

WAIRIO WETLAND RESTORATION STRATEGIC PLAN

EASTERN SHORE OF LAKE WAIRARAPA

2016 – 2020

BACKGROUND

Local legend has it that the Wairio Wetland (Wetland), located on the eastern shores of Lake Wairarapa (Lake) was once a paradise, providing habitat for substantial numbers of waterfowl and aquatic species.



The 132 hectare Wetland was adversely affected by the Lower Wairarapa Valley Development Scheme (LWVDS) during the 1960/70s which resulted in large areas bordering the Lake being drained and cleared of forest and sedges. The construction of Parera Rd which separated the Wetland from the adjacent Matthews Lagoon & Boggy Pond wetlands cut off critical water flows. Seed from willow trees planted in the upper reaches of tributaries of the Ruamahunga River for erosion control also invaded the Wetland. The resultant willow infestation was subsequently felled and bulldozed into parallel wind-rows, running east-to-west across the Wetland. In short, the Wetland was a seriously “modified” site.

During the 1980s, following a growing awareness of the environmental effects of marginal land development, a planned "polder" scheme to establish dykes and further drain the eastern margins of the Lake, including the Wairio Wetland, was abandoned.

The Conservation Act of 1987 passed responsibility for "stewardship" of the Wairio Block to the Department of Conservation (DOC). The objective was for DOC to hold such land for conservation purposes but in the interim, the block was leased to the Government owned Land Corp, for periodic pastoral grazing.

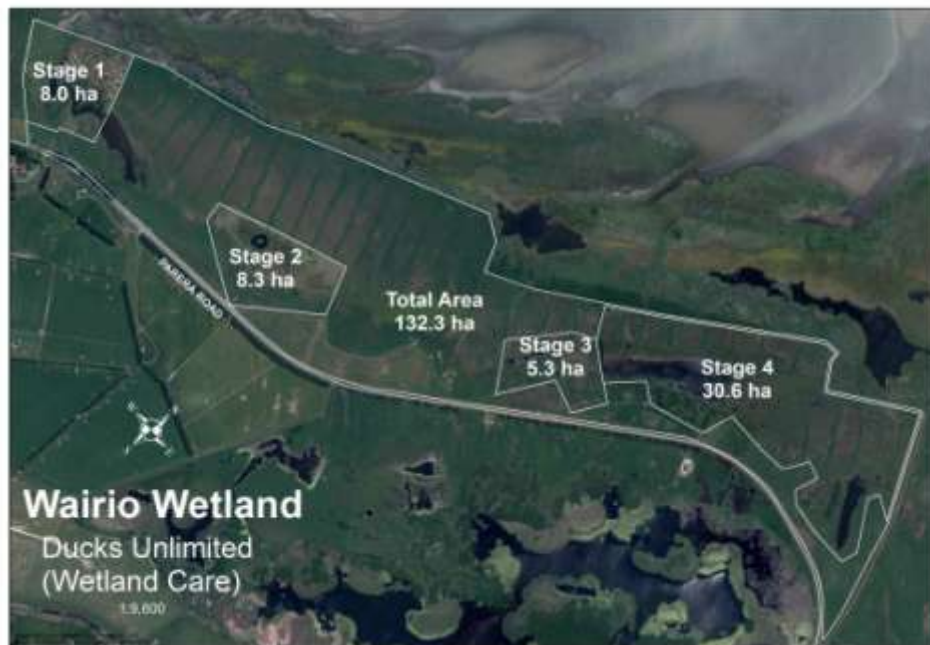
During the late 1980s, Ducks Unlimited New Zealand (DU) and DOC personnel attempted to partially re-flood the original Wetland. A channel was dug from the Lake on the north-western side of the Wetland and a flood-gate was installed. At the southern end of the Wetland, a low earth dam was constructed. It was hoped that flood water from the Lake and surface water would be retained in the Wetland but particularly due to damage from cattle grazing these measures failed and both the flood-gate and dam fell into disrepair.

CURRENT INITIATIVE

In 2005 DU and DOC signed an initial 5 year, Land Management Agreement whereby DU would manage, in partnership with DOC, the restoration of the Wetland. This agreement has now been extended twice, the current 5 year period running through to the end of 2020.



DU has the responsibility to manage the restoration project but DOC retains an absolute right to terminate the arrangement at any stage if they are not happy with DU's performance or if DOC's objectives for the Wetland should change in some significant way. DU has welcomed input from and works with others who share the Wetland restoration objectives via a Restoration Committee which is convened & chaired by a DU representative. Work has been progressed in a staged manner to match available resources with the considerable task involved.



VISION

In 100 years Wairio will be a fully functional wetland supporting abundant native flora and fauna, with natural hydrological regimes linked to the wider Wairarapa-Moana complex, where people can visit for recreation and to appreciate a natural ecosystem restored to pristine condition.

OBJECTIVES

- **Restore, as near as possible, a pristine wetland surrounded by natural vegetation.**
- **Increase the filtration of water run-off from the surrounding area before it enters the Lake.**
- **Provide an environmental education experience for young primary & secondary school students and a site for scientific research into cost effective restoration practices and associated matters by tertiary students.**
- **Provide a recreation area and educational experience for the various stakeholders/visitors interested in an extensive wetland adjacent to the Lake.**

PLANS

1. Water Supply and Retention

Areas of permanent water with extensive margins of ephemeral wetland have been created by the repair of the southern dam at Stage 1, the creation of three additional dams at the southern ends of Stages 2, 3 & 4 and a major western perimeter dam adjacent to the Lake. All these dams have been constructed with gently sloping walls to reduce the destructive force of water during a significant flood event.

Due to the modest gradient over the site, large areas of permanent water and ephemeral wetlands can be created with quite modest dams. These areas are deepened by the excavation of earth for dams. Further modest dams are planned between Stages 1 & 3.

Surface water is supplemented by water from the Lake in times of flood or severe westerly winds by flowing over the western perimeter dam. Additionally, the Wetland water level is assumed to be influenced by subterranean flows from the Lake which has its own target water control levels under the LWVDS.

Investigations are underway to reticulate water from Matthews Lagoon & Boggy Pond to the Wetland which would both enhance the Wetland and provide further filtration of nutrients from neighbouring farms before that water enters the Lake.

2. Re-Vegetation

Both the Wetland ephemeral and surrounding areas and the dam walls are being replanted. This is being done through a staged approach in areas that have been fenced off to exclude grazing stock, using eco-sourced sedges, flaxes and trees. It is also

expected that native seedlings present in the soil, will germinate over time, especially as the plantings become established.

Concurrently, an ongoing programme to control noxious weeds, eg, blackberry, gorse, lupin, alders, wild roses and willows has been introduced.

3. Earth Works

In addition to the construction of the dams and adjacent deepening of the Wetland, the parallel wind-rows of willow debris have been intersected in the fenced off areas to create islands and further areas of ephemeral wetland. These islands afford waterfowl somewhat more secure nesting areas. Further work in these areas is planned.

4. Predator Control

A predator control programme, currently co-managed by Greater Wellington Regional Council (GWRC) and DOC, has been implemented to limit mustelid, rodent, feral cat, possum and rat populations and remains critical for the re-establishment of native fauna plus the nesting of Spoonbills in Boggy Pond adjacent to the Wetland .

Recent bird surveys have indicated a modest recovery in numbers of the endangered Bittern.

5. Collaboration with Victoria University of Wellington (VUW)

Following discussions with VUW's Centre for Biodiversity & Restoration Ecology (CBRE), Stage 3 became a controlled site in 2011 for the agreed research programme of a Masters student. Site preparation included the creation of different planting beds, the use of different mixes of tree species and different planting methods. Results are continually being monitored and hopefully cost effective processes will be determined, especially regarding minimizing the adverse effects of tall fescue. In all, over 2,300 plants are used in the research programme.

VUW's students continue to conduct various experiments regarding optimal restoration practices and hydrology. Additionally, a Masters student is commencing experiments regarding mycorrhizal effects between particular wetland tree species.

6. Visitor Experience

The dam surfaces have been sown with grass and are now mown regularly to provide easy access around the Wetland. This walkway will provide a link to the planned Wairarapa Moana walkway along the eastern shore of the Lake.

Additional signage and general publicity regarding the Wetland is still required, as are observation sites throughout the Wetland.

Traditional sustainable harvest of eels & raupo by Iwi and waterfowl by Iwi and gamebird hunters will enhance usage of the Wetland.

7. Funding

DU has and will continue to allocate funds from its own member generated resources and solicit support from other like-minded organisations and charities to complete this project. To date funds have been contributed by Banrock Station Wines, The Rotary Club of South Wairarapa, The Pharazyn Trust, The Treadwell Trust, The Nikau Foundation and the local Chapters of both Forest & Bird and The Ornithological Society. More recent support from Fish & Game's Game Bird Habitat Trust and GWRC's Wairarapa Moana Restoration Fund has greatly assisted the project.

Volunteers also come from DU members, local Rotarians, Forest and Bird & Ornithological Society members and both DOC & GWRC staff. It is expected that this support will continue to grow, especially as the results of prior years' plantings become more visible.

Pupils from the local Pirinoa, Kahutara and Martinborough Primary Schools and students from Taratahi Agricultural Training Centre have also assisted with all plantings to date which has hopefully provided long-term educational spin-offs.



TASKS (2016 – 2020)

1. Water Supply and Retention

- a. Secure agreement to reticulate water from Matthews Lagoon & Boggy Pond and implement. (2016 - 2017)
- b. Refine western dam to facilitate water supply for the Lake. (2016 – 2020)
- c. Monitor water levels. (2017 – 2020)

2. Re-Vegetation

- a. Continue plantings on the western dam wall. (2016 – 2018)
- b. Assist VUW students with plant acquisition & planting for research purposes at Stage 3. (2016 – 2017)
- c. Complete in-fill planting to Stages 1, 2 & 4 as required. (2016 – 2020)

3. Earth Works

- a. Create islands and permanent water areas between Stages 1 & 4 and within Stage 4 by intersecting the parallel wind-rows of willow debris and the creation of further dams. (2016 – 2020)

4. Predator Control

- a. Seek to ensure GWRC & DOC's programme is maintained. (2016 – 2020)
- b. Establish links and share best practice with predator control programmes operated by local like-minded groups, eg, the Aorangi Restoration Trust and the South Wairarapa Biodiversity Group. (2016- 2020)

5. Visitor Experience

- a. Position more signage covering both walkway directions and site information on history, fauna, flora & aquatic life. (2016)
- b. Seek social media exposure, again possibly in conjunction with like-minded groups. (2016)
- c. Construct observation sites. (2017)
- d. Continue to involve various student groups in the restoration project. (2016 – 2020)
- e. Liaise with Iwi & gamebird hunters as required. (2016 – 2020)

6. Funding

- a. Maintain relations with existing supporters and continue to demonstrate the efficient and productive use of funds contributed.
- b. Seek new social media based opportunities to access funds and volunteers.

PLANNED OUTCOME

The Wetland is now on the road to recovery and it is possible to believe that it will again become a wetland paradise. The current works have been recognized nationally, being a co-winner of the community awards granted by the Morgan Foundation in 2015.

In the foreseeable future, it will have an increasing number of Stages comprising securely fenced areas of permanent water, ephemeral wetlands cloaked in native sedges and trees, providing waterfowl and wader habitat and allowing public access for educational purposes, general interest and sustainable harvest. Over time, the fenced areas will be merged, enclosing most of the Wetland. Land Corp will continue to graze the unfenced areas to limit noxious plants' growth.

In the wider context, this project has become both a catalyst and pilot programme for the restoration of the wider eastern shores of the Lake. It is also hoped that the greater Lake wetlands (Wairarapa Moana), including a restored Wairio Wetland, would ultimately become a "Ramsar Site" under the international Ramsar Convention.

JRL 12/3/2016

