

# SERPENTINE (ROTOPIKO) LAKES - CONCEPT PLAN FOR VISITOR FACILITIES



Compiled in 2010 by Sonia Frimmel / What's the Story?  
For Waipa District Council and the National Wetland Trust

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## 1. BACKGROUND

### 1.1. The Serpentine (or Rotopiko) lakes

These lakes and connecting swamp are preserved for wildlife management purposes are actively managed by the Department of Conservation. The recreation reserve around the south and east lakes and over to State Highway 3, along with land recently acquired around north lake, is managed by Waipa District Council.

The reserve is one of very few remaining peat lake systems in the region that has retained many of its unique characteristics and spectacular native aquatic plant communities free of invasive submerged weeds. Long and short-finned eel, common bully and a lake-bound population of smelt are found in the lakes, along with fourteen species of water birds. These include the now threatened grey duck, Australasian bittern, dabchick, spotless crane and banded rail.

In addition the lake margins have well-established reed beds and, further back, there are areas of flax, manuka, swamp coprosma species and kahikatea forest. Of particular note is the recently acquired kahikatea stand and an area of peat-forming species including the rare giant jointed rush - *Sporodanthus ferruginous*. The vegetation diversity and ecological values are high and the lakes' water quality is amongst the best in the region.

Some areas of pre-European settlement have been identified but not studied so little specific information on the area's cultural importance is available. Once more information becomes available this can be incorporated into the interpretation schedule if appropriate.

Access to the lakes has been limited for many years with duck hunters the only regular users. The National Wetland trust, in partnership with Waipa District Council and with support from the Department of Conservation, are looking to improve public access but at the same time manage the threats that increasing visitation may pose to the lakes (e.g. introduction of weed species, pest fish etc). This concept plan proposes the establishment of a national wetland centre and other developments that will highlight the lakes' values, increase public understanding about peat lakes in general, and provide a new recreational opportunity that will strengthen the Waipa district's reputation as a heritage destination.

### 1.2 National Wetland Trust

The National Wetland Trust is a non-profit organisation established in 1999 to increase the appreciation of wetlands and their values by all New Zealanders. The vision is to build a national wetland interpretation centre that will allow people to learn more about our wetlands and to value their special qualities.

## WAIKATO PEAT LAKES — A SUMMARY

The Waikato peat lakes are nationally significant, representing the largest collection of this wetland type in New Zealand. They have unique and diverse ecological and cultural values and offer important educational and recreational opportunities. However, they are vulnerable to influences from surrounding land use, water level changes and introduced plants and animals. Many within the region have been degraded and face on-going threats to their future existence.

The name 'peat lake' simply means that the lake is associated with peat soil. Peat forms as partially rotted plant material builds up in wet environments. The peat found around the lakes in the Waikato has taken over 18,000 years to form and can be up to 11 metres deep. The lakes themselves would originally have had no inlets or outlets with water coming in only as rainfall or groundwater from the surrounding peat bogs. The high percentage of organic matter found in peat often causes water in the lakes to be the colour of tea. Peat can also make the water mildly acidic and can cause the bottom waters in the lakes to be low in dissolved oxygen. It also makes the lakes and surrounding wetlands naturally low in nutrients.



## 1.3 Management

### **Ecological management**

The Serpentine (Rotopiko) Lakes are one of six priorities for ecological and recreational enhancement in the Waikato Conservancy under DOC's draft Conservation Management Strategy. They are intensively managed to maintain the relatively high natural values. A number of programmes are either in place or planned to manage catchment issues, control pest fish, minimise the risk of invasion of weed species, reduce nutrient inflows and restore plant communities. These programmes are supported by the Waipa Peat Lake Accord (an initiative to coordinate the activities of key stakeholders: Environment Waikato, the Department of Conservation, Waipa District Council, Fish and Game New Zealand, and Iwi) with specialist inputs from organisations such as National Institute of Water and Atmospheric Research, and Landcare Research.

### **Subdivision and land acquisition**

Waipa District Council, through its district plan provisions, is actively pursuing protection measures and in particular has worked to secure land around the Lake Reserve to establish a buffer between the lake and surrounding farmland and recent lifestyle subdivisions. As a consequence of the additional land being added to the reserve there are now more options available for restorative development and public access including a legal access strip from Jary Road to the reserve / lake.

### **Recreational development.**

The Department of Conservation recognised the potential of these lakes to promote wetland conservation and commissioned concepts for recreation development of the site in 2005. Waipa District Council supported the initiatives suggested and the plan was subsequently promoted as a Visitor Site Strategy - Waikato Wetlands 2005 by the department. This document picks up on the majority of those proposals, but with modifications to accommodate new opportunities that have arisen following the acquisition of more land along the southern edge of the lake complex, and the National Wetland Trust's proposal to establish a national wetland centre on reserve land administered by Waipa District Council.

## **2. OBJECTIVES**

### **2.1 For the site**

#### **General**

- Develop the lakes area as a high quality 'conservation experience' site.
- Facilitate visitor access to the Serpentine (Rotopiko) Lakes without degrading natural values.
- Enhance the natural values of the lakes through planting and ongoing management of weed and pest fish.
- Ensure any facilities provided are of high quality, add value to the visitor's experience, and are sustainable.
- Ensure any interpretation / education / information facilities are innovative, creative, attract and hold the attention of target audiences and impart appropriate conservation messages.
- Promote Serpentine (Rotopiko) Lakes as a local and regional destination in the short term and as a national destination in the longer term.
- Encourage wetland wildlife by removing mammalian predators and introducing species previously lost from the locality.

#### **Communication**

- Increase awareness about wetlands in general and the natural values of the Serpentine (Rotopiko) Lakes in particular.
- Promote the wise and sustainable management of wetlands.

#### **Partnerships and co-operation**

- Work with partners such as the Department of Conservation and Waipa District Council to develop sustainable facilities.
- Work with neighbours and recreational users to ensure support for the developments.

## 2.2 For the Visitor Centre

### Structure

All structures are:

- Ecologically sustainable and efficient incorporating current water, waste, energy and light saving technologies.
- Capable of being relocated.
- Of timber construction, appropriate to the site and the buildings function and relationship to the wetlands.
- Blends into the environment but capitalises on views.

### Management

- The visitor centre meets the requirements of any multi agency partnership (National Wetlands Trust of New Zealand / Waipa District Council / Department of Conservation).
- Functional spaces will be created for the following functions: inside visitor information delivery, interpretation, visitor seating, group gathering space, modest retail, staff administration office(s), staff toilet, public toilets; outside seating/picnicking (one large area covered). A meeting space may be considered if feasible.

### Visitor

- That the visitor's basic physical and service needs are met (e.g. they experience a safe, warm environment; have access to clean toilets, have access to the services they require).
- That their wetland related information needs are met and they also have the opportunity to discover new or unexpected information.
- The visitor's total experience of the wider area is enhanced as a result of the interpretation and other services provided.
- The visitor would want to either visit again or would recommend to others that they visit.

### Communication

- The visitor understands the role of wetlands in the landscape - the benefits they impart and the dangers associated with their loss.
- The visitor understands that wetlands are home to a very diverse range of wildlife.
- The visitor understands the concept of peat lakes, why they are present here in the Waikato, and what management strategies are in place to ensure their on-going health and survival.
- Visitors know what behaviour if required in order to minimise their impact on the local environment.

### 3. EXPECTED VISITATION AND TARGET AUDIENCES

The site, with its beautiful lakes, developed with tracks, interpretation, a national wetland visitor centre and other innovative or interesting features such as the predator proof fence, will become a 'conservation destination' for the region. It will complement what people are experiencing at Maungatautari: mountains and wetlands within easy reach - a day's worth of fun, activity and experiences between the two. Other similar linked experiences could also be developed - for example 'short walks in the wild' linking in with Pirongia, Yarndley's Bush, Maungatautari and other walks in local reserves.

Groups that will be a particular focus are family groups and primary school children but in broad terms it is expected that the site would attract:

- Locals (walking and educational opportunities).
- Local and regional schools – primary and secondary (education / accessible field trip opportunities).
- Regional visitors (walking and educational opportunities).
- Special interest groups.
- International visitors (long term if natural values are further enhanced through predator proof fencing and innovative information facilities are developed etc).

It is difficult to estimate numbers to the site as information on numbers to similar or nearby sites (e.g. Ngaroto, Yarndleys Bush) is not available. However, the:

- Proximity to nearby city and town centres
- Proximity to other apparently popular walks
- Special nature of the environment and appealing vistas
- Variety of experiences available

would suggest that, with good marketing, use would be at least moderate in the short term with potential to be high. The addition of a visitor centre and other interpretation facilities would definitely add value and increase use.

## 4. ACCESS

### Physical Access

The Serpentine (Rotopiko) Lakes are located adjacent to State Highway 3 about 7 km from Te Awamutu. Vehicle access to the tracks and proposed visitor centre is available for southbound traffic off SH3. Northbound traffic will have to continue to Ohaupo and turn around to avoid crossing the double southbound lanes. This is not ideal and long term alternative options will need to be sought. For example, investigate options allowing vehicle access to the proposed visitor centre via Jary Road. At present there is an unformed but legal access strip from Jary Road down to the ,main part of the reserve and lake, but this is some distance from the proposed visitor centre site.

### Costs

A charge for entry to the Visitor Centre / site facilities may have to be implemented once all services are up and running. This will be promoted from the start of the planning process so visitors have realistic expectations.



## 5. TRACK AND VISITOR CENTRE DEVELOPMENT PROPOSALS

### 5.1 Wetland walkway

Formed tracks will take visitors to the water edge and through a variety of different lake / wetland habitats. Of most note are:

- Kahikatea forest consisting of an original grove and replanted areas which combine into what is now a reasonably substantial, protected stand. The kahikatea with its distinctive understorey was the original tree cover for much of the Waikato but now only small patches remain, so the proposed Kahikatea Loop Walk would provide valuable public access to rare habitat.
- Riparian margin and lowland forest, largely made up of regenerating marginal tree and shrub species which have established along the edges of the wetland. This area supports both indigenous and exotic species such as manuka, elder, willow, tree ferns, ground cover ferns etc.

The tracks would include boardwalks close to water's edge and gravel pathways leading through specific habitats and the special features on site. They would incorporate seating, interesting design elements, widened areas as gathering points and intermittent shelters

### 5.2 Visitor Centre and on-site interpretation and signage

Interpretation is an essential part of the Serpentine (Rotopiko) Lakes experience and will include appropriate exhibits, signs, stories and games to highlight the ecology, flora and fauna and local history. These would be provided through a visitor centre and using on-site signs and activities.

The proposed visitor centre would serve as a hub for interpreting the big picture - New Zealand's wetlands in a national and international context - and become a base for education programmes. Designed to fit into the landscape it becomes part of the whole conservation experience. It would also serve as an administrative centre for the Wetlands Trust. The surrounding environment and the walkway is harnessed as well - parts will be set aside to illustrate the range of wetland types found in New Zealand but the natural attributes of the lakes will be the perfect place to tell the regional peat lakes story.

The **primary theme** to tie together the wetland stories is: Making connections – Why wetlands matter

#### **Secondary themes will be:**

- The variety of wetland - form and function (national)
- The local scene (regional)
- The values that wetlands have (national)
- Our actions make an impact (national)
- Our wetlands and the World e.g. RAMSAR /International flight ways (international)
- Why do we see wetlands the way we do? (national)
- What can we do to improve wetland health (national)



Artist's impression - approach



Artist's impression - maimai

### 5.3 Picnic areas, grassed open space and lookouts

**Visitor Centre locality:** A large area of existing grass will be retained to provide an open space area for informal games and picnics. As part of this open space a lookout area will be established to take in views across Lake Serpentine (Rotopiko) and the surrounding rural landscape. It is intended that a number of totara will be planted as specimen trees to provide shade for picnics and to soften the existing bush edge by gently pulling the tree cover up to the high point in the grass area. A seat would be placed at the lookout. Some picnic facilities will also be provided within easy reach of the car park for those with limited mobility / not actively entering the wetland centre / walkway system

**Walkway:** An area could be developed at the far end of the walkway for people wanting a more 'remote' experience. There may also be foot access to this area from Jary Road. A shelter would be necessary and it could be developed as an interpretation hub.

Grassed areas within the predator fence also provide ideal 'loafing' habitat for native waterfowl like brown teal

### 5.4 Jetties and bird hide

These structures provide a range of different experiences for visitors from viewing the local bird population from the shelter of the bird hide to a walk out onto a small jetty to look down into the water. A jetty would also allow access to the water edge for kayaking.

### 5.5 Children's wetland play

This children's wetland play area will provide a link between the grassed open space and the water edge. It is intended that stepping stones will be placed in an area back from the water edge where there are wetland species such as the rushes and sedges but there is no permanent water. The stepping stones would provide an exciting alternative route (for kids and adults) from the open space to the water edge walkway. Bird footprints can make various tracks for the kids to discover and follow. But stand on a predator print and you have to go back to the start.

### 5.6 Education kit

Education kits will be developed focusing on the natural values of the lakes and wetlands in general. More research would be required to create specific links into appropriate curricular.

## 6. PREDATOR – PROOF FENCE OPTION

There is potential to develop a predator-proof fence around at least some of the reserve. Although there would be some habitat management benefits and new opportunities to reintroduce rare waterfowl, it is likely that this would be more of an education opportunity than a management tool.



## **7. MARKETING / LINKS TO OTHER SITES / ACTIVITIES**

The area's walking opportunities are currently promoted through the Te Awamutu I-site initiatives such as the 'Four Mountains of Fun' map and the 'Go bush' information kit. The Serpentine (Rotopiko) Lakes walk and associated facilities would have to be incorporated into these and other new publications. Likewise it's development as a 'conservation destination' should be marketed in association with Maungatautari.

Other promotion opportunities include:

- Public Open Days to promote concept.
- Teacher Days – taking teachers from local schools around the site with experts in related fields.
- Conservation Week events such as night time guided walks, sleep in a swamp events etc
- Develop promotional / management opportunities in association with other local attractions such as the Maungatautari Project.
- Encourage development of a 'Friends of Serpentine (Rotopiko) Lakes' group.
- Possible development of a Waipa wetlands booklet focusing on the recreation opportunities and values (additional to the management focussed booklet currently in place).

## **8. MANAGEMENT ISSUES**

### **8.1 Potential visitor impacts**

With more people accessing the lake there will be a greater risk of:

- Accidental weed introductions. One option to help reduce this risk is to install interpretive signs at the lake edge picnic area, where visitors will begin their Serpentine experience. These would emphasise the natural values of the lakes and the things that visitors can do to minimise the risk (e.g. 'watch your feet'). Monitoring should be carried out as required to check for incursions around visitor facilities.
- Potential risk that unwanted aquarium contents may be dumped onto the site. The chance of the latter happening is minimised by the distance required to walk to the lake edge but it is still something that should be considered.
- Fire. A year round fire ban at the site is suggested.
- Escaped pets. Dogs (and other pets) are restricted from the site and this should be highlighted on the entrance sign and the threats posed by uncontrolled pets can be reinforced on the interpretation signs.
- Vegetation damage. Wetland vegetation is easily damaged through 'wear and tear' – all tracks should be designed so that the visitor is encouraged to keep off the surrounding vegetation (no tight corners that people skip across, formed surfaces with clear edges etc). Boardwalking (with non-slip surfacing) should be used through particularly vulnerable areas that are prone to inundation.
- Existing users. At present duck hunters (in season) are the main recreational users of the lakes and there is potential for conflicting interests if a track system and interpretation facility are developed. However, there are large parts of the lake system which will not be accessible to the average walker and it would be possible to create defined zones to cater for both groups.

### **8.2 Neighbourly relations**

The support of neighbouring landowners has always been crucial to the success of the various management initiatives that have been undertaken to maintain the ecological values of the lake. Consultation will be required to also ensure support for these access and recreation proposals. Issues that will need to be addressed would include:

- Potential disruption of views by plantings and structures.
- Safety and security issues.

## REFERENCES

De Winton, M., Champion, P., Baker, C. 2007. Management action plan for Serpentine Lakes. NIWA client report for the Department of Conservation

Visitor Site Strategy - Waikato Wetlands. Department of Conservation, 2005

Waipa District Peat Lakes and Wetlands. Waipa District Council. 2007.







Funded in part with a grant from Transpower Community Care Fund



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