

2011

# LAKE KAINUI & RECREATION ESPLANADE RESERVES

*DRAFT MANAGEMENT PLAN*



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## SECTION 1 - INTRODUCTION

### 1.1 Purpose

This management plan provides guidance concerning the use, management and development of the Lake Kainui Recreation and Esplanade Reserves.

### 1.2 Previous Reserve Management Plans

The previous Lake Kainui Recreation and Esplanade Reserves Management Plan was published in November 1991, a review of the original reserve management plan published in 1985 by Waikato County Council.

## SECTION 2 - CONTEXT

The Lake Kainui recreation and esplanade reserves are vested in Waikato District Council under the Reserves Act 1977.

There are several legislative and policy planning documents that affect the use, management, and development of the reserves.

The management and development of the reserves must follow relevant Council planning documents and policy, as well as other governmental body policies as necessary, such as Environment Waikato's Waikato Regional Plan.

### 2.1 Reserves Act 1977

The purpose of the Reserves Act 1977 is to:

*“provide for and ensure the use, enjoyment, maintenance, protection, and preservation, as the case may require, and, to the extent that the administering body's resources permit, the development, as appropriate, of the reserve...and shall incorporate and ensure compliance with the principles...of this Act”*

A reserve management plan is required to be developed and reviewed under the Reserves Act 1977. A reserve management plan provides guidance for the future development, management, and use of reserves vested under the Act.

The following diagram depicts the reserve management planning process:



Following the requirements of the Act, this management plan will remain under continuous review.

### **2.1.1 Reserve Classifications**

The reserves are contained in two separate certificates of title. Lot 2 DPS 24903, being Part Allotments 229 and 230 Komakorau Parish, containing 3.3550 hectares, was vested in the Waikato County Council as a local purpose<sup>1</sup> (esplanade)<sup>2</sup> reserve on 19 July 1982 following the subdivision of land adjoining the lake in 1977 (refer to Appendix One). The local purpose reserve was automatically classified under the Reserves Act 1977 at the time it was vested.

Allotment 338 Komakorau Parish, containing 3.8000 hectares, was set apart as a reserve for recreational purposes and vested in the Waikato County Council by gazette notice on 31 July 1980 (refer to Appendix Two). The total area of the reserve is 7.155 hectares. Following the Local Government Reorganisation in 1989 the reserves were vested in Waikato District Council. The recreation reserve became classified under the Reserves Act 1977 following the issue of the Certificate of Title which notated the reserve as a recreation reserve<sup>3</sup> subject to the Reserves Act 1977.

## **2.2 Resource Management Act 1991**

The purpose of the Resource Management Act 1991 is to promote the sustainable management of natural and physical resources. The Resource Management Act 1991 provides regulatory mechanisms that have an impact on the type and effect of permitted behaviour within Council reserves.

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<sup>1</sup> 'An area of land (or land and water) suitable for a specified local educational or community purpose which does not duplicate any other reserve purpose' (Reserves Act Guide, 1999, p. 8/3).

<sup>2</sup> An esplanade reserve is defined as a 'fixed linear area or riverbank, lakeshore or seashore or at least three metres or greater width (usually 20m) either in a natural or modified state available primarily for conservation and public access' (Reserves Act Guide, 1999, p. 8/7).

<sup>3</sup> A recreation reserve is an 'area of land (or land and water) possessing open space, and outdoor recreational values especially suitable for 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' (Reserves Act Guide, 1999, p. 8/5).

## **2.3 Proposed District Plan**

Waikato District Council's proposed District Plan has been developed in accordance with the Resource Management Act 1991. The purpose of the District Plan is defined as:

*“to assist territorial authorities to carry out their functions in order to achieve the purpose of this Act” (S. 72)*

When preparing or changing a District Plan, Councils are required to give thought to management plans and strategies prepared under other Acts. The District Plan provides rules (e.g. noise control) that will affect the use and management of the reserves.

## **2.4 Long Term Council Community Plan**

The Waikato District Long Term Council Community Plan (LTCCP) is a long-term community-planning document that provides a road map for the future direction of the Waikato District. It is a ten-year plan and is reviewed every three years. The requirement and purpose of this document is defined in the Local Government Act 2002.

## **2.5 Reserves and Recreation Policy**

Waikato District Council's Reserves and Recreation Policy identifies Council's role in the provision of reserve and recreation resources, including the development, purchase, and sale of reserve land. This document provides objectives and policies that outline Council's approach to funding various types of reserve and recreation development.

## **2.6 Bylaws**

There are existing bylaws that apply to the use of Council land and may impact on user behaviour at the reserves. Bylaws applying to the Lake Kainui recreation and esplanade reserves include the Dog Control Bylaw 2007, Parking, Traffic Control and the Public Places Bylaw 2007, and the Reserves and Beaches Bylaw 2008. Environment Waikato's Navigation Safety Bylaw 2009 also applies to the Lake Kainui recreation and esplanade reserves.

## **2.7 Fishing and Hunting Guidelines**

Fishing and hunting are both permitted at Lake Kainui. The game bird species permissible for hunting are identified within the Wildlife Act 1953 and legislation governing how to hunt is specified within the Game Regulation Act 1955. Fish and Game New Zealand is a Crown entity that was created under the Conservation Act 1987. Fish and Game New Zealand produce annual guidelines and regulations relating to game bird hunting. These regulations identify hunting seasons for game birds, shooting hours, any decoy limits, closed game areas, and any other special conditions relating to hunting at specific sites. There are also guidelines established relating to the construction of maimai.

Fishing at Lake Kainui is also governed by regulations specified under the Conservation Act 1987 and the Fresh Water Fisheries Regulations 1983. Fish and Game New Zealand produce an annual booklet outlining Sports Fishing Regulations.

Licences for game bird hunting and fishing are required and are administered by Hamilton Fish and Game Association on behalf of Auckland/Waikato Fish and Game Council.

Waikato District Council and the Lake Kainui Reserve Committee are working with Auckland/Waikato Fish and Game Council and the local fish and game association concerning the administration and management of hunting at the reserve.

## **2.8 Environment Waikato Regional Pest Management Strategy 2008-2013**

Environment Waikato's Regional Pest Management Strategy 2008-2013 identifies how plant and animal pests will be managed within the Waikato region. In regards to Lake Kainui, the management of pest fish is relevant, as well as the appropriate management of pest plants.

## **2.9 Lake Level Control**

The minimum water level for Lake Kainui is currently set at 24.81 metres above sea level (Moturiki Datum) (Waikato Regional Plan, 2007, p. 3-24). Environment Waikato is working with Waikato District Council and the Lake Kainui Management Committee to manage lake levels.

## **SECTION 3 – CULTURAL SIGNIFICANCE OF THE RESERVES**

### **3.1 Cultural use of Lake Kainui Recreation and Esplanade Reserves**

The original Maori name for the lake was 'Rotokauri' meaning 'Kauri tree lake'. 'Kainui' means 'abundance of food' and relates to the lake being used to stockpile fish.

The land between Turangawaewae to Kirikiriroa (Hamilton) was called the 'Whenua Momona' by Maori meaning 'fat land for food'. Maori used this whole area, including the Horsham Downs area, for food production purposes. Some of the food produced within this area was transported by waka along the Waikato River to the Auckland area. Flax mills were also located within the area and produced rope and other flax products.

A pa site was located close to Lake Areare and Lake Pikopiko, and contained a reasonable sized population. Lake Kainui was used for food gathering purposes and Lake Areare utilised for spiritual purposes.

Lake Kainui was traditionally used for food gathering purposes, largely to stockpile fish caught from the Waikato River. As fish within the lake started to become ready to migrate some fish were let back into the Waikato River. Food from the lake was used to supply the Kingitanga. Lake Kainui was also a water source for Maori.

Medicinal plants surrounding the lake, such as kawakawa, were used by Maori. Reed branches were used for building purposes (roof thatching and creating walls for houses). Watercress would have also been used as a food source.

### **3.2 Deed of Settlement for the Waikato River**

In August 2008 Waikato-Tainui and the Crown signed a Deed of Settlement for the Waikato River, which sought to address Crown confiscation of land during the 1860s. Waikato-Tainui have identified the Waikato River as extending from the Huka Falls to the mouth, and includes its waters, banks and beds and its streams, waterways, tributaries,

lakes, aquatic fisheries, vegetation, floodplains, wetlands, and its metaphysical being. Thus, the Deed of Settlement will impact on some Council parks and reserves, such as the Lake Kainui recreation and esplanade reserves.

The purpose of this agreement is to recognise the particular significance of the Waikato River to Waikato-Tainui, and to formalise the commitment of both parties in pursuing co-management in relation to the management of the Waikato River. Restoration and protection of the health and well-being of the Waikato River for future generations is the key focus of the settlement.

### **3.3 Joint Management Agreement with Waikato-Tainui**

On 23 March 2010 Waikato District Council and Waikato-Tainui signed a historical agreement to enable the two organisations to co-manage any matters that affected the Waikato River. The definition of the Waikato River in this agreement also includes lakes, tributaries and wetlands. The principles of co-management include the highest level of good faith engagement and consensus decision making as a general rule while having regard to statutory frameworks, timeframes and the mana whakahaere of Waikato-Tainui and its environmental plan.

## SECTION 4 – DESCRIPTION

### 4.1 Peat land environment

The Waikato peat lakes are a significant regional asset as they are the largest group of peat lakes within New Zealand, with Waikato peat land forming approximately half of all peat lakes within New Zealand (Environment Waikato, 2006). There is rising awareness of the ecological values of peat lakes in recent times, which has led to a general increase in focus on managing peat lakes appropriately.

Peat develops through the accumulation of partially rotted wetland plant material in wet environments. Lake Kainui is one of eight peat lakes within the Horsham Downs area, which are all located on historic Kainui peat land. Lake Kainui is situated on 'Kaipaki peaty loam' peat soil. The land surrounding the Horsham Downs peat lakes has been heavily utilised for agriculture, which has involved drainage activities, and has resulted in peat shrinkage surrounding the reserve, impacting on the condition of Lake Kainui. Drainage activities within the upper parts of the catchment have also had an impact on Lake Kainui.

### 4.2 Lake Kainui Recreation and Esplanade Reserves

Lake Kainui is located to the north of Lake Road in the Horsham Downs district of Waikato District Council, approximately 12 kilometres to the north of Hamilton City. The lake is approximately 24.9 hectares<sup>4</sup>. The lake is also referred to as Lake D or Lake Rotoaira.

### 4.3 Lake Kainui water quality

Lake Kainui, (37.677130N,175.232690E, NZ map grid 2707160E, 6389300N), is an ombrogenous (exclusively rain-fed) peat lake of 24.9ha surface area and a maximum depth of 6.7 m. It has introduced catfish, rudd, gambusia ([www.lernz.co.nz](http://www.lernz.co.nz)), and koi carp (Kusabs 2001). In April 2003 shortfin eel, goldfish, and common bullies were also caught (Fergie 2003). Koi carp were not found in 2003 or 2009, but this does not imply their absence. In 1991, the lake was accorded oligotrophic nutrient status with low pH (less than 7; Waikato

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<sup>4</sup> Environment Waikato, 2003, p. 12.

District Council 1991). Submerged vegetation is not common, but marginal species that have been recorded the native submerged macrophytes *Nitella hookeri/cristata*, *Potamogeton ochreatus* and *P. cheesemaniae*. No submerged vegetation was found by NIWA in 2002 (Fergie 2003).

Sampling of cyanobacteria (blue-green algae) commenced in 2003 and is on-going. Environment Waikato undertakes the sampling of cyanobacteria. Waikato District Health Board monitors cyanobacteria levels and releases health warnings as appropriate.

There has been a lack of additional regular water quality testing undertaken at Lake Kainui, which has meant that for some time there has been a lack of reliable data concerning the ecological health of the lake. However, in 2008 a five-month study was completed at Lake Kainui giving a snapshot of its physical and biological attributes. The study commenced in November 2007 and was concluded at the end of March 2008.

Table I lists mean monthly concentrations for total nitrogen (TN), total phosphorus (TP), chlorophyll a (chl a) concentration and lake pH (surface and depth). A convenient way to contextualise any lake is by converting the TP and chl a concentrations into trophic state indices, so these are also tabled (Carlson, 1977). The trophic state index (TSI) assigns a score to a lake system, this score can then be compared against a scale that runs from 0-100. A lake with a TSI above 50 is eutrophic, above 60 is highly eutrophic and above 70 is hypertrophic. Lake Kainui can therefore be identified as a highly eutrophic system. Nutrient, chlorophyll a, and surface pH levels were highest in November and December, but these values all dropped in Jan-Mar 2008. The lake supported an enormous bloom of phytoplankton, which contained several genera of potentially toxic cyanobacteria. These genera were *Anabaena*, *Aphanizomenon* and *Microcystis*.

Table I. Mean concentrations of total nutrients, chlorophyll a concentration, and pH and corresponding trophic state index.

Month	n	TN (mg m <sup>-3</sup> )	TP (mg m <sup>-3</sup> )	Chl a concentration (mg m <sup>-3</sup> )	pH at surface	pH at 6 m	TSI (TP)	TSI(Chl a)
Nov-07	4	2000	106	56.3	9.6	7.3	71.7	69.5
Dec-07	4	2060	124	58.3	8.6	7.2	73.9	69.8
Jan-08	5	1390	59	16.7	7.5	6.8	63.2	57.6
Feb-08	4	1180	39	25.0	7.8	7.2	57.4	61.6
Mar-08	4	1280	41	34.9	8.2	7.3	58.0	64.8
Max		2370	151	91.3	10.4	7.3		
Min		1080	31	5.1	7.1	6.0		

Between 1991 and 2007 the water quality of Lake Kainui appears to have deteriorated from oligotrophic<sup>5</sup> to eutrophic status. Lake Kainui is a peat-influenced lake, which would usually imply a low pH. The relatively high pH found in this study is most likely the effect of phytoplankton photosynthesising. This is supported by higher observed pH at the lake surface where photosynthesis occurs and the observation that decreasing surface pH coincides with a decline in chl *a*.

It appears that phosphorus is the limiting nutrient in the system, since TN exceeds TP by much more than ten times. This suggests that controlling phosphate inflow could be used to control phytoplankton proliferation.

It should be noted that the Waikato region experienced an unusually low rainfall for the months of January and March in 2008, so inferring any general characteristics of Lake Kainui during this period is problematic. However, the data indicates a lake with high nutrient loading. Low rainfall might also explain the drop in the trophic status between January to March, as fewer nutrients were probably carried into the system.

A disturbing trend has been the disappearance of native submerged macrophytes from the lake between 1991 and 2002. The reason is not clear, but rudd eat aquatic macrophytes, and prefer native species (Lake et al. 2002). Alternatively, dense algal blooms stimulated by excessive N and P may shade submerged macrophytes.

#### 4.4 Flora

The Lake Kainui esplanade and recreation reserves have been highly modified with little original vegetation remaining since pastoral farming began. A restoration project that began in the early 1990's saw the removal of crack willows that surrounded the lake, and is now ensuring the lake margins are being enhanced as buffer zones to filter in-flows of water, provide habitat for bird species, and to provide a range of opportunities for visitors to experience a unique peat lake setting.

Appendix Four identifies various vegetation zones within the reserves. Appendix Five provides a general description of vegetation at the reserve by zone, and Appendix Six provides a list of species present within the zones.

#### 4.5 Fish

Several fish species were observed during an electrofishing trial undertaken by the University of Waikato on 18 September 2009. During this study, short-finned eel (*Anguilla australis*), catfish (*Ameiurus nebulosus*), goldfish (*Carassius auratus*), common bully (*Gobiomorphus cotidianus*), rudd (*Scardinius erythrophthamus*), mosquito fish (*Gambusia affinis*), longfin eel (*Anquilla dieffenbachii*) were identified in the lake.

A study was also conducted by Environment Waikato in April 2003. At this time short-finned eel (*Anguilla australis*), catfish (*Ameiurus nebulosus*), goldfish (*Carassius auratus*), common bully (*Gobiomorphus cotidianus*), mosquito fish (*Gambusia affinis*) and rudd (*Scardinius erythrophthamus*) were identified at the lake.

There is a fish barrier on the far side of the road culvert in the outflow drain from the lake. The use and effectiveness of the fish barrier will have a major impact on the lake's ecological health.

#### **4.6 Current Uses**

The reserve and adjoining lake area are utilised for a variety of recreational activities. Boating, water skiing, walking, windsurfing, game bird hunting, fishing, walking, wakeboarding, and picnicking, are undertaken at the reserves. The lake is a popular game bird hunting area with thirteen maimai around the lake.

The use of the lake for contact recreation activities is dependant on the level of cyanobacteria (blue-green algae) present in the lake. A warning notice is present at the reserve. Lake Kainui is a prohibited personal watercraft zone as identified in Environment Waikato's Navigation Safety Bylaw 2009.

Motorboat activities are subject to the hunting season and lake water levels.

The area of esplanade reserve and access previously leased for grazing purposes is no longer leased.

#### **4.7 Lake Kainui Reserve Management Committee**

The Lake Kainui recreation and esplanade reserves are managed by a Waikato District Council community committee – the Lake Kainui Reserve Management Committee. The Lake Kainui Reserve Management Committee was established in 1984. The committee has undertaken a variety of activities within the reserve, particularly noticeable is the Committee's planting programme. The committee has various responsibilities including monitoring the condition and use of the reserves, and undertaking works to enhance the lake's ecology. The Committee is also involved in managing events held at the reserve, and working with the local fish and game association to manage hunting and fishing activities. Two Lake Kainui Reserve Management Committee members will sit on the Lake Kainui Recreation and Esplanade Reserve Management Plan Committee.

## **SECTION 5 – ISSUES**

A number of issues have been identified as part of the management plan review process.

### **5.1 Access**

Lake Kainui was previously accessed through privately owned land. Council recently developed a legal public access way along with car parking facilities. Reserve access and security at the reserves will require on-going management.

### **5.2 Peat land shrinkage**

The Lake Kainui recreation and esplanade Reserves are located on peat land and are subject to shrinkage from surrounding agricultural activities and by nearby drainage activities. The use of nutrients on peat land further accelerates the rate of shrinkage through the oxidation process. Appropriate land management initiatives need to be implemented to reduce further peat shrinkage.

### **5.3 Ecological health of the lake**

Lake Kainui has very poor water quality, invasive fish species, and invasive plant species. Improving lake water quality is considered a difficult and costly task, however there are many management actions that could be taken to prevent further degradation of the lake. Surrounding agricultural practices also influence the health of the lake, notably stock effluent nutrient input.

### **5.4 Number and location of Maimai**

Thirteen maimai are situated around the lake. There has been a request to increase the number of maimai around the lake to provide two more maimai. Balancing the needs of hunters against other user groups and local residents' needs is an important issue. The reserve committee and Waikato District Council have previously decided not to change the number of maimai and are monitoring the situation.

## **5.5 Motorboats on lake**

Motor boats are permitted on Lake Kainui, however, during winter periods the lake level increases and motor boat activity can cause erosion issues. The use of motorboats also can also cause disturbance to birds during nesting periods.

## **5.6 Iwi inclusion in lake management**

It is increasingly important to have Iwi input into the management of the reserves due to Waikato District Council's obligations under its Joint Management Agreement with Waikato-Tainui. An Iwi representative has been appointed to the Lake Kainui Reserve Management Committee. This relationship is important to provide input concerning matters of cultural and historical significance to Maori.

## **5.7 Pest Control**

The control of plant and animal pests is important as these pests have the potential to impact negatively on the lake's ecology. The maintenance and development of the lake needs to address pest control.

## **5.8 Conflict between lake users**

The reserve is utilised for multiple activities that at times some activities conflict with each other. Hunting and fishing activities conflict with boating activities, and boating activities can impact on bird nesting periods. The reserve is also utilised for picnicking and walking, and these activities may be negatively affected during hunting periods.

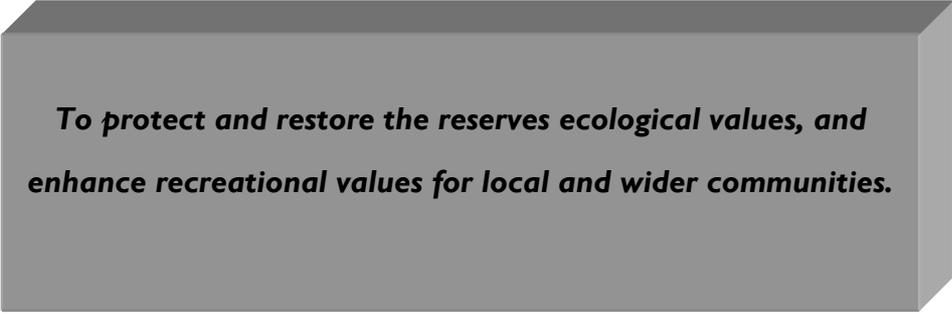
## 5.9 Events

Events are regularly held at Lake Kainui, however event approval and management does not follow any set rules. A number of established events are being held on the lake annually, however rules to determine how event applications for events held for locals and events held for the wider population should be treated (whether on an equal basis or if a certain type of event should be given preference to) could be developed. Further work to set event rules may be beneficial.

## 6.0 MANAGEMENT VISION, OBJECTIVES & POLICIES

### 6.1 Vision

The vision of the reserves is:



*To protect and restore the reserves ecological values, and enhance recreational values for local and wider communities.*

The reserve land is primarily classified as a recreation reserve. The reserves should continue to cater for established recreation activities.

Recreational activities need to be balanced against the development of reserve and lake ecological values, in order to maintain the lake as a long-term recreational resource for users, and a healthy environment for wildlife.

### 6.2 Management Plan Objectives and Policies

The following objectives and policies have been established to guide the use, management, and development of the reserves. These objectives seek to protect and restore the reserves ecological values whilst maximising recreational opportunities.

## **6.2.1 Objective I - Protect and develop the ecological health of the reserves**

### Objective:

The ecological values of the lake and reserve land are protected and improved.

### Explanation:

The reserves are situated within peat land, an ecologically valuable resource that requires protection. The lake's health has degraded over time, and efforts to prevent further degradation are necessary. The lake also hosts wildlife and plant life that would benefit from an ecologically healthy environment. An improved ecological environment is expected to increase the recreational values of the reserves.

### Policies:

- a) The level of peat shrinkage should be monitored, through land level surveying, to ascertain the overall level of peat shrinkage occurring within the reserve areas.
- b) Re-vegetation around the lake should be maintained and developed to provide a buffer margin that will reduce the inflow of sediments and nutrients into the lake.
- c) Eco-sourced plant species from the local area should be utilised for re-vegetation work as much as possible.
- d) The number and form of silt traps should be periodically reviewed to best fit the management objectives of the lake.
- e) The lake level should be managed using appropriate drainage and lake level setting activities.
- f) Waikato District Council should seek to acquire buffer land around the lake where practicable.
- g) Any future sub-division around the lake area should also consider the acquisition of reserve land to mitigate increased pressure on reserve peat land and lake environs.
- h) Waikato District Council and reserve committee members should actively engage with land owners within the catchment area to increase awareness regarding best

practice land management activities, and threats and management issues relating to the impact of land use on peat land and Lake Kainui water quality.

- i) A long-term water quality testing programme should be developed, to assess changes to the lake's trophic status, as considered appropriate by Waikato District Council.
- j) Waikato District Council should be a signatory on the finalised Waikato Lakes Accord.
- k) Publications should be developed to assist the understanding of peat lake management issues within the Waikato District Council area
- l) Provide long-term prevention of pest fish through the development and maintenance of a fish barrier or other mechanisms.
- m) Revegetation works should take into account Electricity Regulations 2003 requirements that affect the 110kw Hamilton to Meremere B transmission line that crosses over the reserves.

Implementation:

- I Survey land levels every five years to assess the level of peat shrinkage.
- II The existing vegetation plan will be reviewed periodically and will also address pest plant and pest animal issues, and work to increase bio-diversity within the reserve area. Local native species will be planted as much as practicable. The state of habitat will be reviewed periodically.
- III Waikato District Council will actively support drainage rules set by Environment Waikato that seek to enhance the lake's ecology.
- VI An on-going water quality monitoring regime will be developed that will test the level of nutrients flowing into the lake.
- V Waikato District Council will work with other agencies regarding the implementation of an inter-agency Waikato Lakes and Wetland Agreement that will address peat lake management issues and promote the values of peat lakes.
- VI Waikato District Council will work to produce informational brochures and promote Environment Waikato's 'Guidelines for landowners in peat lake catchments' publication.

## **6.2.2 Objective 2 - Cultural and historical significance of the reserve**

### Objective:

The cultural and historical significance of Lake Kainui is recognised.

### Explanation:

Waikato-Tainui recognise Lake Kainui and its waters, banks, beds and other associated attributes as part of the Waikato River. As such, Waikato-Tainui have an important relationship with Lake Kainui and this cultural and historical significance to Waikato-Tainui should be reflected in the management of the reserve.

### Policies:

- a) An on-going relationship should be developed with Waikato-Tainui regarding issues relating to the cultural significance of the reserves
- b) The cultural and historical significance of the reserve land and lake should be investigated and acknowledged at the reserve.
- c) The Iwi representative on the reserve management committee should assist in the provision of information relating to the Iwi perspective.

### Implementation:

- I. Interpretive sign posting will be developed and implemented at lake Kainui detailing the history and significance of the reserve areas.
- II. An on-going understanding of Iwi issues will be fostered through consultation with the Iwi representative on the Lake Kainui Reserve Committee.

### 6.2.3 Objective 3 - Reserve Access

Objective:

Appropriate access is provided to the public to increase user enjoyment and safety.

Explanation:

Surrounding Lake Kainui there are reserve areas which enable public access to the lake. A legal access way was being developed to provide suitable legal public access to the reserve. Council funds were set aside to develop a legal public access way and car park facilities, and the new facilities were completed in 2011.

A key system is currently utilised to manage access to the reserve for boating activities, and this is expected to continue under the direct control of Waikato District Council. Further access controls may be necessary if antisocial behaviour becomes a concern.

Policies:

- a) Car parking facilities should provide safe and convenient parking for pedestrian access to the lake and reserve land.
- b) A key system should be utilised to manage boat access.
- c) A review of key system rules should be undertaken periodically as required.

Implementation:

- I. A legal access way and car parking to the reserve will be maintained.

## 6.2.4 Objective 4 - Recreational opportunities

### Objective:

Recreational opportunities are provided to allow a variety of recreational activities to occur at the reserves.

### Explanation:

There are a number of existing recreational activities that occur within the reserves. Recreational activities will also need to be integrated with lake management actions and wildlife needs.

### Policies:

- a) All established recreational activities should be allowed for within the framework of the management plan.
- b) Motor boat activities should continue to be managed through the use of a key system that provides identified rules for use. This system will be managed and administered by Waikato District Council.
- c) When deciding upon the provision of recreational opportunities the impact on lake environs should be addressed as much as possible.

### Implementation:

- I. Waikato District Council and Lake Kainui Reserve Committee will review key system rules annually.
- II. Waikato District Council and Lake Kainui Reserve Committee will review the number of hunting and fishing permits granted to determine whether permit levels are appropriate, seeking Auckland / Waikato Fish and Game Council's advice on any issues.
- III. Prior to amending key system rules or altering permit levels, agreement must be reached with Waikato District Council.

## 6.2.5 Objective 5 - Wildlife

### Objective:

The needs of wildlife within the reserves will be addressed.

### Explanation:

Lake Kainui is an important part of a regionally significant wildlife habitat, and should be recognised and managed as such.

Habitat development and enhancement can be achieved by planting and other environmental improvements in selected areas, leaving the rest of the area free for other recreational activities. Improvements in the general condition of the lake will improve wildlife values.

Pest animals, such as rabbits, stoats, and magpies, are an issue at the reserves and need to be managed to protect wildlife values.

### Policies:

- a) Wildlife values should be promoted through the enhancement of suitable habitat and restrictions on conflicting uses at appropriate times and in certain areas.

### Implementation:

- I. The planting of native species and other habitat enhancements will be carried out as part of a habitat development and environmental improvement programme.
- II. Use of the reserve will be restricted during wildlife nesting season (end of October to early February) as appropriate, during duck-shooting season, and any other periods as deemed necessary by Council to protect wildlife.
- III. Pest animals will be managed appropriately and animal control methods will be approved by Waikato District Council staff and the Lake Reserve Committee.

## **6.2.6 Objective 6 - Game bird hunting**

### Objective:

Game bird hunting opportunities are provided to the public and activities are undertaken in an appropriate manner.

### Explanation:

Hunting activities are permitted at Lake Kainui during the hunting season, however hunters are required to adhere to relevant government legislation, Fish and Game New Zealand guidelines, and relevant Waikato District Council policies.

### Policies:

- a) Hunting seasons for various permitted game bird shall follow Fish and Game New Zealand game bird hunting best practice and game season guidelines.
- b) Construction and maintenance of maimai shall follow Fish and Game New Zealand guidelines.
- c) There should be an appropriate number of maimai, and their location consistent with maimai distance regulations.
- d) A hunting exclusion zone is established approximately 200m either side of the existing car park.

### Implementation:

- I. The hunting season for various game birds will be consistent with New Zealand Fish and Game's Gamebird Hunting Regulations and Guides, which are reviewed every year, unless there are special seasonal restrictions specified by Waikato District Council.
- II. Permits and all other hunting regulations will be administered by Auckland/Waikato Fish and Game Council or their appointed representatives and approved by Waikato

District Council. Waikato District Council will notify Auckland/Waikato Fish and Game Association of any other special requirements.

- III. The number of maimai will be set by Waikato District Council and will be reviewed annually by Waikato District Council and the Lake Reserve Committee at a time following the AGM and prior to the hunting season.
- IV. A no hunting zone is established between Maimai number 1 on the concept plan and approximately 200m North of the existing car park, in a straight line.

### **6.2.7 Objective 7 - Fishing**

Objective:

Fishing opportunities are provided to the public and activities are undertaken in an appropriate manner.

Explanation:

Fishing activities are permitted at Lake Kainui and need to adhere to relevant government legislation, Fish and Game New Zealand guidelines, and Waikato District Council policy.

Policies:

- a) Fishing activities should be consistent with Fish and Game New Zealand guidelines and relevant legislation.
- b) Fishing interests should continue to be represented on any Lake Kainui Management Committee through the Auckland/Waikato Fish and Game Council representatives on the Lake Kainui Reserve Committee.

## 6.2.8 Objective 8 - Signage

### Objective:

Appropriate reserve signage is developed and maintained.

### Explanation:

There is the need to develop and install signage depicting the historical and cultural significance of the reserves. Informational and directive signage is also necessary for reserve user safety and enjoyment. There needs to be a balance between conveying enough detail, and limiting the amount of signage at the site to avoid 'visual pollution' issues.

### Policies:

- a) Reserve signage should use a consistent and unobtrusive design and colour theme.
- b) Signage should be developed to provide directions to the reserve.
- c) Signposting along walking tracks should be implemented as appropriate.
- d) Signage should be limited as much as possible to decrease visual pollution.
- e) Signage should be developed explaining the cultural significance and historical development of the reserves.
- f) Signage should be developed to describing the values of peat land and explaining the site's ecological values.
- g) Signage depicting reserve regulations and advisory messages should be displayed on site as appropriate.
- h) Signage needs should be periodically reviewed to determine whether upgrading of signage is necessary.

## 6.2.9 Objective 9 - Events

### Objective:

Events should follow standard rules of use and event scheduling should consider conflicting recreational activities.

### Explanation:

There is the need to establish standard event rules that will guide event scheduling and management.

### Policies:

- a) Lake Kainui Event Rules should be developed to determine the number, nature, and event management expectations for events held at the reserves.
- b) The Lake Kainui Event Rules should be developed by the Lake Kainui Reserve Committee in conjunction with Waikato District Council.
- c) Waikato District Council should approve the Lake Kainui Event Rules before they become operative.
- d) The Lake Kainui Event Rules should be reviewed by the Lake Reserve Committee annually, and recommendations provided to Waikato District Council for consideration.

### Implementation:

- I. Waikato District Council staff will work with the Lake Kainui Reserve Committee to develop Lake Kainui Event Rules.

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