

# **Lake Rotokauri Park Management Plan**

November 2002



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## **Preamble**

*Lake Rotokauri Park is situated on Hamilton's northwest boundary and the lake and its environs lie within Waikato District.*

*The Reserves Act 1977 requires both Hamilton City Council and Waikato District Council to prepare a management plan for the areas they administer.*

*Waikato District Council (WDC) adopted their Rotokauri Lake Management Plan as operative in 2000. The Department of Conservation has given authority to 'control and manage' the reserve, which is the majority of the area surrounding the lake and the lake itself, to WDC. Hamilton City Council administers a relatively much smaller area of reserve on the southeastern side of the lake.*

*Given that the reserve area under Hamilton City's control is much smaller than that under WDC's administration it is important that its management is consistent with that of the larger adjoining reserve areas and the WDC Management Plan.*

*In developing the WDC Management Plan the Council was advised by a committee of representatives of interested parties and local residents. This committee has also advised on the development of a work programme to implement the plan. Hamilton City Council has been represented on the Lake Rotokauri Management Committee throughout the development of the WDC Management Plan.*

*This Lake Rotokauri Park Management Plan has been prepared as a supplementary document to the WDC's Management Plan. The implementation of this management plan will, where necessary, be in co-ordination with the WDC development programme.*

## **Part 1 - Introduction**

### **1.1 The Purpose of the Plan**

The purpose of this Reserves Act (1977) management plan is to provide a strategic framework for the management of Lake Rotokauri Park under the provisions of the Act. It sets out a framework to enhance and maintain the ecological values of the lake and its environs, while providing for a limited number of passive recreational opportunities (pedestrian access, walkways where appropriate, seating etc).

This draft management plan supplements the WDC Management Plan. It has been prepared to assist in the day-to-day management of the park, whilst meeting long-term management objectives consistent with those identified by WDC.

## 1.2 Lake Rotokauri Park

|   |   |
|---|---|
| <b>Access:</b>                          | Bunyard Rd, Waikato District  |
| <b>Legal Description:</b>               | Lot 20 DPS 57794  |
| <b>Area:</b>                            | 4.9775 hectares   |
| <b>Proposed District Plan Zoning:</b>   | Recreation Environment  |
| <b>Rotokauri Structure Plan Zoning:</b> | Large Lot Residential — Reserve Zoning to be applied.   |
| <b>Status:</b>                          | Classified Recreation Reserve under the Reserves Act 1977. To be reclassified as Local Purpose (ecological management) Reserve. |
| <b>Ownership:</b>                       | Vested in Hamilton City Council by Section 306 of the Local Government Act 1974. Part CT 47A/945 and part CT 656/27.            |
| <b>Date of Council Acquisition:</b>     | 12 February 1991  |

Lake Rotokauri Park is on the northwestern boundary of Hamilton City, adjoining Lake Rotokauri and Waikato District (see Appendix 2). Currently there is no developed public access to the park. Access will be developed from Bunyard Road, which is within the Waikato District. The park has two distinct areas; the lake margin which adjoins the lake and has dense marginal vegetation of mostly grey willow, and a slightly raised area, presently grassed, that will be sufficient to provide for both restoration planting and areas with seating and paths, etc.

The area surrounding the park is mostly undeveloped, with some large lot residential development in the vicinity of the lake (see Appendix 1). Land use in the Rotokauri area is predominantly agricultural and residential life-style blocks. Hamilton City Council (HCC) has prepared a Rotokauri Structure Plan that looks at future staging for urban development in the Rotokauri area within the next 20 years. However, the area within one kilometre of the lake, within the Hamilton City boundary will remain 'large lot development' and no further subdivision in this area is anticipated.

## 1.3 Lake Rotokauri

Located approximately 7 km northwest of central Hamilton, Lake Rotokauri is one of the larger of a number of small peat lakes in the lower Waikato region. It lies amongst low hills adjacent to the now drained Ohote Peat Bog and has only lightly peat-stained waters. The lake's catchment area of approximately 9 km<sup>2</sup> includes the nearby Horseshoe Lake, and a portion of Hamilton City. A number of drains feed into the lake, the largest of these being the Te Rapa/Rotokauri and Hamilton Zoo drains. Lake Rotokauri forms the headwaters of the Ohote Stream and is therefore part of the Waipa river catchment. As the largest of the small lakes in the vicinity of Hamilton, and with more marginal vegetation than most of the others, Rotokauri is particularly valuable<sup>1</sup>.

<sup>1</sup> Rotokauri Lake Management Plan (Waikato District Council, 2000).

|                    |                        |
|--------------------|------------------------|
| Lake Surface Area: | 0.6 km <sup>2</sup>    |
| Maximum Depth:     | 4m                     |
| Catchment Area:    | 9 km <sup>2</sup>      |
| Age:               | Approx. 13,300 years   |
| Shoreline Length:  | 3.2 kilometres         |
| Altitude:          | 24 metres <sup>2</sup> |



Aerial Photograph of Lake Rotokauri taken in 1995 — provided by Waikato District Council

<sup>2</sup> Review of the current status of Lake Rotokauri/prepared for Waikato District Council and Hamilton City Council (1998).

## **Part 2 — Background Information**

### **2.1 The Lake and its Catchment**

Most of the Lower Waikato peat lakes have a long history and began forming approximately 17,000 years ago as the migrating Waikato River deposited large volumes of sediment at the end of the glacial period. In a number of places these alluvial deposits blocked the mouths of valleys causing water build up and shallow lakes to form<sup>3</sup>.

The current Lake Rotokauri catchment is defined by Rotokauri, Bagust, and Baverstock Roads to the south, by Avalon Drive to the east and by the southern portion of Duck Road to the west. Its northern boundary is located approximately 1 km south of Te Kowhai Road. Low-lying hills and flat gently sloping lowlands are the predominant landforms in the area<sup>4</sup>.

### **2.2 Administration and Management of the Lake**

The lake and the majority of the surrounding wetland reserve area (excluding the area administered by Hamilton City Council, and the area in private ownership) are included in the area of reserve land under WDC's "appointment to control and manage" on the Department of Conservation's behalf.

Under the WDC Management Plan efforts have been made to improve the state of the wetland area included in the reserve through fencing, spraying of blackberry and replanting with Manuka. These efforts have been mainly concentrated around the south end of the lake.

A portion of the lake and its margins to the northwest remains in private ownership. Its future acquisition would be valuable for the management of the lake and reserves.

### **2.3 Access to the Lake**

Access to the lake is currently limited as members of the public have to pass through private land or unformed roads to reach its edge. Once the unformed part of Bunyard Road is developed pedestrian and vehicular access to WDC Reserve and Lake Rotokauri Park will be possible. The WDC has proposed a raised walkway along the southern margin of the lake that will connect with Lake Rotokauri Park.

### **2.4 Marginal Vegetation**

This vegetation provides an important buffer zone between the effects of catchment land uses and the lake itself. Marginal vegetation provides biological

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<sup>3</sup> Review of the current status of Lake Rotokauri (Summer Warr), 1998, Pg 3.

<sup>4</sup> Review of the current status of Lake Rotokauri (Summer Warr), 1998, Pg 4.

filtering of over land runoff into the lake and it is the only mechanism by which this occurs. Marginal vegetation also provides a habitat for birds and animals.

The lake's margin is dominated by adventive exotic species such as grey willow (*Salix cinerea*) and blackberry (*Rubus fruticosus*). Raupo (*Typha orientalis*), however, remains the dominant emergent species<sup>5</sup>. Pockets of manuka (*Leptospermum scoparium*) scrub with occasional sections with kahikatea (*Dacrycarpus dacrydioides*), cabbage trees (*Cordyline australis*), and *Coprosma propinqua* also exist. Further planting in this area will be highly beneficial for the lake ecosystem.



Lake Rotokauri Park and the southern end of the lake — marginal vegetation shown in the background.

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<sup>5</sup>Review of Current Status of Lake Rotokauri, (Summer Warr), 1998, Pg 27.



## Part 3 - Legislation and Planning Policy Framework

### 3.1 Introduction

A hierarchy of legislations and Council strategies and policies provide the framework for this management plan. The preparation of management plans for reserves is a legislative requirement under the Reserves Act 1977. It sets out the management planning process and defines reserves' purposes and functions. Other documents have helped shape principles for the protection, use and development of reserves. They include:

- Hamilton's Strategic Plan (Agenda 21 based)
- Resource Management Act 1991
- Hamilton's Proposed District Plan
- Hamilton's Recreation and Leisure Plan (1998-2001)
- Hamilton's Walkway Strategy (under review)
- Cycling in Hamilton 2000 (Cycling Strategy)
- Rotokauri Structure Plan (March 2002)
- Regional Pest Management Strategy
- Rotokauri Lake Management Plan — Waikato District Council

### 3.2 Reserves Act 1977

The Reserves Act 1977 (hereafter 'The Act') requires Council to...

*"Prepare a management plan for the reserve(s) under its control, management, or administration. The management plan shall provide for and ensure the use, enjoyment, maintenance, protection, preservation...and development, as appropriate of the reserve, for the purposes for which it is classified"* (section 41).

The reserve is classified as 'Recreation Reserve' under section 17 of the Act. However, it will be reclassified as Local Purpose (ecological management) Reserve. This will make the classification consistent with Waikato District Council's reserve classification for their adjoining reserve.

The principal purpose of local purpose reserves is...

*"To provide and retain areas for such local purpose or purposes as are specified in any classification of the reserve"(i.e. ecological management) (section 23(1)).*

The purpose underlies the vision for the management plan and the reserve's subsequent day-to-day management.

### 3.3 Resource Management Act 1991 (RMA)

The purpose of the Resource Management Act 1991 is to...

*"Promote the sustainable management of natural and physical resources to manage the use, development, and protection of natural and physical resources in a way, or at a rate, which enable people and their communities to provide for their social, economic, and cultural well being and for their health and safety while...*

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the foreseeable needs of future generations; and*
- (b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment (Section 5a).*

For the purposes of reserves management the Resource Management Act 1991 should be seen as complementary to the purpose of the Reserves Act 1977.

### 3.4 Hamilton City Proposed District Plan

The Proposed District Plan has been prepared under the Resource Management Act 1991. The District Plan defines the way in which the city's natural and physical resources will be managed to achieve the principles and purpose of the RMA. The plan provides a framework of resource management policy and implementation methods to manage the effects of the use, development, or protection of land associated with natural and physical resources.

The proposed District Plan recognises Reserves Act Management Plans as an 'other method' to implement the objectives and policies of the District Plan (Policy 5.2 proposed District Plan).

**Lake Rotokauri Park is zoned Recreation Environment under the proposed District Plan. This zone includes parks that have actual or potential environmental value, including sensitive environmental areas such as peat lakes.**

Rule 4.8 of the proposed District Plan states the outcome for Recreation Environment: *"Activities and development within the Recreation Environment Zone are undertaken in a manner that is compatible with the environmental values of the zone and ensures any adverse effects on surrounding residential development (in particular) are avoided, remedied, mitigated"*.

### 3.5 Hamilton's Strategic Plan 2002-12 (draft)

Strategic Plans are documents prepared by the community, for the community. Hamilton's first Strategic Plan, Strategic Plan 1997-2017, arose from an extensive process of community consultation and participation. Hamilton's Strategic Plan 2002-2012 is the second revision of the plan. It contains the same key principles as the original and sets out the community's vision for the

future of Hamilton over the next 10 years, as well as Council's response through key projects and programmes.

Reserves Management Plans are one way of achieving some of the outcomes identified in the Strategic Plan. The following goals are relevant to the preparation of this management plan:

- Goal 1** - Clean air, water and soil, and an environment free from excessive noise.
- Goal 2** - Healthy ecosystems displaying improved biodiversity, with a strong indigenous component.
- Goal 16** - A full range of land, facilities, and services is available to meet the community's recreation and leisure needs.

The principles of the Strategic Plan also reflect Agenda 21, which is a global plan for sustainable development in the 21<sup>st</sup> century. Agenda 21 recognises that global issues need to be addressed at the local level hence the expression "think globally, act locally". This Lake Rotokauri Park Management Plan is one method through which Agenda 21 principles can be implemented at a local level.

### **3.6 Hamilton's Recreation and Leisure Plan 1998-2001**

The Recreation and Leisure Plan is Council's Action Plan for Recreation and Leisure. Developed by a community advisory panel, the plan identifies issues and options for recreation and leisure in Hamilton, and includes strategies to meet the needs of Hamilton's residents.

Objective 1.3 is particularly relevant to the preparation of this management plan:

*"To manage, retain and enhance the open space network by encouraging community use, protecting environmental values and creating linkages".*

The following strategies were included in the plan to support Objective 1.3:

- 1.3.1 Manage parks and open spaces through the District Plan and the Reserves Act 1977 Management Plan process.
- 1.3.3 Continue to develop Hamilton's riverside, parks, and gully systems for walking, cycling, and other casual activities.

### **3.7 Hamilton's Walkway Strategy**

Hamilton's Walkway Strategy is being reviewed concurrently with the preparation of the Lake Rotokauri Park Management Plan. The walkway strategy was initially established under the Hamilton City Comprehensive Development Plan 1974. Its review is identified as an outcome of Hamilton's Recreation and Leisure Plan 1998-2001.

Recently the Strategic Plan 1999-2019 and its Long Term Financial Strategy, the Riverside Reserves Management Plan, the Gully Reserves Management Plan, the Mangaonua Walkway Study, and Landscape Management Plans have provided direction for further development of Hamilton's walkway system.

The review of the walkway system strategy acknowledges the need for a single comprehensive and integrated document for the maintenance and development of existing and proposed walkways. Lake Rotokauri Park provides an excellent walkway resource especially in connection with Waikato District walkway developments, which may extend the walkway almost completely around the perimeter of the Lake. The Rotokauri Structure Plan identifies further opportunities for linkages back to Horseshoe Lake.

### **3.8 Rotokauri Structure Plan (March 2002)**

The Rotokauri Structure Plan provides an assessment of the opportunities and constraints for land use change in the Rotokauri area. The aim of structure plans is to provide objectives for resource management enabling development while protecting key resources. The plan was prepared following an extensive consultation process initiated in November 2000. A key issue raised by the community during consultation was the potential for long term damage to Lake Rotokauri and Horseshoe Lake from poorly managed development.

The Structure Plan Concept identifies the area immediately adjoining Lake Rotokauri (within the HCC boundary), as 'Large Lot Residential Development' which means no further development, and the area remains self serviced. "This area will retain its peri-urban character, and no further subdivision or development intensity will be permitted over and above that provided for in the Proposed District Plan. Given that this area drains directly into Lake Rotokauri, Council considers it is more desirable to promote the sustainable management of the Lake, in conjunction with Waikato District, by carefully managing development surrounding the Lake" (Pg 34, Lake Rotokauri Structure Plan). The Structure Plan concept also identified the need to protect views of the Lake and identified potential Reserve Networks including walkways and cycleways.

The Structure Plan identifies Lake Rotokauri as a Key landscape Feature of the Rotokauri area. The Structure plan also included the following objective "To manage all land use and development activities in the area to protect and enhance Lake Rotokauri and Waiwhakareke (Horseshoe Lake).

The Structure Plan made the following implementation recommendation: Recommendation 6 Cross Boundary Issues - That HCC continue to liaise with Waikato District Council relating to the implementation of cross boundary issues, and in particular:

- That strong policy and management integration occur to ensure the goal of protecting Lake Rotokauri and its environs is achieved.
- That both Councils work with landowners to investigate and establish a walkway network around the Rotokauri area, including the Zoo and Lake Rotokauri.

### **3.9 Proposed Waikato Regional Pest Management Strategy, 2001**

The Proposed Waikato Regional Pest Management Strategy identifies which plants and animals are declared pests within the Waikato Region. The Strategy describes the pests, provides details as to why they are pests and how they are to be controlled within the region. The Lake Rotokauri Park Management Plan has developed a management framework that encourages Hamilton City Council to fulfil its responsibilities in accordance with the Pest Strategy.

### **3.10 Waikato Regional Plan**

The Regional Plan provides direction on use, development and protection of natural and physical resources within the Region. It covers key components of the environment for which the Waikato Regional Council (Environment Waikato) has responsibility under Section 30 of the Resource Management Act 1991. These responsibilities are for water, river, and lakebeds, land and soil, air and geothermal resources. Some activities on Lake Rotokauri Park may require resource consents from Environment Waikato before they can proceed.

### **3.11 Rotokauri Lake Management Plan 2000 (Waikato District Council)**

Waikato District Council has prepared a Reserves Act 1977 management plan for Rotokauri Reserve. Administration has been delegated to the WDC by the Department of Conservation.

Rotokauri Reserve (WDC) includes the majority of the lake, and the surrounding reserve land with the exception of Lake Rotokauri Park and a small piece of privately owned land (and a small area of lake) abutting the northern end of the lake.

The Rotokauri Lake Management Plan, hereafter referred to as the “WDC Management Plan” has been prepared with the following key objectives:

1. Maintaining and enhancing the ecological health of the lake and wetland habitats, and natural, landscape and amenity values associated with the lake.
2. Maintaining and enhancing historic values.
3. Providing the public with limited opportunities for recreational use of the lake and reserve.
4. Encouraging public awareness of natural and historic features of the lake and reserve and actively seeking ongoing public participation in its management.

The WDC Management Plan provides the policy framework to manage the Lake and the reserve land (WDC) immediately surrounding it. The philosophy behind the preparation of the plan is that the ecology of the lake and its environs is paramount, and recreation and access will be provided only where consistent with the Lake's ecological management. The plan envisages creating partnerships between various groups to maintain and enhance the lake and its catchment.

## Part 4 — Management Concepts

### 4.1 Introduction

Lake Rotokauri Park has two quite distinct areas and it is suggested that these be recognised as management zones. The lake margin with its swampy wetland area, currently densely covered with carex, will be the Lake Margin Zone. The remaining slightly raised and grassed area is less swampy, firmer underfoot, and is currently grazed open space. This will be the Natural Character Zone.

### 4.2 Lake Margin Zone:

The Lake Margin Zone is the area immediately adjoining the marginal vegetation surrounding the lake (WDC reserve). The zone's purpose is to continue the marginal vegetation from the WDC reserve area to provide further habitat for birds and animals, and biological filtration system for run-off from the lake catchment prior to it reaching the lake. Good management of the Lake Margin Zone is vital to the ecological well being of the lake.

A restoration planting programme for marginal vegetation within the Lake Margin Zone will be undertaken. Restoration planting should include species native to the environs of the lake. Manuka (wetland variety) would be a good initial species, with the addition of other native wetland species to increase diversity. These species will include cabbage trees, kahikatea, coprosma species, flax and native sedges such as *Baumea articulata*. The tall species will be strategically planted as individuals or groups (not as continuous forest) and views from residential properties will be considered in siting them. Species that have nutrient stripping abilities will also be considered for restoration planting of the marginal vegetation area and along the zoo drain.

Any blackberry in this area should be controlled by spraying or rotary slashing. Eventually the restoration planting should control the resurgence of blackberry.

### 4.3 Natural Character Zone:

The principle purposes of the Natural Character Zone will be to continue the restoration planting programme while providing for passive recreation. This Zone is the area between residential large lot development to the east and the Lake Margin Zone to the west. In contrast to the swampy wetland area of the Lake Margin Zone, this area currently blends in with the undulating grassed area of the large lot residential area and the pastoral landscape.

Pedestrian access (bund/raised path) will be developed into this area of the park, and boardwalk access to the Lake Margin Zone will be considered if required to link with WDC's proposed walkway system. Linkage from the Park and along the Zoo Drain may be developed in the future.

Development of this zone will include further restoration planting using the species identified in the Lake Margin Zone and low impact development (i.e. park bench seating, picnic table, interpretative signage as required, walkways as

appropriate) to provide for passive recreation opportunities. All development will be subject to an assessment of possible adverse effects to the Lake Margin Zone and the ecology of the lake.

In light of the Maori name of the site (Roto, lake and Kauri the native tree — Kauri Lake) a cluster of Kauri (*Agathis australis*) will be planted near the entrance of the park. These trees might then become a site characteristic of the park, while symbolising a period of vegetation native to the Lake.





## Concept Plan



## Part 5 — Aim, Objectives and Policies

### Aim:

**To enhance and maintain the ecological and environmental values of the lake environs through restoration planting and development of Lake Rotokauri Park, while providing controlled access for the enjoyment of the public.**

### Objectives and Policies — Introduction:

These objectives and policies have been prepared consistent with WDC's management objectives, which focus on the ecology of the lake, catchment, and esplanade reserve. The objectives and policies for Lake Rotokauri Park set out below are to enhance and maintain the lake environment (in particular the marginal vegetation), while allowing for passive recreation.

#### 5.1 Objective 1 — Management Consistent with Waikato District

**To develop and manage the reserve consistent with the adjoining Waikato District Council reserve land to provide continuity of the lake character and environment.**

#### Policies:

- a) To develop the park in a manner appropriate to its management zones.
- b) To work collaboratively with other interested agencies, including the Lake Rotokauri Management Committee to achieve management objectives consistent with City and District Management Plans.
- c) To set priorities in implementing this management plan according to ecological and environmental needs, usage demands and with the timing of Waikato District Council developments.

#### Discussion:

The implementation of this management plan will take into consideration the annual work programme prepared by Lake Rotokauri Management Committee for the reserve under WDC control to ensure seamless development and maintenance of the lake margin.

Hamilton City Council will continue to have an elected representative on the Lake Rotokauri Management Committee to keep up to date with developments and issues.

The wetland, marginal vegetation area of the park has been given a Lake Margin Zoning, while the slightly raised and grassed area has been zoned Natural Character (see Plan 1 — Management Zones).

The Lake Margin Zone will be planted heavily in manuka (wetland variety), cabbage tree, kahikatea and other species identified as plants of origin. The boardwalk walkway will be developed in continuous linkage with that developed by WDC. This may continue between the Lake Margin Zone and the Natural Character Zone.

Restoration planting will be undertaken in the Natural Character Zone receive restoration planting. However areas of open space will be incorporated into the layout of the zone to allow for pedestrian and maintenance vehicle access from the end of Bunyard Road into the park. Further low impact development will include seating and signage.

## 5.2 Objective 2 — Ecology and Amenity Values:

**To improve the ecology and amenity values of the lake environment through the enhancement and maintenance of marginal vegetation.**

Policies:

- a) To control plant and animal pests to protect and enhance the lake environment.
- b) To prepare and implement restoration planting programme.

Discussion:

Healthy marginal vegetation is essential to maintaining the lake's water quality and ecological values as it forms a buffer zone between the lake and the effects of surrounding land uses. Biological filtering by marginal vegetation provides the only opportunity for nutrients and sediments to be removed from diffuse runoff entering the lake<sup>6</sup>. Native sedges have good nutrient processing capabilities.

The original vegetation for the area would have included the following species: kahikatea (*Dacrycarpus dacrydioides*), cabbage trees (*Cordyline australis*), and kauri (*Agathis australis*). Currently the Waikato District Council and Tui 2000 are planting manuka along the lake margins to re-establish native vegetation and to keep the blackberry under control.

Restoration planting for the park will include the following species: manuka (wetland variety), cabbage trees, kahikatea, coprosma species, flax and native sedges. In siting tall growing species account will be taken of the interests of neighbours.

Predators such as cats, dogs and mustelids pose a threat to bird life. If necessary, control methods will be implemented.

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<sup>6</sup> Review of the Current Status of Lake Rotokauri (Summer Warr), 1998.

### **5.3 Objective 3 — Park Access**

#### **To provide access to the park and lake environs**

Policies:

- a) To provide pedestrian access in to the park, and to adjoining reserve walkway.
- b) To provide access for maintenance vehicles into the park.
- c) To establish a turn-around area at the end of Bunyard Road, as well as 3-4 parking spaces.

Discussion:

It is anticipated that the increasing popularity of recreational walking will lead to public demand for walkway development. Subject to demonstrated demand a walkway will be developed through this park consistent with that provided by Waikato District Council in their adjoining reserve land.

The development of a walkway around the entire lake will not be feasible in the near future because of ownership issues. However a walkway link from Duck Road through WDC and HCC reserve land back up through Bunyard Road may provide a successful walkway loop. Bunyard Road will be used to provide access to WDC reserve and Lake Rotokauri Park.

### **5.4 Objective 4 — Passive Recreation**

#### **To allow for passive recreation that does not adversely affect the ecology of the lake environment.**

Policies:

- a) Subject to demand, to develop walkway links to Waikato District Council reserve land.
- b) To provide park furniture in the Natural Character Zone to accommodate picnicking, sitting, relaxing, and walking.

Discussion:

There is potential for walkway development to link with the Waikato District's reserve back towards Duck Road, to the Horseshoe link envisaged in the Rotokauri Structure Plan, and eventually around the whole lake. Access for maintenance vehicles and pedestrians over the zoo drain will also need to be provided. All these possibilities must be assessed against environmental and ecological values and against demand.

Park furniture should be provided within the Natural Character Zone to provide for passive recreation. This may include picnic tables, park bench seating, and interpretative signage. All development must be consistent with the need to avoid adverse effects on the ecology of the lake and its environs.

## References:

Beca Planning (2002), Rotokauri Structure Plan March 2002, Hamilton City Council

Hamilton City Council (2001) Gully Reserves Management Plan

Hamilton City Council (1998), Recreation and Leisure Plan 1998-2001

Metcalf, L.J (2000), New Zealand Trees and Shrubs, A Comprehensive Guide to Cultivation and Identification

Summer Warr (1998), Review of the Current Status of Lake Rotokauri, University of Waikato

Waikato District Council (2000), Rotokauri Lake Management Plan 2000

Waikato Valley Authority (1981), Lake Rotokauri Management Plan, Waipa County Council

## Appendix







