.0	POLICIES	16
3.1	Classification	16
3.2	Access.....	16
3.3	Flora	17
3.4	Fauna	17
3.5	Pest plants and animals	18
3.6	Domestic Animal Control.....	18
3.7	Buildings and Structures	18
3.8	Boundaries and Fencing	18
3.9	Recreational Use.....	19
3.10	Play Equipment	19
3.11	Leases.....	19
3.12	Camping.....	20
3.13	Nuisances	20
3.14	Litter Control and Dumping	20
3.15	Essential Services.....	20
4.0	FUTURE MANAGEMENT AND DEVELOPMENT	21
4.1	Priority Areas for future Vegetation Management	22
4.2	Other Management Requirements.....	22
5.0	ADMINISTRATION.....	24
6.0	PLAN AMENDMENT AND REVIEW	24
6.1	Amendments	24
6.2	Plan Review	24
7.0	REFERENCES	25
8.0	APPENDICES.....	26
Appendix 1	Thomsons Bush – Plant Species List.....	26
Appendix 2	Bird Species and Status, Thomsons Bush - February 1991.	30
Appendix 3	Report on Invertebrates	31
Appendix 4	Priority areas for future weed control and revegetation	32

1.0 INTRODUCTION

As one of the few remaining native forest areas within the Invercargill urban environment Thomsons Bush offers the Invercargill community an important environmental and recreational resource providing opportunities for picnicking, play, walking, running and as an educational 'classroom'.

The Thomsons Bush Management Plan provides management objectives and policies to assist with the day-to-day and long-term management of Thomsons Bush in a way that reflects community goals while protecting the natural values of the reserve.

The Reserves Act 1977 requires that some management plans be adopted after two periods of public consultation. Council first called for public feedback in May 2003 and the Draft Thomsons Bush Management Plan was prepared taking into consideration comments received during this first phase of consultation.

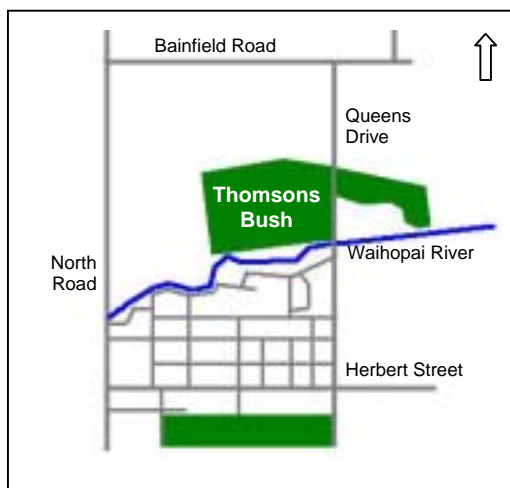
The Draft Thomsons Bush Management Plan was released to the public for a period of two months with submissions closing on 25 June 2004. Fourteen submissions were received on the draft plan.

A hearing was held to consider the submissions to the draft plan and some changes were recommended. The Thomsons Bush Management Plan was adopted by Council on 17 August 2004 and shall remain operative for a period of ten years.



1.1 Location

Thomsons Bush is located on the northern side of the Waihopai River approximately 2.5km north of the Invercargill City centre. The reserve is bisected by Queens Drive and the old watercourse of the Waihopai River forms the southern boundary to the reserve. The Waihopai Walkway has been developed along the top of the stop banks of the Waihopai River. Residential housing, industrial land and semi-rural land form the remaining boundaries to the reserve.



Location Plan of Thomsons Bush

1.2 Access

Thomsons Bush has vehicle access into the western section of the reserve from Queens Drive, with formal pedestrian access from the Waihopai Walkway and Queens Drive. Informal car parking is provided within the reserve in several places and there is a one-way vehicular loop road following the old watercourse of the Waihopai River.

1.3 History

Thomsons Bush is one of the few remnants of the kahikatea dominated swamp forest that was characteristic of the southern Southland area prior to European settlement. The local Maori who had strong spiritual ties to the native forest knew this vast forest as Taurakitewaru. (*Thomsons Bush Management Plan 1991*)

The earliest map prepared by J. T. Thomson in 1857 illustrates the extent of this forest - however, within 20 years, much of the forest had been cleared.

In July 1867 Governor Grey granted Thomas Watson, Thomas M McDonald and George M Williamson title to part of the land. The Governor granted the remaining lots of 'Thomsons Bush' to J T Thomson in 1882. When Thomson died two years later, his parcel of land was transferred to the three owners of the adjacent property. Over the next thirty years, titles were transferred to the surviving members and next-of-kin. By the early-1900's the Borough was becoming aware of the significance and value of the bush remnant. In 1912, approximately 12 hectares (Part Section 10 and 11) were taken under the Public Works Act 1908, Scenery Preservation Act 1908 and the Scenery Preservation Amendment Act 1908. Payment of 597 pounds was made to Frederick W Bicknell, John Gilkinson and Harold W Rhoys. A few years after the death of Rhoys in 1927, the Council purchased a further 21 hectares (Lots 1 and 2, DP 2485) from Bicknell and Gilkinson for 1,475 pounds. In 1932 the total area of land (40 hectares) was placed in trust as a Scenic Reserve for the enjoyment and recreation of the public.

From the turn of the twentieth century, the Waihopai River and associated reserve land proved to be popular venues for picnicking, swimming and an annual regatta.



The Regatta Committee
(Thomsons Bush) 1905
Photo Courtesy of the Southland
Museum and Art Gallery

During the 1950's a particularly 'dangerous' swimming hole known as 'Devil's Pool' was filled in at the same time as the backwater was widened.

In 1954 the Invercargill City Council was appointed to control and manage Part Section 10 and 1, pursuant to the provisions of the Reserves and Domains Act 1953.

In the 1960's the Waihopai River was diverted to provide improved drainage and to lessen the effects of flooding in the vicinity. The resulting backwater remains a part of the Thomsons Bush Reserve. Water flow through this original water channel is now limited to that which originates from stormwater drainage. As a result, the water tends to be stagnant and unappealing.

On the 20 March 1963, Part Sections 10 and 11 were vested in the Mayor, Councillors and Citizens of the City of Invercargill and the whole area was changed by Gazette notice to Reserve for Recreation purposes. The change of classification was brought about after the then Department of Lands and Survey had conducted a review of reserves relating to their values and purposes. As with quite a number of reserves around the country, it was adjudged as not having the values that warranted Scenic Reserve status.

In 1971 the local Round Table formed a Waihopai Reserve Development group to support a canoe/boat hire venture. Ideas of building an island did not eventuate. However a playground was formed adjacent to the watercourse. The venture was never a success, partly due to a number of factors that included poor summers and low water tables that exacerbated the waterweed problem in this low semi-stagnant backwater. The opening of the Coldstream Pool and the increased mobility of families with motorcars tended to draw people away from Thomsons Bush. Repetitive losses resulted in the dissolution of the group in 1978, with all assets being donated to the Invercargill YMCA.

In 1983 a 10.97 metre strip was taken from Part Section 10 under the Public Works Act for the road widening of Queens Drive.

In 1990 subsequent minor realignments of the Waihopai River near Thomsons Bush resulted in the layout and flood banks as we see them today.

In July 1998 a proposal to close the second loop road in Thomsons Bush was advertised and approved following consultation. The remains of this road are used one of the walkways within the reserve.



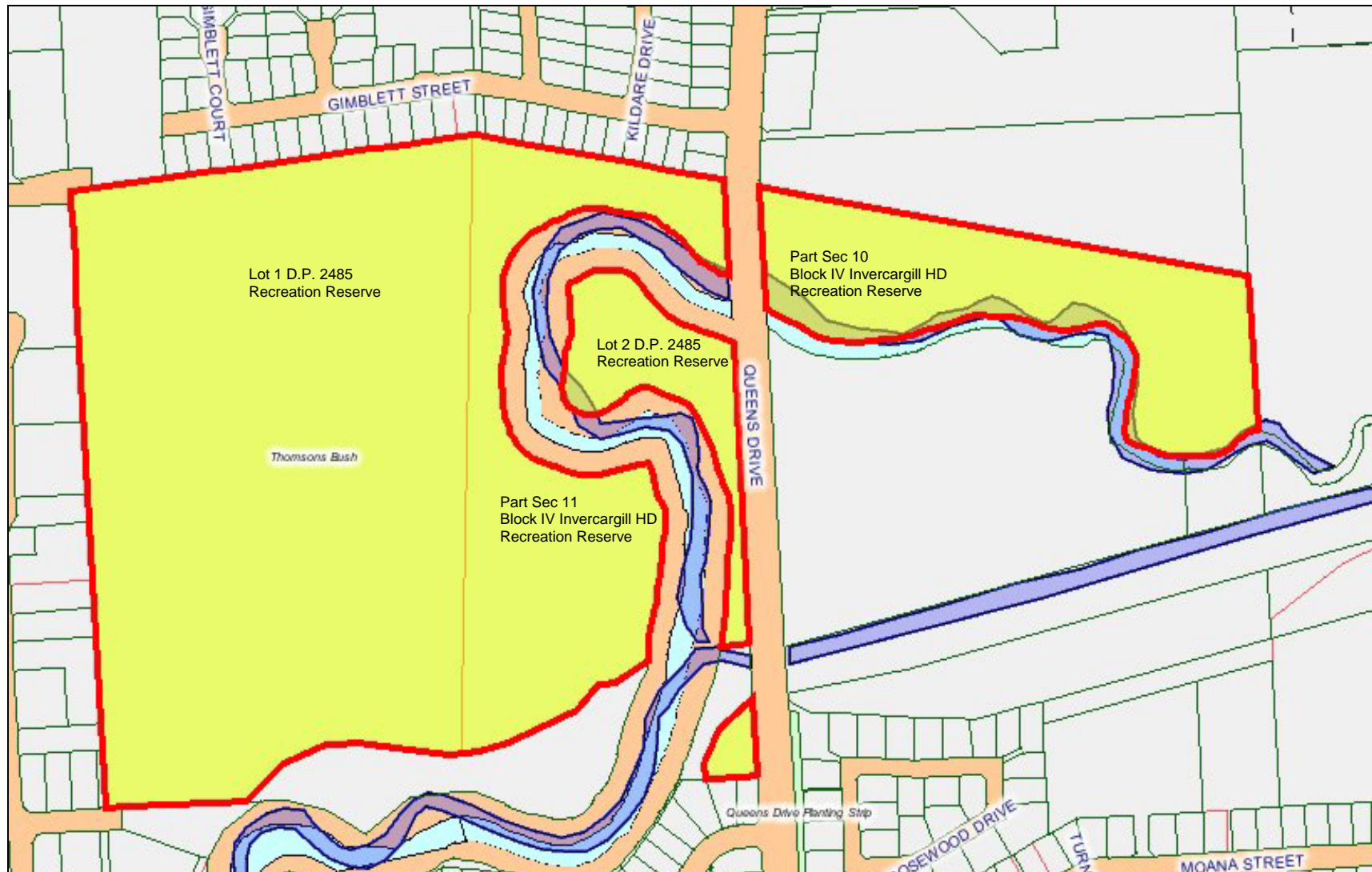
The Waihopai Walkway that extends along the flood banks of the Waihopai River was officially opened in 2003. This provides good pedestrian access and links from the flood banks into Thomsons Bush.

1.4 Tenure

- a)** *Certificate of Title:* B4/1419
Legal Description: Lots 1 & 2 Deposited Plan 2485
Area: 21.5267 ha
Parks Identification Number: PXT9
Address: 584 Queens Drive, Invercargill
Land held in the Name of: Invercargill City Council
Subject to: Reserves Act 1977, New Zealand Gazette Notice 1963 page 310 (GN 189007)
Classification: Recreation
Acquisition Details: Acquired as an exchange of land by Section 21, Local Legislation Act 1926, the land being transferred by Transfer 64433 to be held in trust as a Scenic Reserve for the enjoyment and recreation of the public. In 1963, pursuant to the Reserves and Domains Act 1953, the purpose of the Reserve was changed from a reserve for scenic and recreation purposes to a reserve for recreation purposes by NZ Gazette notice 1963 page 310 (GN 189007).
- b)** *Certificate of Title:* A1/1153
Legal Description: Part Section 10-11 Block IV Invercargill Hundred
Area: 11.9748
Parks Identification Number: PXT9
Address: 584 Queens Drive, Invercargill
Land held in the Name of: Invercargill City Council
Subject to: Reserves Act 1977, New Zealand Gazette Notice 1963 page 310 (GN 189006)
Classification: Recreation
Acquisition Details: Acquired by Her Majesty the Queen in 1912 by Gazette Notice Proc 1108 for a Scenic Reserve. In 1963 the purpose of the Reserve was changed from a reserve for scenic purposes to a reserve for recreation purposes pursuant to the Reserves and Domains Act 1953 and vested the reserve in the Mayor Councillors and Citizens of the City of Invercargill in trust for that purpose by NZ Gazette notice 1963 page 310 (GN 189006).

The total area of Thomsons Bush is **33.5015 hectares**.

Thomsons Bush Legal Description



Aerial Photo of Thomsons Bush



1.5 Adjoining Land Use

Residential housing, industrial land and semi-rural land used predominantly for the grazing of sheep, surrounds Thomsons Bush. The intensive development so close to an area of native vegetation such as this creates unique issues requiring special consideration when developing management policy. In particular, the spread of exotic vegetation from private residences into the reserve will be an ongoing issue.

The Waihopai Walkway runs along the top of the stop banks of the realigned Waihopai River, formed for flood protection in the 1990's. This popular walkway managed by Environment Southland provides recreational opportunities for Thomsons Bush by increasing foot traffic into the reserve.

Environment Southland is investigating establishing a voluntary 'care' group to help manage the Waihopai River catchment. Given the location of Thomsons Bush within the catchment of the Waihopai River, it is important to have a good relationship with any group managing the adjacent land.

1.6 Soils / Geomorphology

Thomsons Bush occupies a special place in the natural heritage of Southland. It is one of the few lowland podocarp-swamp forest remnants on alluvial deposits. Others within the Southland district (such as Seaward Bush) grow on peaty ground beside the Waituna Wetland, while some (such as Otatara Scenic Reserve) are located on relic sand dunes. The Thomsons Bush kahikatea-matai forest has formed within a dynamic environment as fine alluvial deposits, brought down by floods, shifted the watercourses and varied the water tables. The soils, which are Dacre gley soils with high fertility and generous moisture levels, can sustain a diverse and healthy flora and fauna. It is not surprising that they are prized as offering some of the best farmland in Southland. (*Thomsons Bush Management Plan 1991*)

1.7 Flora

Thomsons Bush is one of the four remaining remnants of the kahikatea dominated swamp forest that was characteristic of the central southern Southland area prior to European settlement. These areas have been identified as being of regional importance as they are the only remaining examples of what was once dominant vegetation type in the Southland Plains Ecological District. (*Bill 1999*)

The native vegetation in Thomsons Bush is dominated by Kahikatea (*Dacrycarpus dacrydioides*), Matai (*Prumnopitys taxifolia*) and Ribbonwood (*Plagianthus regius*).

A full plant species list is included as **Appendix 1**.

History shows that the scenic values of Thomsons Bush were recognised before the turn of the twentieth century. However, over the last hundred years, a number of factors have gradually eroded the size of



the remnant and degraded its quality, thereby undermining its scenic and botanical values. Selective milling of timbers (e.g. Rimu) removed a small proportion of the finest trees. Planting of exotics (*Pinus radiata*) and introduced natives (*Hoheria*) has negatively impacted on natural regeneration and impinged upon the floristic integrity of the forest. (*Thomsons Bush Management Plan 1991*).



The forest canopy and edges were badly damaged in July 1996 by snow and severe frosts that followed. The dieback of canopy trees and increasing 'openness' has allowed weed species to flourish. The increasing dominance of weed species is affecting the existence of Thomsons Bush as a lowland forest remnant. (*Environment Southland 2003*)

Thirty weed species have been recorded in Thomsons Bush. Eight species are widespread. Chilean Flame Creeper (*Tropaeolum speciosum*) is the most common weed and elderberry (*Sambucus nigra*) the most abundant. (*Environment Southland 2003*).

Given the widespread distribution and abundance of ecologically damaging weed species, the future of Thomsons Bush as a lowland forest remnant is tentative if the status quo continues. (*Environment Southland 2003*).

To ensure viability of the ecosystem, extensive weed control is needed, backed up by restoration planting.

In addition to recognising the problems with invasive weed species, it is also important to acknowledge that changes to the wider landscape can have a lasting impact on the forest remnant. More detailed studies on the ecology are required to establish how the ecological functioning of the reserve has altered over time. For example how the realignment of the Waihopai River and associated flood control works, along with localised drainage of residential properties, has changed the hydrological functioning of the system. These changes could impact on forest regeneration and nutrient status of the forest remnant in the long term.

1.8 Fauna

Thomsons Bush provides a quality habitat for bird and insect life.

The high ornithological values attributable to Thomsons Bush are primarily related to swamp/podocarp forest and backwater of the Waihopai River providing a variety of habitats for native bush birds. The remnant forest is the main reservoir for such species in the north and north-eastern sectors of the city.



Entomologist experts consider Thomsons Bush to have both significant conservation and scientific values. It is reported that around 215 species of native moths have been recorded from Thomsons Bush, many of which are restricted to southern Southland, and these have their largest population in Thomsons Bush. The reserve contains good populations of the common and rare moths and beetles. (*Thomsons Bush Management Plan 1991*). Thomsons Bush is important as a 'Type Locality' for many moth species and the large and significant '*Aoraia linodes*' is present. A rare endemic lacewing '*Micromus bifasciatus*' associated with rimu and kahikatea is present and worthy of note. (*Patrick, 2004*)

No current information on the fauna in Thomsons Bush was available when this plan was prepared – however, there has been a number of studies done over recent years, which describe the occurrence and distribution of the fauna in this reserve.

For detailed information on the fauna found in Thomsons Bush refer to:

Appendix 2 *Thomsons Bush Management Plan 1991* (extract) – Bird Species and Status, Thomsons Bush as at February 1991 – Maida Barlow, Regional Representative, Ornithological Society of New Zealand.

Appendix 3 *Thomsons Bush Management Plan 1991* (extract) - *Report on Invertebrates* – P Hamill 1984

Reference should also be made to:

Dugdale J S 1988 – *Fauna of New Zealand* 14. Lepidoptera Catalogue

Patrick B H 1994 - *Lepidoptera of the Southern Plains and Coast of New Zealand* Department of Conservation Pages 5-6

Patrick B H 1998 – '*Southern People*' Dunedin City Council – *Article on Alfred Philpott (1870-1930)* Pages 387-388

1.9 Amenity Value

As one of the few remaining natural areas within the Invercargill urban environment, Thomsons Bush offers the Invercargill community an important recreational and scenic resource and provides opportunities for picnicking, play, walking, running, and as an educational 'classroom'.



1.10 Present Use

Most people use Thomsons Bush in an informal manner through walking or running in the reserve or driving around the short loop track.

Many of the reserve users have a strong interest in its natural values. Both individuals and groups, particularly school parties, visit the reserve to observe birds and to study the vegetation. Professional and amateur naturalists acknowledge the value of the bush as offering an easily accessible environment to

study insects. Educationalists are aware of the potential to utilise the reserve as a natural classroom to increase awareness and appreciation of New Zealand's flora and fauna.

In March 2004 Thomsons Bush was used as the mountain biking and running setting for the 'Wai Tri' triathlon organised by Environment Southland. It is possible that this will become an annual event, due to its initial success.

1.11 Present Management

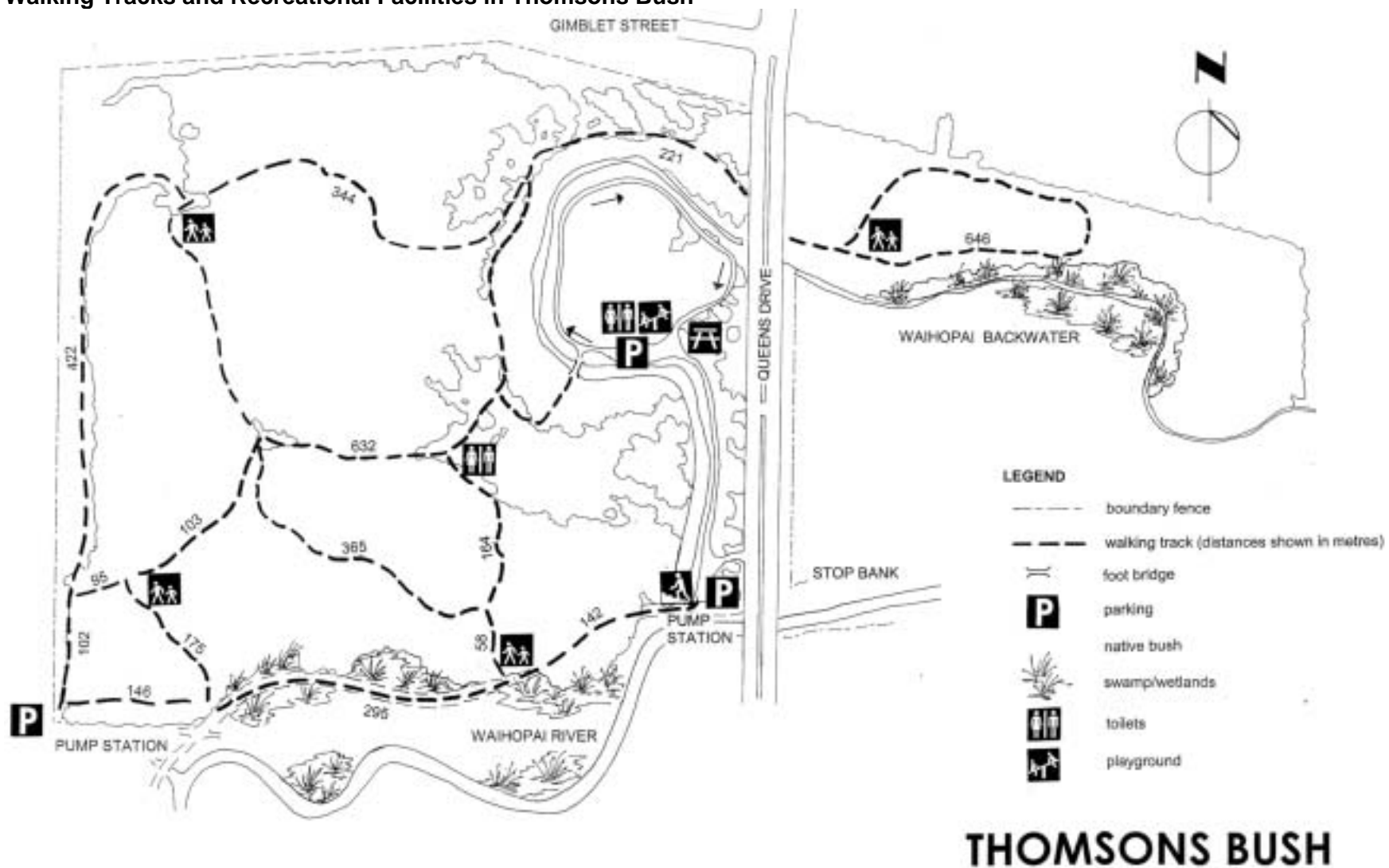
Thomsons Bush is under the control and management of the Invercargill City Council Parks Division. The Parks Division is responsible for the development, maintenance and general administration.

Community groups and schools regularly take part in native planting days and in the removal of weeds. The Parks Division encourages this partnership in managing this reserve and it is anticipated these events will continue to provide vital assistance in maintaining and enhancing Thomsons Bush in the future.



View North West from the Queens Drive / Waihopai Walkway Intersection - 18 August 2004

Walking Tracks and Recreational Facilities in Thomsons Bush



2.0 MANAGEMENT OBJECTIVES

In setting the management objectives for Thomsons Bush, consideration must be given to the fact that it is currently classified as a *Recreation Reserve* under the Reserves Act 1977.

The primary purpose of a *Recreation Reserve* under Section 17 of the Act can be summarised as providing areas for recreation with an emphasis on the retention of open spaces and on outdoor recreation activities. Other scenic, historic, archaeological, biological, geological, or other scientific features or indigenous flora and fauna or wildlife present on the reserve are managed to the extent compatible with that primary purpose.

Council acknowledges that it is not possible to return the forest remnant in Thomsons Bush to the natural condition that would have existing prior to human occupation. The forest remnant has been highly modified over time by human intervention, including changes to the water table and the introduction of exotic weed and pest animal species. It is unlikely that these problems can ever be completely solved and Council accepts that management of the reserve requires continual and ongoing attention.

- 2.1 Thomsons Bush shall be managed in perpetuity for the purpose of protecting, preserving and enhancing its intrinsic values as a significant lowland podocarp forest remnant.**
- 2.2 Thomsons Bush shall be managed in a manner that preserves the scenic qualities, natural beauty and landscape significance while enabling the public to obtain benefit and enjoyment from the reserve.**
- 2.3 Thomsons Bush shall be managed and developed to provide the necessary facilities and amenities compatible with its natural and scenic values that will encourage and facilitate the wise use of the land for casual recreation.**



3.0 POLICIES

3.1 Classification

The revocation of the Scenic Reserve status in 1963 by the Department of Lands and Survey was considered a misunderstanding of the true floral and faunal values of Thomsons Bush. While there has been significant pressure on the forest from erosion of the forest edges, changes to the river alignment and invasion of weed species, Thomsons Bush still contains healthy pockets of vegetation providing significant habitat for fauna. The fact that this is one of only four areas of lowland forest of its type remaining in the area indicates the value of placing a higher level of protection on the forest.

Scenic Reserves under Section 19 (1a) of the Reserves Act 1977 can be summarised as preserving in perpetuity areas of natural scenic value for their intrinsic worth and for the benefit of the public. The benefit to the public is more through passive recreation such as walking and nature watching than the more active pursuits, which would be more common on Recreation Reserves.

Given the significance of Thomsons Bush as a lowland podocarp forest remnant and the general support for protection and enhancement of these natural values, it is believed more appropriate that this reserve be classified as Scenic Reserve. The previous management plan for Thomsons Bush supported this change of classification – however, this was never actioned.

- 3.1.1 Application shall be made to the Minister of Conservation to have Thomsons Bush classified as a Scenic Reserve as defined in Section 19 of the Reserves Act 1977.

3.2 Access

Pedestrian and vehicular tracks provide safe passage into and across reserves reducing the negative impact on the environment. Unrestricted pedestrian and vehicle movement increases the risk to people, plants and wildlife.

- 3.2.1 Motorised vehicles, other than maintenance vehicles, are not permitted in Thomsons Bush other than on areas designated as roadway or parking without prior written authority from the Parks Manager.



- 3.2.2 Vehicle access to Thomsons Bush shall be restricted to the one existing entrance off Queens Drive.

- 3.2.3 Pedestrian access to and through Thomsons Bush shall be controlled where necessary by the development and maintenance of quality walking tracks, footpaths and footbridges.

- 3.2.4 Where possible pedestrian access in Thomsons Bush shall be developed to a standard that allows unrestricted use by pushchairs and wheelchairs.

- 3.2.5 All bikes are prohibited from using any of the pedestrian tracks within Thomsons Bush without prior written authorisation from the Parks Manager.

3.3 Flora

Thomsons Bush contains lowland swamp forest species representative of the forest that covered much of the area prior to European settlement. As one of only four remnants remaining of this forest type in the area, it is important that it is protected and enhanced for future generations.

- 3.3.1 Management of Thomsons Bush shall focus on the protection and enhancement of the swamp/podocarp forest ecology.

- 3.3.2 Only native species sourced locally (wherever possible) shall be planted on Thomsons Bush as part of any revegetation programme to protect the genetic health of the forest.

- 3.3.3 Council will support and encourage local initiatives to revegetate areas within Thomsons Bush to an approved planting programme.



- 3.3.4 The removal or damage to any tree, shrub or plant material from within Thomsons Bush is prohibited except as part of an approved maintenance programme.

- 3.3.5 Planting programmes shall be developed and maintained to further enhance the native vegetation in Thomsons Bush.

- 3.3.6 The Thomsons Bush vegetation shall be monitored at regular intervals to detect changes over time and to help identify the success of work programmes and initiatives.

- 3.3.7 Exotic grass growth in Thomsons Bush shall be controlled and managed in appropriate areas. All other exotic grasses shall be sprayed or removed as part of an approved planting programme to gradually revegetate areas.

3.4 Fauna

Thomsons Bush is acknowledged as having significant avifauna and entomological values, particularly in that it acts as an 'island' within the urban setting. The quality and quantity of mature trees and shrubs is linked to the quality of habitat for insects and the numbers of birds visiting and breeding.

- 3.4.1 The indigenous fauna habitat within Thomsons Bush shall be protected and enhanced where appropriate.

3.5 Pest plants and animals

Introduced weed species threaten the viability of Thomsons Bush as a lowland forest remnant. There is widespread distribution and abundance of ecologically damaging weed species within Thomsons Bush; the future of Thomsons Bush as a lowland forest remnant is tentative if the status quo continues. Wild and introduced animals and mustelids can be devastating to many species of indigenous flora and fauna.

- 3.5.1 Council shall control and attempt to eradicate all noxious plant species from Thomsons Bush.
- 3.5.2 Council shall control and attempt to eradicate all exotic animal and mustelid pests from Thomsons Bush.

3.6 Domestic Animal Control

Uncontrolled domestic animals can cause damage to plants and soil structure and may endanger other reserve users. Council will undertake a review of the control of domestic animals on reserves including assessing whether dogs should be required to be on a lead at all times.

- 3.6.1 Dogs are permitted in Thomsons Bush, provided they are under control at all times.
- 3.6.2 Horses are prohibited in Thomsons Bush without prior written authorisation from the Parks Manager.

3.7 Buildings and Structures

Reserves are created principally for the provision and preservation of open space and natural areas. However, some buildings such as toilets may be considered necessary for the enjoyment and full utilisation of the reserve.

- 3.7.1 The number of buildings and structures in Thomsons Bush shall be limited to a level that facilitates safe and appropriate use of the reserve.
- 3.7.2 The natural and scenic values of Thomsons Bush shall be protected and managed by allowing only those buildings and structures which complement the setting in which they are placed.
- 3.7.3 Buildings and structures in Thomsons Bush shall be maintained to a high standard and, where practicable, designed to limit the opportunity for vandalism.
- 3.7.4 No trade or any other form of advertising shall be permitted within Thomsons Bush or on buildings within the park, except for specific events as approved by the Parks Manager.

3.8 Boundaries and Fencing

Thomsons Bush boundaries are reasonably well defined by the residential properties, roads and waterways. The Parks Division recognises the importance of good quality boundary fences around reserves such as this. Where required, the Parks Division shall

contribute towards the construction of a fence neighbouring on to a reserve to a level set by the current fees schedule.

- 3.8.1 Thomsons Bush boundaries shall be maintained to a standard that prohibits stock from entering the reserve and that directs people towards the formed access points.

3.9 Recreational Use

The proposed change of reserve classification from Recreation Reserve to Scenic Reserve indicates the primary values related to its scenic qualities and indigenous flora and fauna. However, this reserve is also a popular reserve for walking and recreation. To protect and preserve the special values, it is important to ensure the public areas and walkways are well defined and that Council has the ability to limit or exclude public access into certain areas considered significant.

- 3.9.1 Recreational use of Thomsons Bush will be encouraged and enhanced, provided it does not have a detrimental effect on the scenic qualities and indigenous flora and fauna.
- 3.9.2 Council reserves the right to exclude the public from certain areas of Thomsons Bush containing significant values or to limit activities that may damage the natural forest habitat.

3.10 Play Equipment

The type and number of pieces of play equipment shall be regularly reviewed as the demographic and social needs of the area change.



Play equipment should be kept as safe as possible, using the New Zealand Standard specifications (*NZS 5828:2004 Playground Equipment and Surfacing*) for play equipment as a minimum requirement.

- 3.10.1 The provision of play equipment in Thomsons Bush shall be kept under continuous review.
- 3.10.2 Play equipment shall be maintained to a high standard of safety and those pieces that do not meet Council standards shall be removed from Thomsons Bush if deemed unsafe.

3.11 Leases

Leases allow organisations to provide recreational facilities for the public. The Reserves Act 1977 clearly indicates that leases and other occupation rights must be considered in relation to the primary purpose of the reserve and the rights of the public.

- 3.11.1 Council does not consider it appropriate to enter into formal lease agreements in Thomsons Bush under the current management arrangement.

3.12 Camping

As a general rule, camping is not permitted on reserves administered under the Reserves Act 1977 unless the reserve is registered as a camping ground or is a permitted activity defined in the Reserve Management Plan. It is considered inappropriate to permit freedom camping in Thomsons Bush, given its location in an urban setting and significance as a native forest remnant.

- 3.12.1 Freedom camping is not permitted in Thomsons Bush.

3.13 Nuisances

Certain activities on reserves that create loud noise or extreme glare have the potential to disturb other reserve users, reserve neighbours or disturb indigenous species.

- 3.13.1 Activities on Thomsons Bush that cause ongoing and extreme annoyance to other reserve users, neighbouring properties, or which are likely to cause disturbance to indigenous species are not permitted without prior authorisation from the Parks Manager.



3.14 Litter Control and Dumping

Council is committed to reducing the amount of litter that is deposited on Council land.

- 3.14.1 The dumping of refuse, including garden waste, in Thomsons Bush is not permitted.
- 3.14.2 Litterbins are provided in Thomsons Bush for reserve users. Only litter incidental to reserve use shall be placed in these bins. Household rubbish is not permitted to be placed in these litterbins.

3.15 Essential Services

Overhead service lines or structures relating to the provision of essential services detract from the appearance of a native forest reserve and place limitations on the vegetation growth and recreational activities that occur under the service line. Reserves such as Thomsons Bush are not considered appropriate for use as a convenient route for network or reticulated services.

- 3.15.1 New reticulated essential services deemed essential in Thomsons Bush shall be laid underground and be only to service the activities and facilities within the reserve.

4.0 FUTURE MANAGEMENT AND DEVELOPMENT

Future development and management of Thomsons Bush shall only be to the extent that is compatible with the overall management objectives and policies of this management plan.

Thomsons Bush has been recognised as being of regional importance as one of the few remaining areas of native vegetation of its kind. One of the Objectives of this plan is to protect, preserve and enhance the intrinsic values of the forest remnant. However, **Council acknowledges that it is not possible to return the forest remnant to the natural condition that would have existed prior to human occupation.** The forest remnant has been highly modified over time by human intervention including changes to the water table and the introduction of exotic weed and pest animal species. It is unlikely that these problems can ever be completely solved and Council accepts that management of the reserve requires continual and ongoing attention.

Weed control and native planting in Thomsons Bush in recent years has focused on the frontage along Queens Drive enhancing the reserve from the street. While this has improved the general appearance of the reserve making it more inviting to visitors, other areas in the reserve require attention to remove aggressive weed species and for the overall future health of the remnant.

In March 2003, Neville L Jones prepared a 'Plant Species Survey and Vegetation Zoning' study of Thomsons Bush. Twelve zones were identified, highlighting the plant species and status of vegetation growing within those zones. From this report priority areas for future weed control and revegetation have been established. Refer **Appendix 4.**

Priority One areas include those identified as having declining native vegetation with no natural native regrowth, and where there is a major weed infestation. Areas One, Four and Ten (predominantly the western boundary of Thomsons Bush) have been included as Priority One. Area Seven has also been included as a Priority One as it is a high use, highly visible area and continued planting of the stream edge will improve the appearance and health of the stream.

The following priority areas are general guidelines for the future management of the reserve. It is agreed that **more specific and detailed information on the plant and animal pests, the ecology of the reserve, and management of the Waihopai backwater is required** to assist with the long-term management of Thomsons Bush. These shall be prepared and attached to the Management Plan as appendices prior to any major developments being prepared.

One of the outcomes of the submission process was the interest by several submitters in becoming a part of a voluntary group to help implement the management plan policies. Some submitters suggested the establishment of a 'Friends of Thomsons Bush' group to help with weed control and revegetation of the reserve. **Council will investigate how the establishment of a voluntary community group to assist with the implementation of the Thomsons Bush Management Plan can best be set up and administered.** Environment Southland is currently looking at setting up a 'care' group for the management of the Waihopai River catchment.

4.1 Priority Areas for future Vegetation Management

PRIORITY ONE (Goal - Years 2004 – 2007)

- **Areas One, Four and Ten** shall be targeted for exotic weed removal and replanting of native species.
- Continued management of **Area Seven** including native plantings along the riparian zone.
- Ongoing management of the vegetation in other areas as required.

PRIORITY TWO (Goal – Years 2008 – 2011)

- Target **Areas Two, Eight, Nine, Eleven and Twelve** for exotic weed removal and replanting of native species.
- Ongoing management of the vegetation in other areas as required.

PRIORITY THREE (Goal – Years 2012 – 2014)

- Target **Areas Three, Five and Six** for exotic weed removal and replanting of native species.
- Ongoing management of the vegetation in other areas as required.

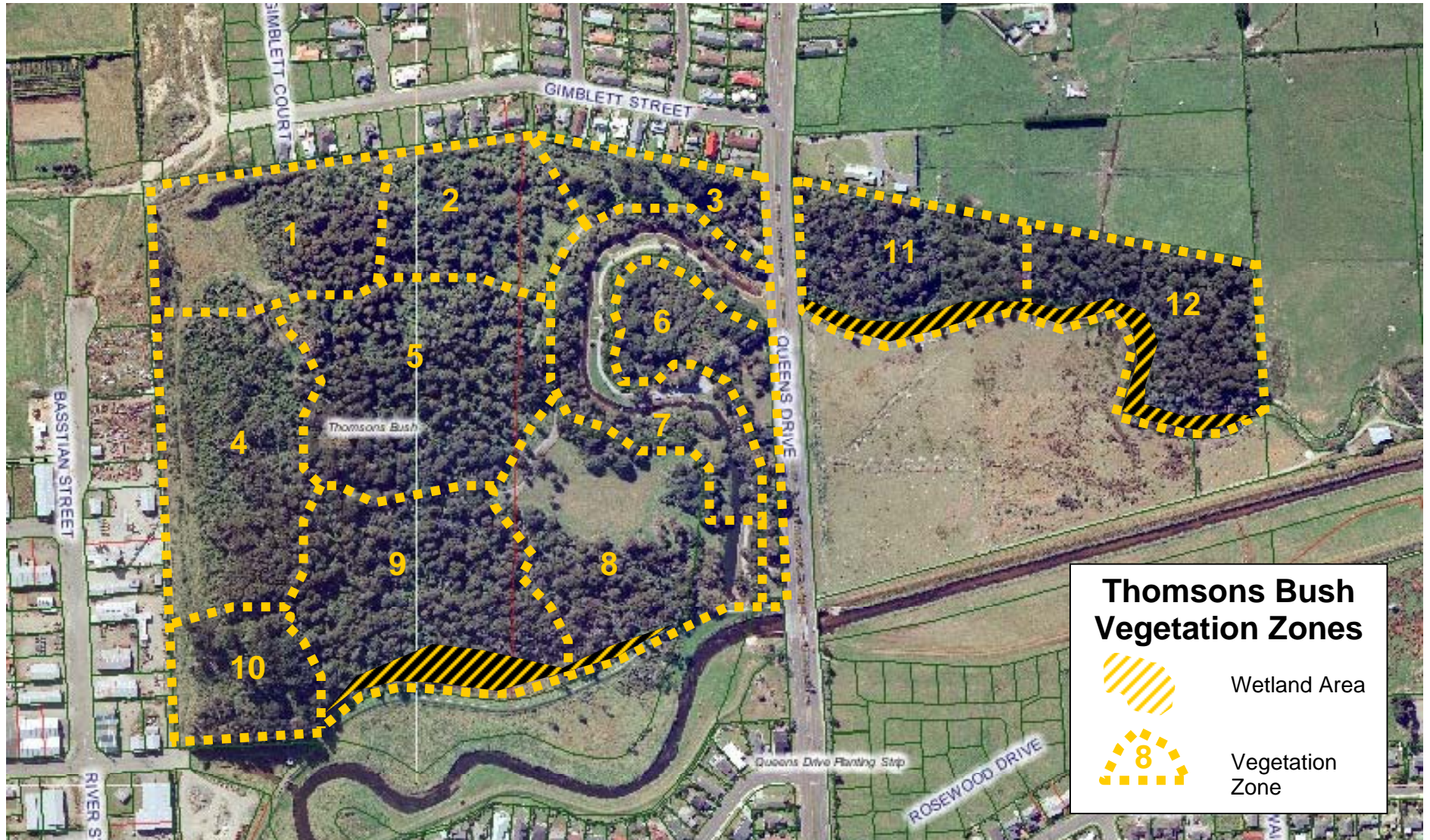
4.2 Other Management Requirements

- Ongoing management of recreational facilities, including the upgrade of tracks to pushchair/wheelchair standard where required. Consideration to developing formal access to Thomsons Bush from Gimblett Street at the northwestern corner.
- Review play equipment suitability.

The Parks Division shall co-ordinate the planting programme and continue to work with community groups and schools interested in the future management of Thomsons Bush.

In addition to the control and enhancement of the vegetation in Thomsons Bush, recreational facilities will be maintained and improved as required. Council supports the use of Thomsons Bush as an 'outdoor classroom' and encourages school groups to use the reserve for this purpose. Directional signage, interpretation signage and the reserve pamphlet shall be kept up to date and relevant.

Walkways, toilets, playgrounds and other facilities that contribute to the recreational amenity of Thomsons Bush shall be maintained and upgraded as required and as finance becomes available, to the standard set by policy.



5.0 ADMINISTRATION

The Invercargill City Council, through the Parks Manager, shall carry out the day-to-day administration and management of Thomsons Bush, using Parks Division asset and operations staff, and contractors.

6.0 PLAN AMENDMENT AND REVIEW

6.1 Amendments

Any change or amendment, not involving a comprehensive review of this management plan, shall be made by adopting the procedures specified in Section 41 (6) (a) of the Reserves Act 1977 and Sections 28 and 29 of the Reserves Amendment Act 1979.

6.2 Plan Review

The plan shall be kept under continuous review as laid down in Section 41 (4) of the Reserves Act 1977. This plan will operate from **1 September 2004** for a period of ten years, at which time it will be completely reviewed.

As laid down in Section 41 (4) of the Reserves Act 1977, it shall be kept under continuous review, with a general review at the end of the first five years. This review will be made available for public comment.

7.0 REFERENCES

- Bill, Amber; 1999** *Areas of Significant Indigenous Vegetation and Significant Habitats of Indigenous fauna in the Invercargill City District. Resource Management Act 1991, Section 6 (c). Environmental Report prepared for the Invercargill City Council*
- Environment Southland; 2003** *Weed Survey of Thomsons Bush*
- ICC Parks Division; 1991** *Thomsons Bush Management Plan 1 February 1991 – 31 January 2001. Invercargill City Council, Parks Division*
- Jones, Neville L; 2003** *Thomsons Bush Plant Species Survey and Vegetation Zoning, March 2003.*
- Local Government NZ, Department of Conservation; 1999** *Reserves Act Guide*
- Patrick, Brian H, 2004** Correspondence
- Rance, Brian; 2002** *Thomsons Bush – Plant Species List, 2 January 2002*

This Reserve Management Plan has been prepared within the parameters defined by the following:

- *Reserves Act 1977*
- *Invercargill District Plan*
- *Relevant Council Policy and Bylaws*

And with regard to:

- *Information contained in previous Management Plans, Council records and office files.*
- *Public consultation*

8.0 APPENDICES

Appendix 1 Thomsons Bush – Plant Species List

Source: Brian Rance, 2002
Neville Jones, 2003

Botanical Name	Common Name	Introduced
<i>Acaena anserinifolia</i>	Bidibid	*
<i>Acer pseudoplatanus</i>	Sycamore	*
<i>Achillea millefolium</i>	Yarrow	*
<i>Alnus glutinosa</i>	Black alder	
<i>Anagalis arvensis</i>		*
<i>Aristotelia serrata</i>	Wine berry	*
<i>Astelia fragrans</i>	Bush lily/kakaha	
<i>Astelia nervosa</i>	Bush lily	
<i>Asplenium bulbiferum</i>	Hen and chicken fern	
<i>Asplenium flaccidum</i>	Hanging spleen wort	
<i>Bellis perennis</i>	Daisy	*
<i>Berberis darwinii</i>	Barberry	*
<i>Betula pendula</i>	Silver birch	*
<i>Blechnum capense</i>	Kiokio, cape fern	
<i>Blechnum discolor</i>	Crown fern	
<i>Blechnum fluviatile</i>	Kiwakiwa	
<i>Blechnum minus</i>	Cape fern (similar to capense)	
<i>Blechnum membranaceum</i>		
<i>Blechnum penna-marina</i>	Little hard fern, alpine water fern	
<i>Callitriche stagnalis</i>		*
<i>Calystegia silvatica</i>	Great bindweed	*
<i>Capsella bursa-pastoris</i>	Shepherd's purse	*
<i>Carex virgata</i>		
<i>Carpodetus serratus</i>	Putaputaweta	
<i>Cerastium glomeratum</i>	Annual mouse-ear chickweed	*
<i>Cirsium arvense</i>	Californian thistle	*
<i>Cirsium vulgare</i>	Scotch thistle	*
<i>Clematis foetida</i>	Scented native clematis	
<i>Clematis paniculata</i>	Native clematis, Puawhananga	
<i>Conium macilentum</i>	Hemlock	*
<i>Convolvulus arvensis</i>	Field bindweed	*
<i>Coprosma lucida</i>	Karama	
<i>Coprosma propinqua</i>	Mingimingi	
<i>Coprosma rigida</i>	Narrow-leafed snow tussock	
<i>Coprosma rotunderfolia</i>	Round leaf coprosma	
<i>Cordyline australis</i>	Cabbage tree	
<i>Cotoneaster glaucophyllus</i>	Cotoneaster	*
<i>Crataegus monogyna</i>	Hawthorn	*

Botanical Name	Common Name	Introduced
<i>Crepis capillaries</i>	Hawksbeard	*
<i>Crocoshia x crocosmiiflora</i>	Montbretia	*
<i>Cupressus macrocarpa</i>	Macrocarpa	*
<i>Cytisus scoparius</i>	Broom	*
<i>Dacrydium cupressinum</i>	Rimu	
<i>Dacrydium dacrydioides</i>	Kahikatea/white pine	
<i>Dactylis glomerata</i>	Cocksfoot	*
<i>Daphne lauriola</i>	Green daphne	*
<i>Dicksonia squarrose</i>	Wheki, brown tree fern	
<i>Digitalis purpurea</i>	Foxglove	*
<i>Elaeocarpus hookerianus</i>	Pokaka	
<i>Eucalyptus</i>	Eucalypt or gum tree	*
<i>Euonymus europaeus</i>	European spindleberry	*
<i>Festuca arundinacea</i>	Tall fescue	*
<i>Fuchsia x colensoi</i>		
<i>Fuchsia excorticata</i>	Tree fuchsia	
<i>Fuchsia perscandens</i>	Climbing fuschia	
<i>Gallium aparine</i>	Cleavers	*
<i>Griselinia littoralis</i>	Broadleaf/Papauma	
<i>Hebe salicifolia</i>	Willow-leaved hebe	
<i>Hedera Helix</i>	Ivy	*
<i>Histeopteris incisa</i>		
<i>Hoheria populnea</i>	Lacebark or houhere	
<i>Hoheria sexstylosa</i>	Long-leaved lacebark/Houhere	*
<i>Holcus lanatus</i>	Yorkshire fog	*
<i>Hydrocotyle heteromera</i>		
<i>Hypolepis ambigua</i>		
<i>Hypolepis rugosula</i>		
<i>Ilex aquifolium</i>	Holly	*
<i>Iris sp</i>		*
<i>Juncus gregiflorus</i>	Common rush, wiwi	
<i>Leptospermum scoparium</i>	Manuka	
<i>Lolium perenne</i>	Ryegrass	*
<i>Lupin arboreus</i>	Tree lupin	
<i>Malus domestica</i>	Apple	*
<i>Matricaria matricarioides</i>	Rayless chamomile	*
<i>Melicope simplex</i>	Poataniwha	
<i>Melicytus lanceolatus</i>	Mahoe wao	
<i>Microlaena avenacea</i>	Bush rice grass	
<i>Muehlenbeckia australis</i>	Bush pohuehue	
<i>Mumulus guttatus</i>	Monkey musk	*
<i>Mycelus muralis</i>		*
<i>Myosotis caespitose</i>	Water forget-me-not	*
<i>Myrsine australis</i>	Mapau or matipou	
<i>Myrsine divaricata</i>	Weeping matipo	
<i>Nothofagus fusca</i>	Red beech	*
<i>Nothofagus menziesii</i>	Silver beech	*
<i>Nothofagus solandri var</i>	Mountain beech	*

Botanical Name	Common Name	Introduced
cliffortioides		
Parsonsia heterophylla	Native jasmine	
Pennantia corymbose	Kaikomako	
Phormium tenax	Flax	
Phymatororus diversifolius	Kowaewao, hounds tongue	
Pinus radiata	Pine	*
Pittosporum tenuifolium	Kohuhu	
Plagianthus regius	Ribbonwood	
Plantago lanceolata	Narrow-leaved plantain	*
Plantago major	Broad-leaved plantain	*
Poa annua	Meadow grass	
Podocarpus hallii		
Podocarpus spicatus	Matai/black pine	
Podocarpus totara	Totara	
Polystichum richardii	Tutoke, shore shield fern	
Polystichum vestitum	Puniu, prickly shield fern	
Populus alba	Silver poplar	*
Populus niara	Lombardy poplar	*
Prumnopitys taxifolia	Matai	
Prunella vulgaris	Self-heal	*
Prunus avium	Cherry	*
Prunus cerasifera	Flowering plum	*
Prunus laurocerasus	Cherry laurel	*
Prunus lusitanica	Portugal laurel	*
Pseudopanax arboreus	Five finger/puahou	
Pseudopanax colensoi	Orihou	
Pseudopanax crassifolius	Lance wood or horoeka	
Pseudowintera colorata	Horopito/pepper tree	
Pyrrosia serpens	Creeping felt fern	
Quercus sp	Oak	*
Ranunculus repens	Creeping buttercup	*
Ribes sanguineum	Currant	*
Rorippa micrphylla	Watercress	*
Rubus fruticosus	Blackberry	*
Rubus schmidelioides	Lawyer	
Rumex obtusifolius	Broadleaved dock	*
Salix caprea	Pussy willow	*
Salix cinerea	Grey willow	*
Salix fragilis	Crack willow	*
Sambucus nigra	Elderberry	*
Schefflera digitata	Pate	
Schezeilema trifoliolatum		
Senecio jacobaea	Ragwort	*
Senecio mikanioides	German Ivy	*
Senecio minimus		
Solanum nigrum	Black nightshade	*
Solanum dulcamera		*

Botanical Name	Common Name	Introduced
<i>Soncus asper</i>		*
<i>Sophora microphylla</i>	Kowhai	
<i>Sorbus aucuparia</i>	Rowan	*
<i>Stellaria graminea</i>		*
<i>Stellaria media</i>	Chickweed	*
<i>Taraxacum officinale</i>	Dandelion	*
<i>Taxus baccata</i>		*
<i>Tradescantia fluminensis</i>	Wandering willy	*
<i>Tropaeolum speciosum</i>	Chilean flame creeper	*
<i>Tupeia antarctica</i>		
<i>Ulex europaeus</i>	Gorse	*
<i>Uncinia clavate</i>		
<i>Uncinia uncinata</i>	Hook grass	*
<i>Urtica ferox</i>	Ongaonga/tree nettle	
<i>Urtica incisa</i>		
<i>Urtica urens</i>	Nettle	*
<i>Vicia sativa</i>	Vetch	*
<i>Vinca major</i>	Periwinkle	*

Appendix 2 **Bird Species and Status, Thomsons Bush - February 1991.**

By Maida Barlow, Regional Representative, Ornithological Society of New Zealand, Southland Region.

Extract from Thomsons Bush Management Plan 1991

* indicates introduced species

OV = occasional visitor
R & B = resident and breeding
R & PB = resident and probably breeding

OV	Phalacrocorax carbo novaehollandiae	Black Shag
OV	P. Melanoleucos brevirostris	Little Shag
R & PB	Ardea novaehollandiae n.	White-faced Heron
R & B	Anas platyrhynchos p. *	Mallard
R & B	Anas rhynchotis variegata	N.Z. Shoveler
	Circus approximans	Australian Harrier
R & PB	Porphyrio p. melanotus	Pukeko
	Haematopus ostralegus finschi	South Island Pied Oystercatcher
	Vanellus miles novaehollandiae	Spur-winged Plover
	Larus dominicanus d.	Southern Black-billed Gull
	Larus bulleri	Black-billed Gull
R & PB	Hemiphaga novaeseelandiae	N.Z. Pigeon
OV	Chrysococcyx lucidus l.	Shining Cuckoo
OV	Eudynamys taitensis	Long-tailed Cuckoo
OV	Athene noctua	Little Owl
OV	Ninox novaeseelandia n.	Morepork
OV	Halcyon sancta vagans	N.Z. Kingfisher
	Alauda arvensis *	Skylark
OV	Hirundo tahitica	Welcome Swallow
R & B	Prunella modularis *	Hedge Swallow
R & B	Turdus merula	Blackbird
R & B	Turdus philomelos *	Song Thrush
R & B	Gerygone igata	Grey Warbler
R & B	Petroica macrocephala m.	South Island Tomtit
R & B	Zosterops lateralis	Silvereye
R & PB	Anthornis melanura	Bellbird
R & PB	Prothemadera novaeseelandia n.	Tui
R & B	Emberiza citrinella *	Yellowhammer
R & B	Fringilla coelebs *	Chaffinch
R & PB	Carduelis Chloris *	Greenfinch
R & B	Carduelis c. *	Goldfinch
R & B	Carduelis flammea *	Redpoll
R & B	Passer domesticus *	House Sparrow
R & PB	Sturnus vulgaris *	Starling
	Gymnorhina tibicen *	Australia Magpie

Appendix 3 Report on Invertebrates

By P Hamill, 1984

Extract from Thomsons Bush Management Plan 1991

The large aquatic habitat of the backwater of the Waihopai River has numerous water boatmen *Sigara arguta* and backswimmers *Anisops wakefieldi* present. The introduced diving beetle *Rhantus pulverosus* is also present in small numbers. The backwater is also a breeding place for the red damselfly *Xanthocnemis zealandica*, the blue damselfly *Austrolestes colenonis*, and the yellow spotted dragonfly *Procordulia smithi*.

The Thomsons Bush area is also very rich in spider species. Fifteen species were collected, they were *Trite reauricoma*, *Aorangia obscura*, *Viridictyna sp.*, *Mamoea rufa*, *Clubiona sp.*, *Rhomphaea sp.*, *Mynoglenes sp.*, *Pholcomma sp.*, *Mynoglenes sp.*, *Pholcomma sp.*, *Mynoglenes sp.*, *Viridictyna sp.*, *Icona sp.*, *Dyarcycops orepukiensis*, *Allotrochosa schauinslandi*, *Diea sp.*, and an unidentified species from the family Theridiidae.

Several species of beetles were also found, including the ground beetle *Mecodema sp.* large black beetle *Cilibe otagoensis*, a weevil *Etnalis spinicollis*, longhorn beetle *Ambeodontus tristis* and a species of rove beetle. Moths found are the common grass moth *Orocrambus flexuosellus*, common forest looper *Tatosoma timora*, porina moth *Wiseana umbraculata* and a Noctuid moth *Graphania sp.*

Ten species of flies were observed in the area; the March fly *Dilphins nigrostigma*, drone fly *Eristelis tenax*, bush fly *Protohystricia alcis*, striped flesh-fly *Parasarcophagus milleri*, house fly *Musa domestica*, and native blue bottle *Calliphora quadrimaculata*.

Other species present at Thomsons Bush are:

Spittle bug	<u><i>Philaenus trimaculatus</i></u>
Bush centipede	<u><i>Hanseniella sp.</i></u>
Brown beetle	<u><i>Costelytra zealandica</i></u>
Earwig	<u><i>Forficula auricularia</i></u>
Bumble bee	<u><i>Bombus terrestris</i></u>
European wasp	<u><i>Vespula germanica</i></u>
Honey Bee	<u><i>Apis mellifera</i></u>
Mosquito	<u><i>Ochlerotatus subalbitostris</i></u>
Shield bug	<u><i>Oncaontias vittatus</i></u>
Hover flies	<u><i>Melanostoma fasciatum</i></u> , <u><i>Syrphus novaezealandiae</i></u> , <u><i>Tuberifera tenau</i></u> and a rat tailed hoverfly

Order Arachnida

<u><i>Trite reauricoma</i></u>	Thomsons Bush	<u><i>Rhomphaea sp.</i></u>	Thomsons Bush
Unknown species	Thomsons Bush	<u><i>Mynoglenes sp.</i></u>	Thomsons Bush
<u><i>Aorangia obscura</i></u>	Thomsons Bush	<u><i>Pholcomma sp.</i></u>	Thomsons Bush
<u><i>Viridictyna sp.</i></u>	Thomsons Bush	<u><i>Viridictyna sp.</i></u>	Thomsons Bush
<u><i>Mamoea rufa</i></u>	Thomsons Bush	<u><i>Dyarcycops orepukiensis</i></u>	Thomsons Bush
<u><i>Clubiona sp.</i></u>	Thomsons Bush	<u><i>Icona sp.</i></u>	Thomsons Bush

Appendix 4 Priority areas for future weed control and revegetation

Based on Plant Species Survey and Vegetation Zoning - Neville Jones
2003

AREA	VEGETATION	STATUS	CANOPY	WEEDS	GROUND CONDITIONS	PRIORITY LEVEL
Area 1	Modified native vegetation	Declining vegetation without native regrowth	Severe canopy damage	Major weed infestations	Elevated and drier ground conditions	1
Area 4	Unmodified native vegetation	Declining vegetation without native regrowth	Severe canopy damage	Major weed infestations	Elevated and drier ground conditions	1
Area 10	Unmodified native vegetation	Declining vegetation without native regrowth	Severe canopy damage	Major weed infestation	Elevated and drier ground conditions	1
Area 7	Modified native vegetation	Vegetation not declining	Canopy ok	Minor weed infestation	Elevated and drier ground conditions	1 *
Area 2	Modified native vegetation	Declining vegetation with native regrowth	Canopy ok	Minor weed infestation	Elevated and drier ground conditions	2
Area 8	Unmodified native vegetation	Declining vegetation without native regrowth	Severe canopy damage	Major weed infestation	Low lying ground and wet conditions	2
Area 9	Modified native vegetation	Declining native vegetation with native regrowth	Severe canopy damage	Minor weed infestation	Low lying ground and wet conditions	2
Area 11	Modified native vegetation	Declining vegetation without native regrowth	Canopy ok	Minor weed infestation	Low lying ground and wet conditions	2

Area 12	Modified native vegetation	Declining vegetation without native regrowth	Canopy ok	Major weed infestation	Low lying ground and wet conditions	2
Area 3	Unmodified native vegetation	Vegetation not declining	Canopy ok	Minor weed infestation	Elevated and drier ground conditions	3
Area 5	Modified native vegetation	Declining vegetation with native regrowth	Canopy ok	Minor weed infestation	Elevated and drier ground conditions	3
Area 6	Unmodified native vegetation	Declining vegetation with native regrowth	Canopy ok	Major weed infestation	Elevated and drier ground conditions	3

* Area Seven has been included as a Priority One as this is a highly visible, high use area. Planting along the edge of the stream will improve the appearance and quality of the water.