



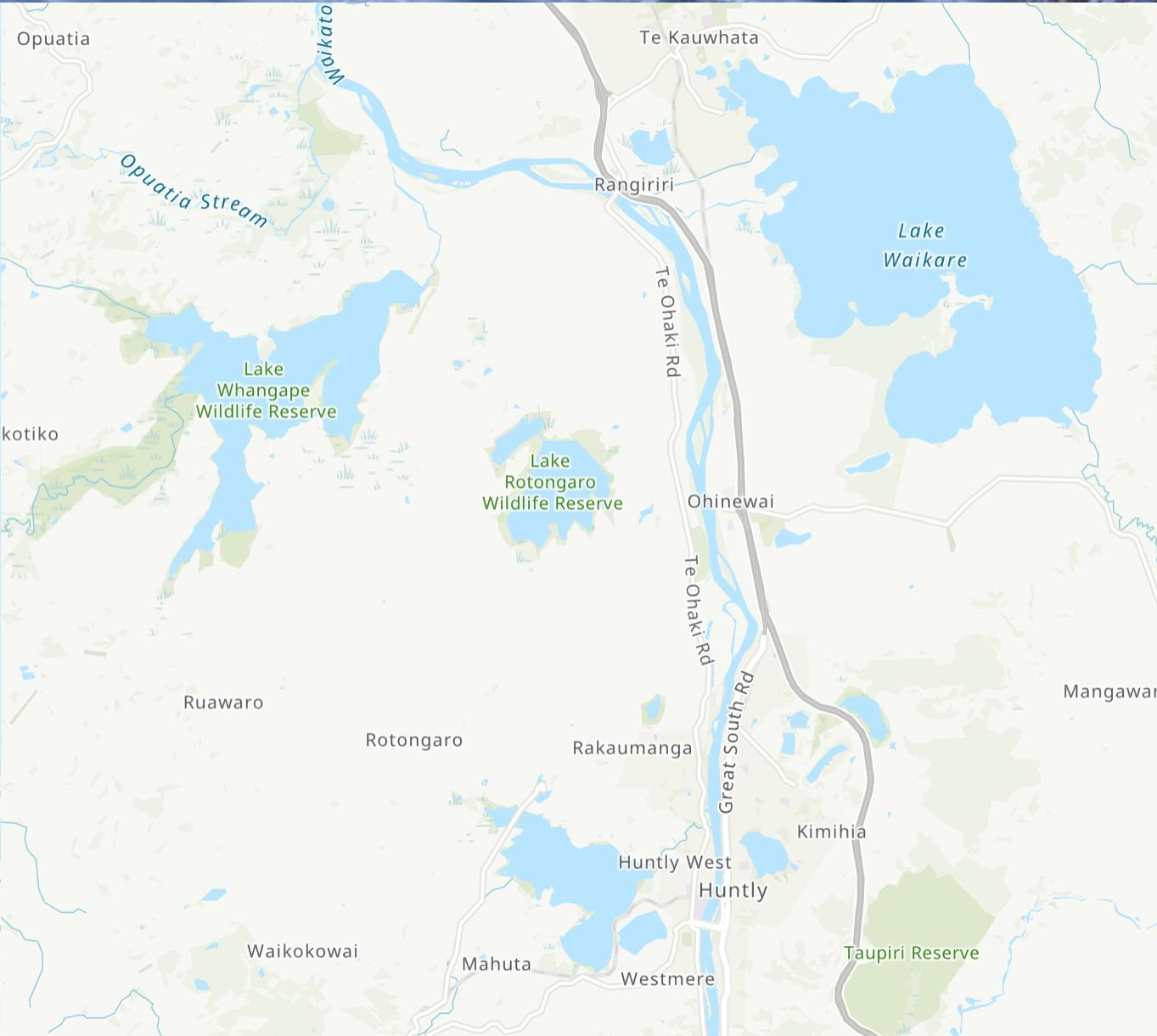
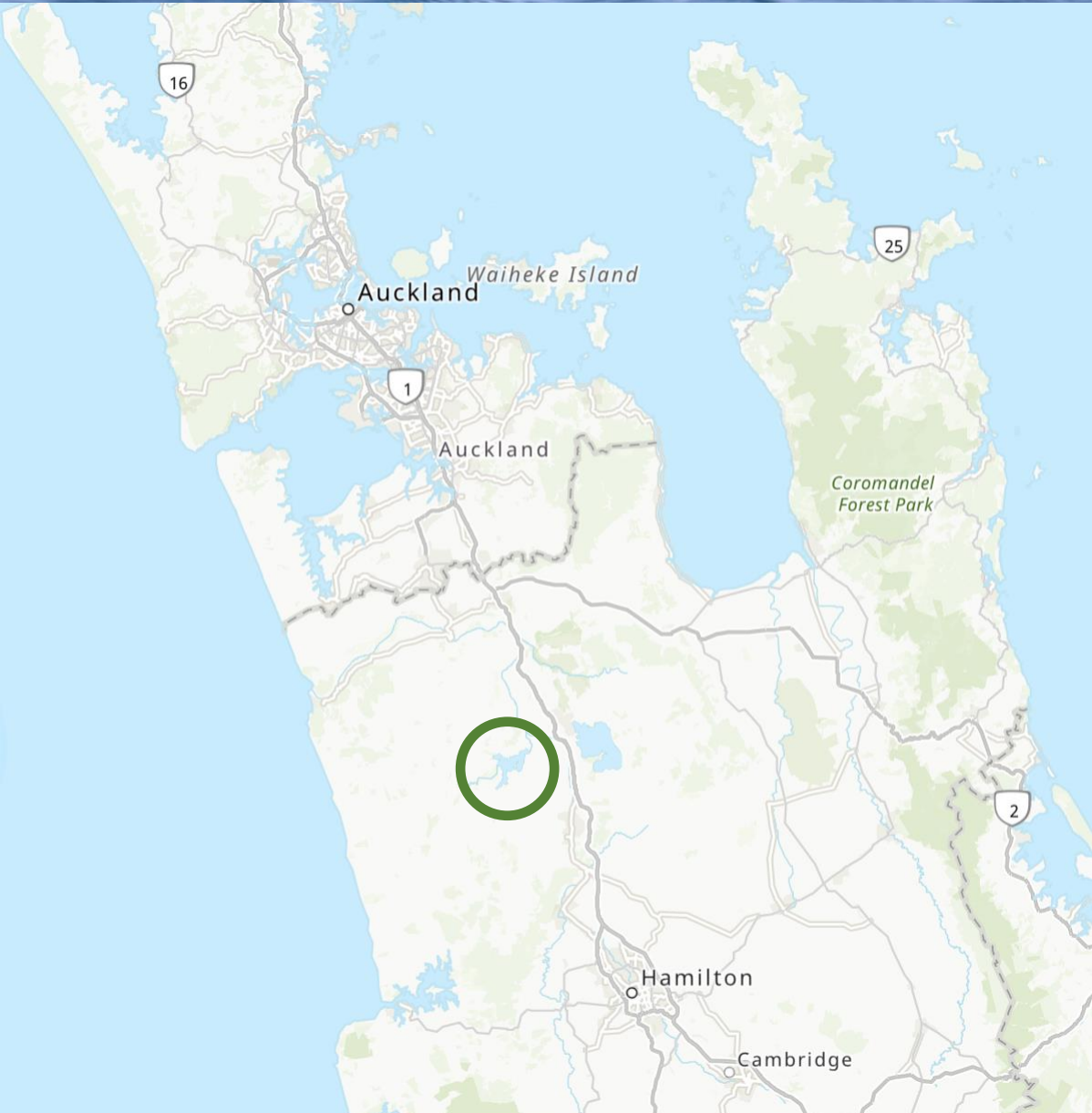
Lake Whangape Restoration Project

Natasha Grainger

On behalf of Waikato Regional Council, Waikato-Tainui, Department of
Conservation

27 November 2023

Lake Whangape



Water quality

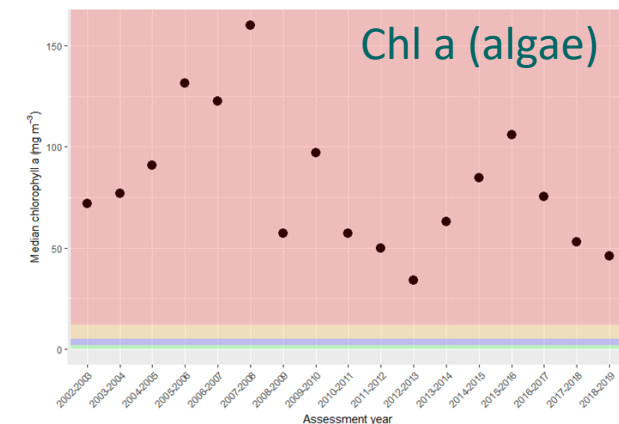
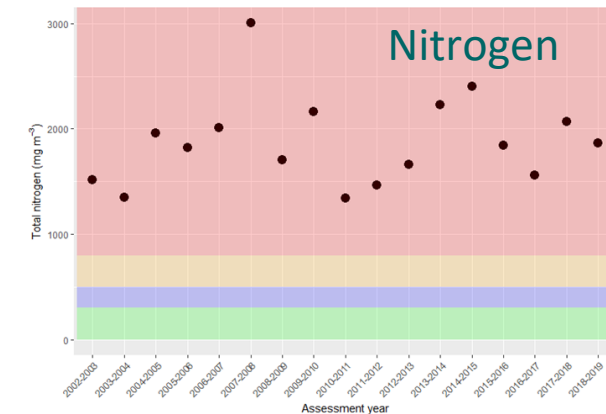
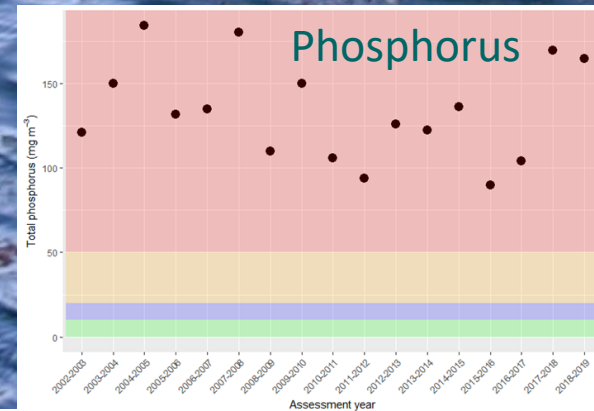
- Lake Whangape is extremely nutrient enriched
- High inter-annual variability
- TN, TP, CHL a - consistently higher than national bottom lines

Outcome

- No further deterioration in the water quality of Lake Whangape

Target

- Cyanobacterial bio-volumes in Lake Whangape will exceed recreational guidelines for less than 44% of the time





Project overview

- Partnership between Waikato-Tainui, Waahi Whaanui Trust, Ngā Muka Development Trust, Department of Conservation and Waikato Regional Council
- \$2.9M project
- Funding from Waikato-Tainui, DOC, WRC and Ministry for Environment and the Waikato River Authority
- Landowners also contributed funding



Project overview

- Terms of reference between the partners
- DOC entered into funding deeds with WRA and MfE on partnership behalf
- WRC and WT had separate funding agreements with DOC
- DOC project managed the project
- Steering Group, Project Management Group



Aims of Lake Whangape restoration project

- Te Ture Whaimana – the Vision and Strategy for the Waikato River
- Te Tai Timu ai Pari Tai Ao – the Waikato Tainui Environmental Plan
- Enhance collaboration between DOC, Waikato-Tainui and WRC
- Protect and restore the natural habitats that adjoin Lake Whangape
- Improve access to the lake for community use (including recreation and cultural harvest)
- Reduce the risks to the Lower Waikato River from alligator weed infestation in Lake Whangape
- Enhance the capacity of local hapū and whānau of Waikato-Tainui iwi to exercise kaitiakitanga and mana whakahaere



Workstreams of the Lake Whangape project

Waikato-Tainui, Waahi Whaanui Trust, Ngā Muka Development Trust

- Kaitiaki monitoring framework
- Cultural harvest plan
- Marae based hui

DOC

- Stock exclusion – fencing – 26km
- Revegetation of lake marginal habitat – 53,000 plants, 8.8ha
- Reduction of willow to <5% of current abundance

WRC

- Alligator weed reduced to containment levels
- Catchment interventions (at least 8) to improve water quality

Lake Whangape Kaitiaki Monitoring Framework

MAHIA TE MAHI

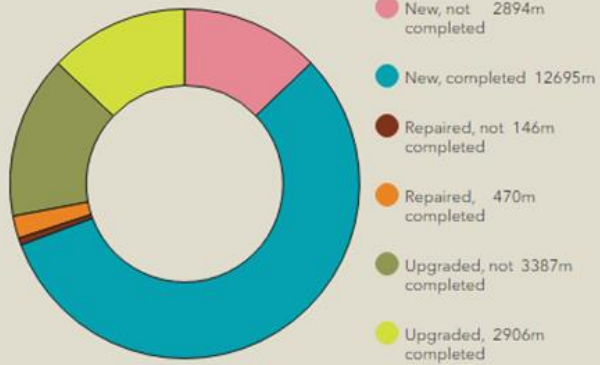


Aspiration	Actions	Why
<p>Mana Whenua continue to uphold the principles of kaitiakitanga; and be active participants to enable the expression and exercise of Mana Whakahaere to protect and nurture the mauri of Lake Whangape;</p>	<ul style="list-style-type: none"> Strengthen relationships and partnerships around restoring the lake (eg WRA, DOC, WRC) Employ locals as first priority Mana whenua led initiatives are prioritised Pou or mana whenua led signage around the lake Record “voices” of the lake videos Self directed waananga reconnecting whanau (learn about our Maatauranga, maramataka, and the history of the lake) and creating opportunities to share the teachings of the elders and korero tuku iho with the next generations. 	<ul style="list-style-type: none"> Record our stories Tell our stories Intergenerational transfer of knowledge
<p>Opportunities are created to advance Mana Whenua environmental enhancement/restoration activities and cultural aspirations, such as seeking swimmable clean water in the lake, attaining an abundance of fish and birds, and actively cultivating Rongoa within the reserves; and</p>	<ul style="list-style-type: none"> Restore mahinga kai Prioritise planting rongoa and other native trees and plants identified in this framework (Ngaa raakau) Prioritise activities that support the species identified in the Ngaa Taaonga list identified in this framework. Involvement in managing Pest Species e.g. Canadian Geese, Alligator weed. Monitoring tuna populations Explore tuna release Water quality monitoring training Ecological waananga as requested Wananga and Knowledge transfer around mahinga kai, e.g. when duck shooting, also collecting mullet and tuna, learnings around catching, preparation and cooking 	<ul style="list-style-type: none"> Recognising our Maatauranga Recognising our Mana Motuhake Return to cultural harvests in the future
<p>We uphold, recognise and provide for the Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato.</p>	<ul style="list-style-type: none"> Empowered Decision making Project management training Grant writing training 	<ul style="list-style-type: none"> Recognising our Mana Motuhake Recognising our Maatauranga

Fencing

Water Quality and Habitat Enhancement Lake Whangape - Fencing WorkStream

Select landowner
No category selected



 **16,071m**
of new, upgraded or repaired fences completed

 **22,498m**
total new, upgraded or repaired fences

Lake Whangape fences

-  New, completed
-  New, not completed
-  Repaired, completed
-  Repaired, not completed
-  Upgraded, completed
-  Upgraded, not completed
-  Satisfactory existing, ground truthed
-  Satisfactory existing, assumed
-  Will remain unfenced
- Unclear



Weed management and restoration

Project plan for Weed Control and Planting at Lake Whangape

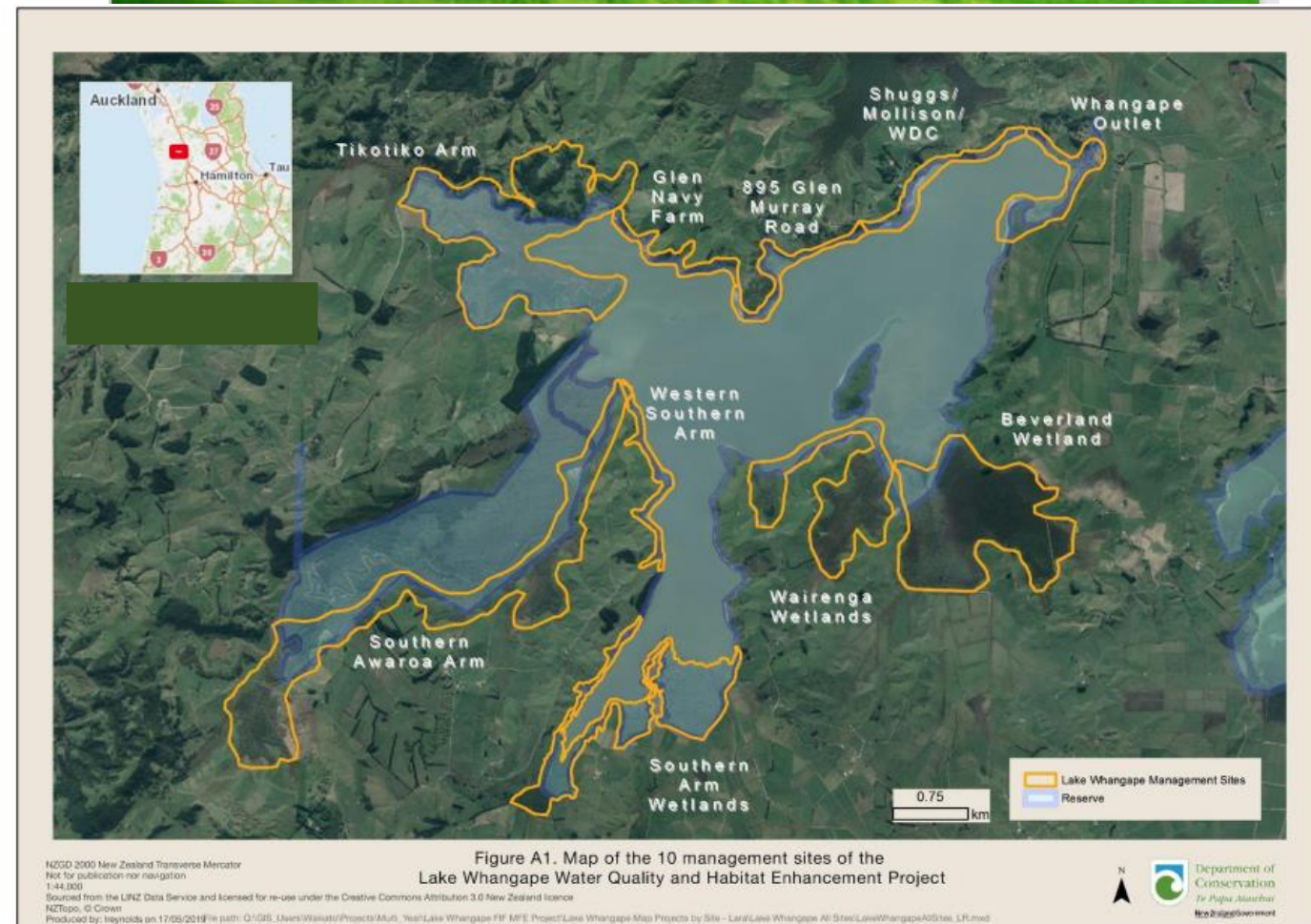
Plan term: 2018/19-2023/24



- Weed control and planting plan

Objective for alligator weed

- Reduce to containment levels
- Minimise likelihood of source population for lower Waikato catchment



Planting

Lake Whangape planted areas 2019-22

Date Printed: 3 November 2022



Legend

- Public Conservation Land
 - National Park
 - Conservation Park
 - Specially Protected Area
 - Reserve
 - Stewardship Area
 - Marginal Strip
 - Wildlife Management Area
 - Waitangi Endowment Forest

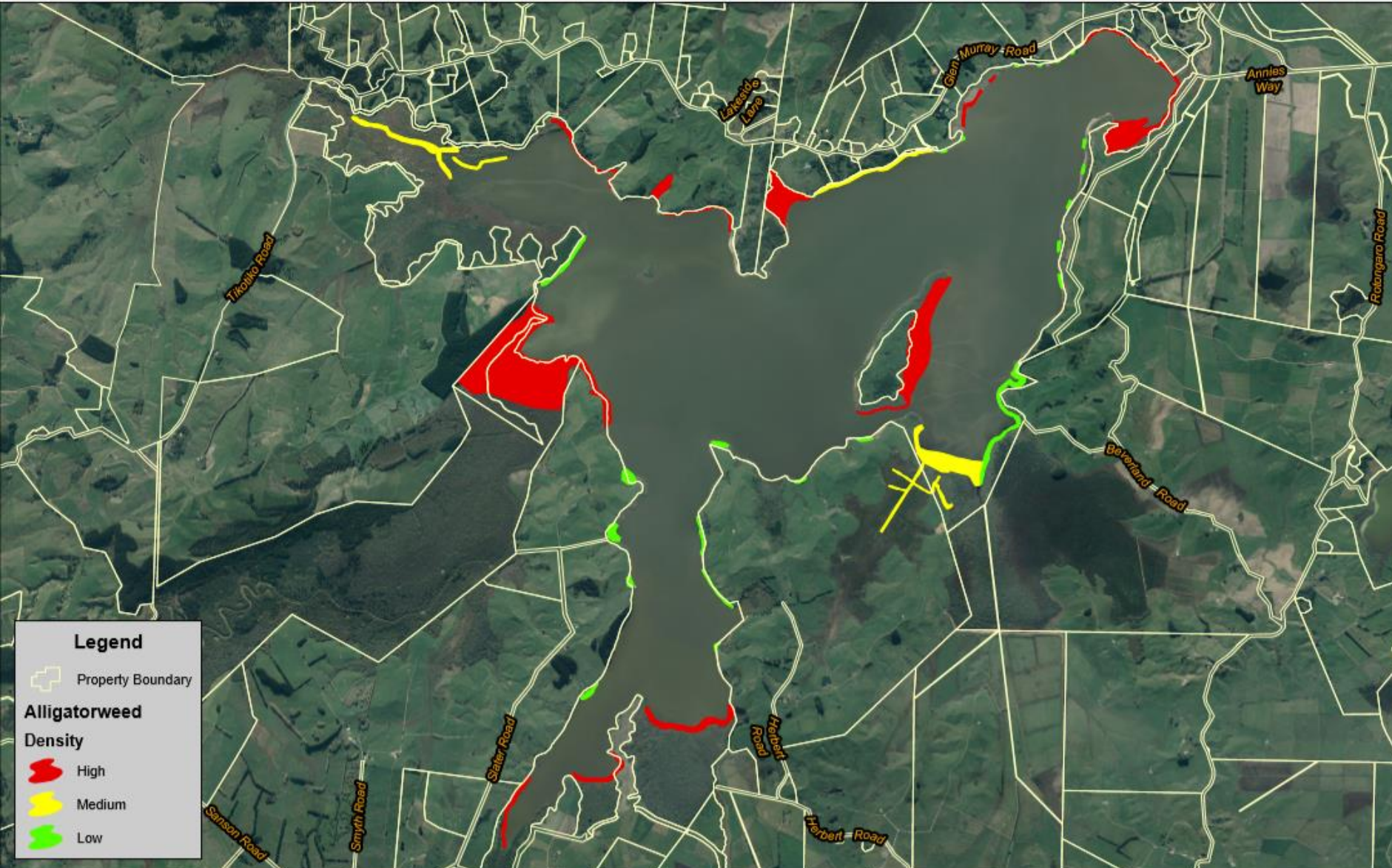


SCALE 1: 36,112
1.8 0 1.8 Kilometers
Projection: NZGD_2000_New_Zealand_Transverse_Mercator

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THIS MAP IS NOT TO BE USED FOR NAVIGATION





Legend

- Property Boundary

Alligatorweed Density

- High
- Medium
- Low

Acknowledgements and Disclaimers
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Alligator Weed location and density at Lake Whangape July 2018

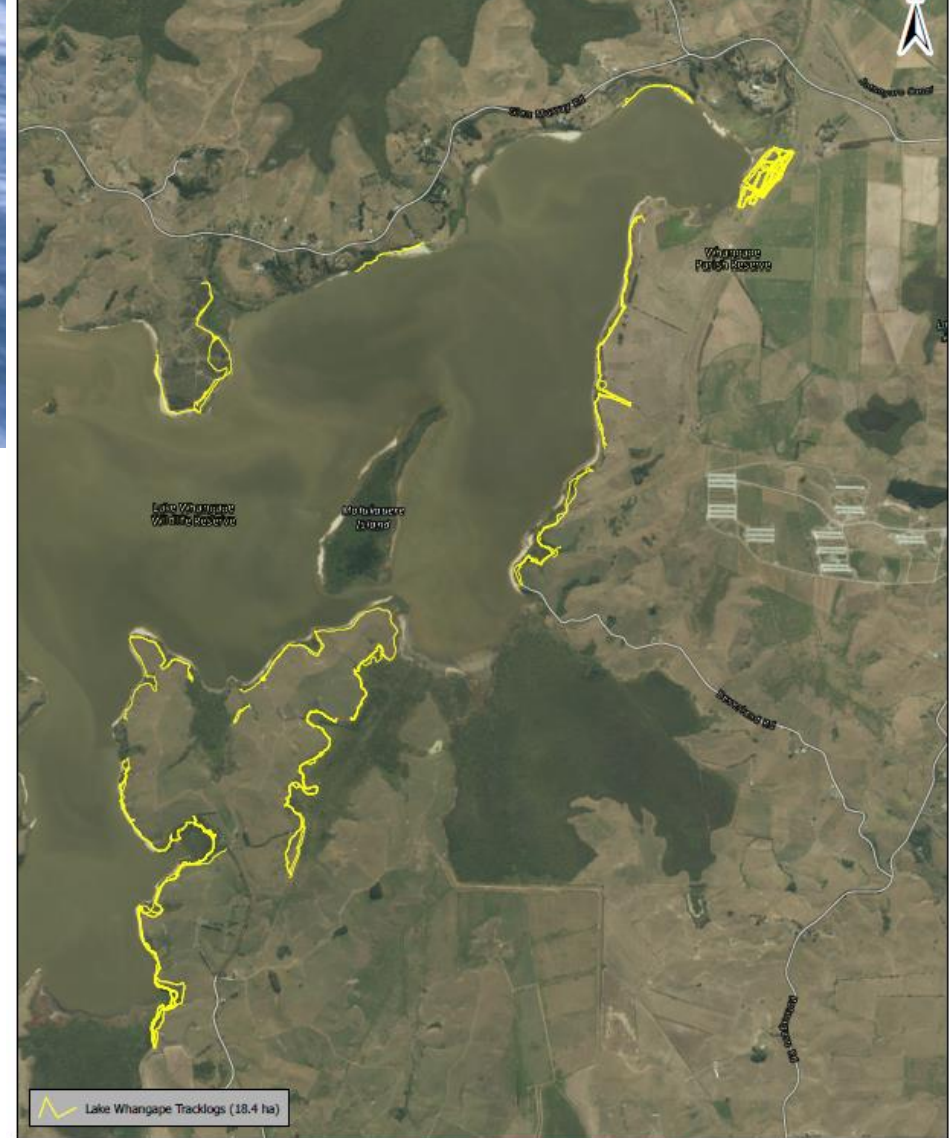
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Created by: HCE
 Date: 13/05/2019
 Version: 1
 Job No.: REQ148986
 File: REQ148986_Lake Whangape Alligatorweed Areas.mxd



Monitoring



Acknowledgements and Disclaimers
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contributors

**Lake Whangape
Spray Tracklogs
Y5 Q4**

0 0.5 1 km
Scale at A3
- 1:20,000

Created by: HCE
Date: 21/07/2023
Version: 1
Job No.: REQ200066
File: REQ200066_Lake
Whangape Spraying Y5



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Alligator weed farm management plans

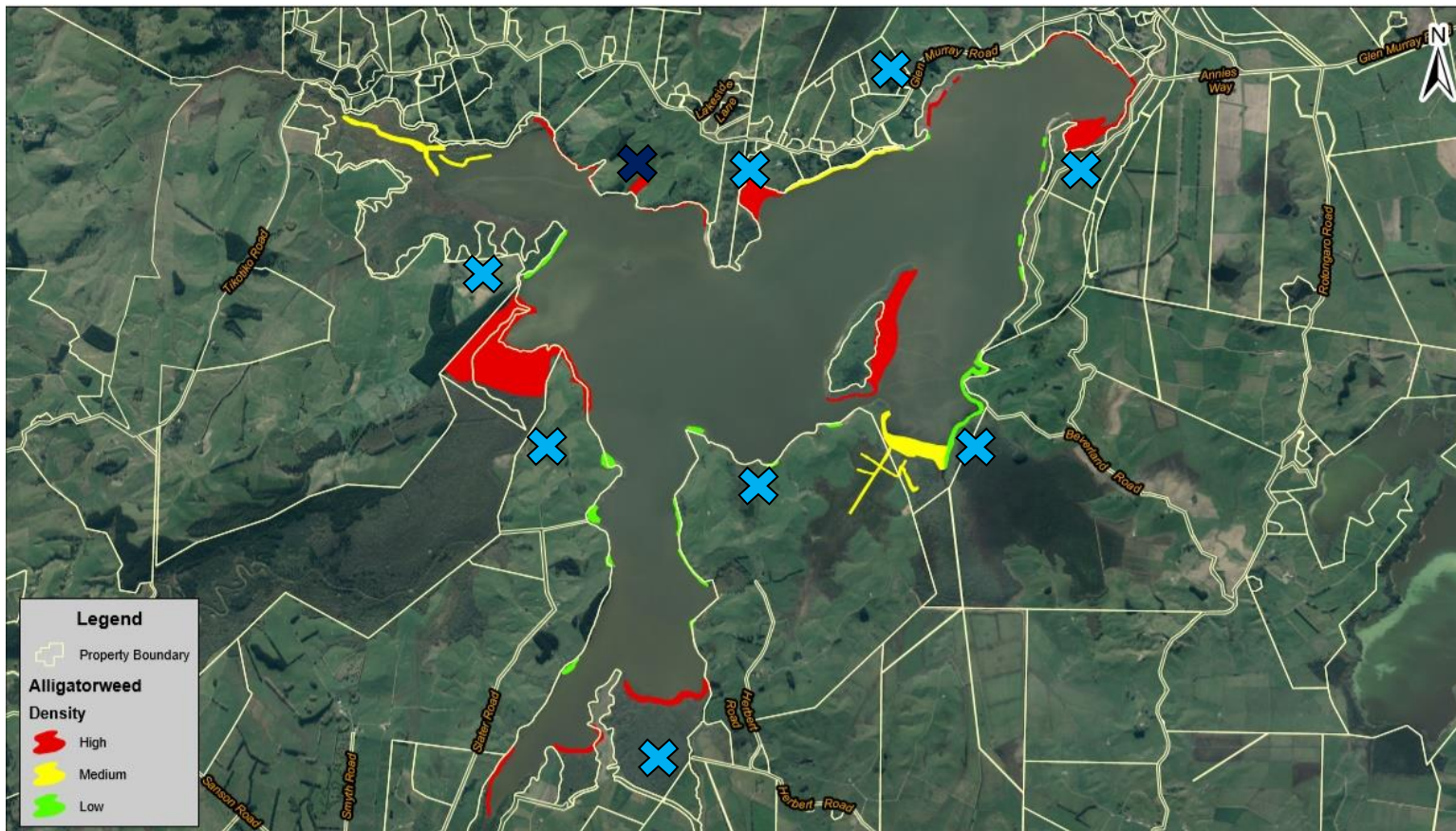
ALLIGATOR WEED FARM MANAGEMENT PLAN

Lake Whangape Enhancement Project

Glen Murray Road, Churchill



Lake Whangape left and the most heavily infested paddock/embayment, looking north [west](#)



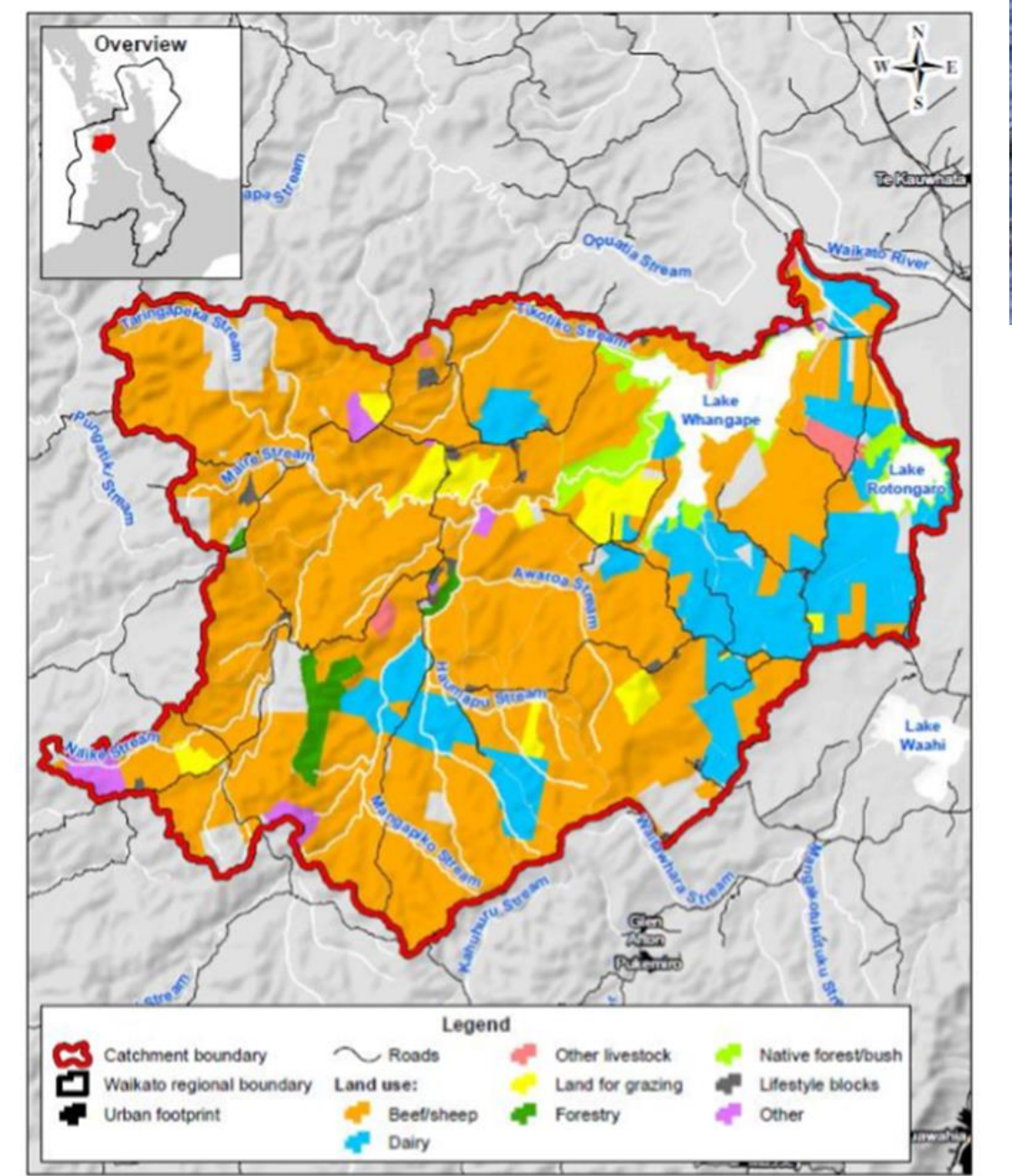
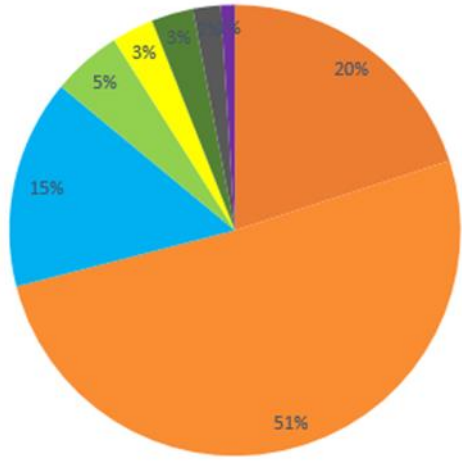
Catchment interventions



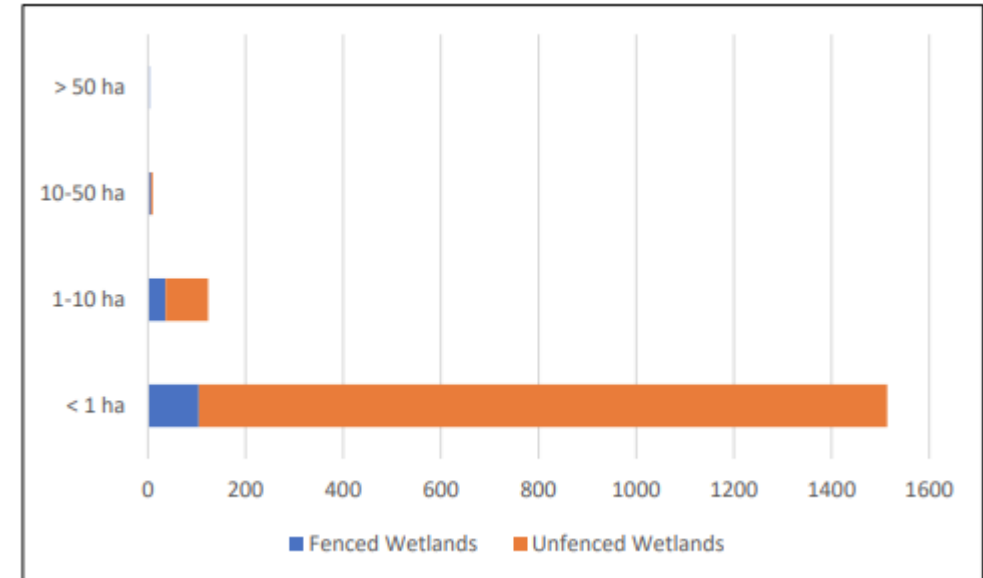
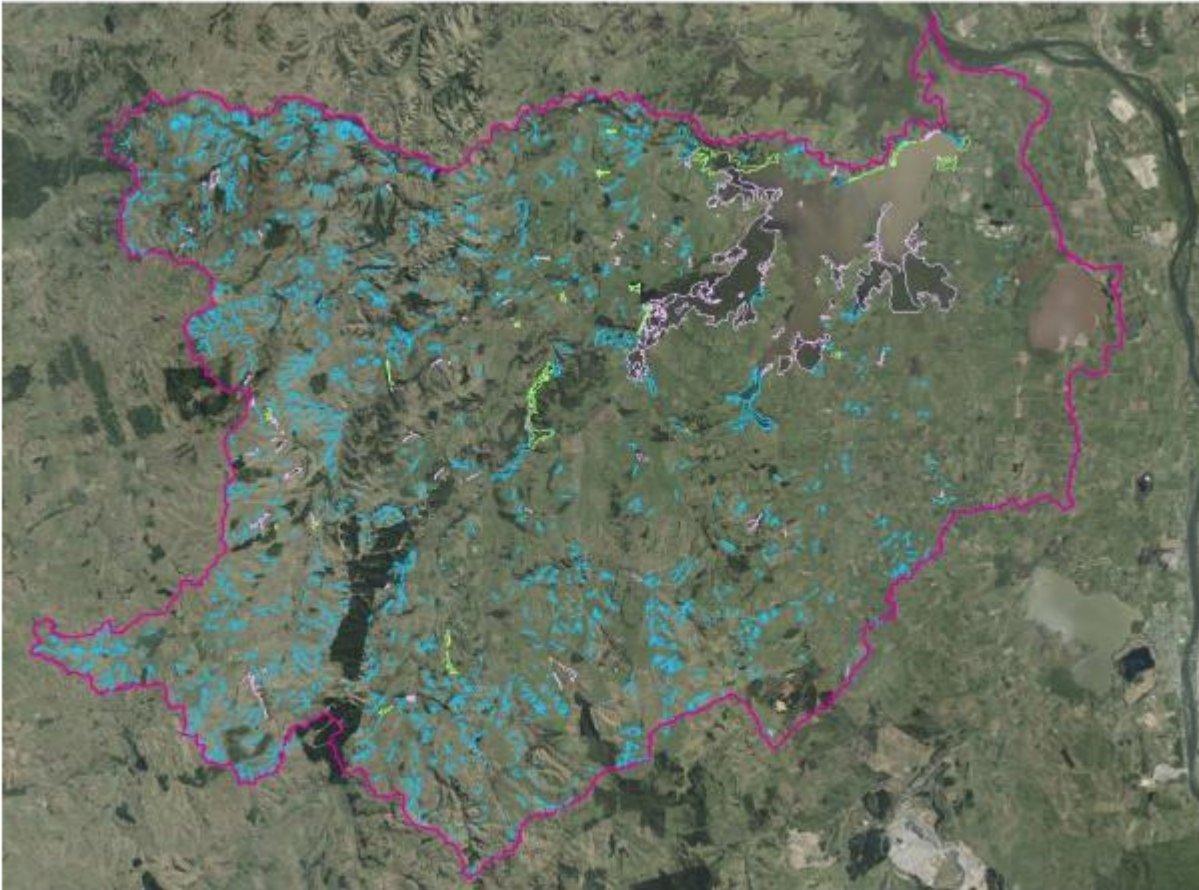
Lake Whangape catchment land use

Land Use

- Beef cattle
- Mixed sheep and beef
- Dairy cattle
- Native bush
- Grazing other peoples stock
- Exotic forest
- Lifestyle blocks
- Other (deer etc.)

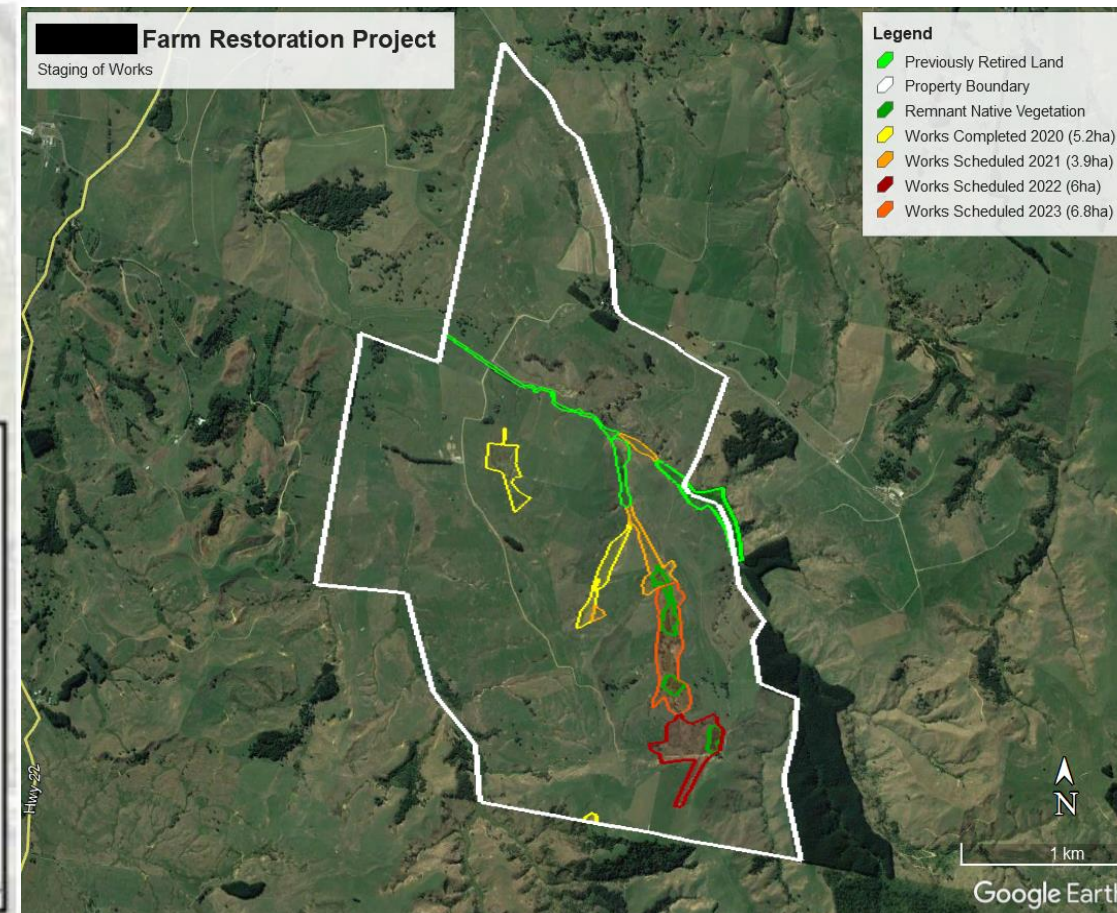
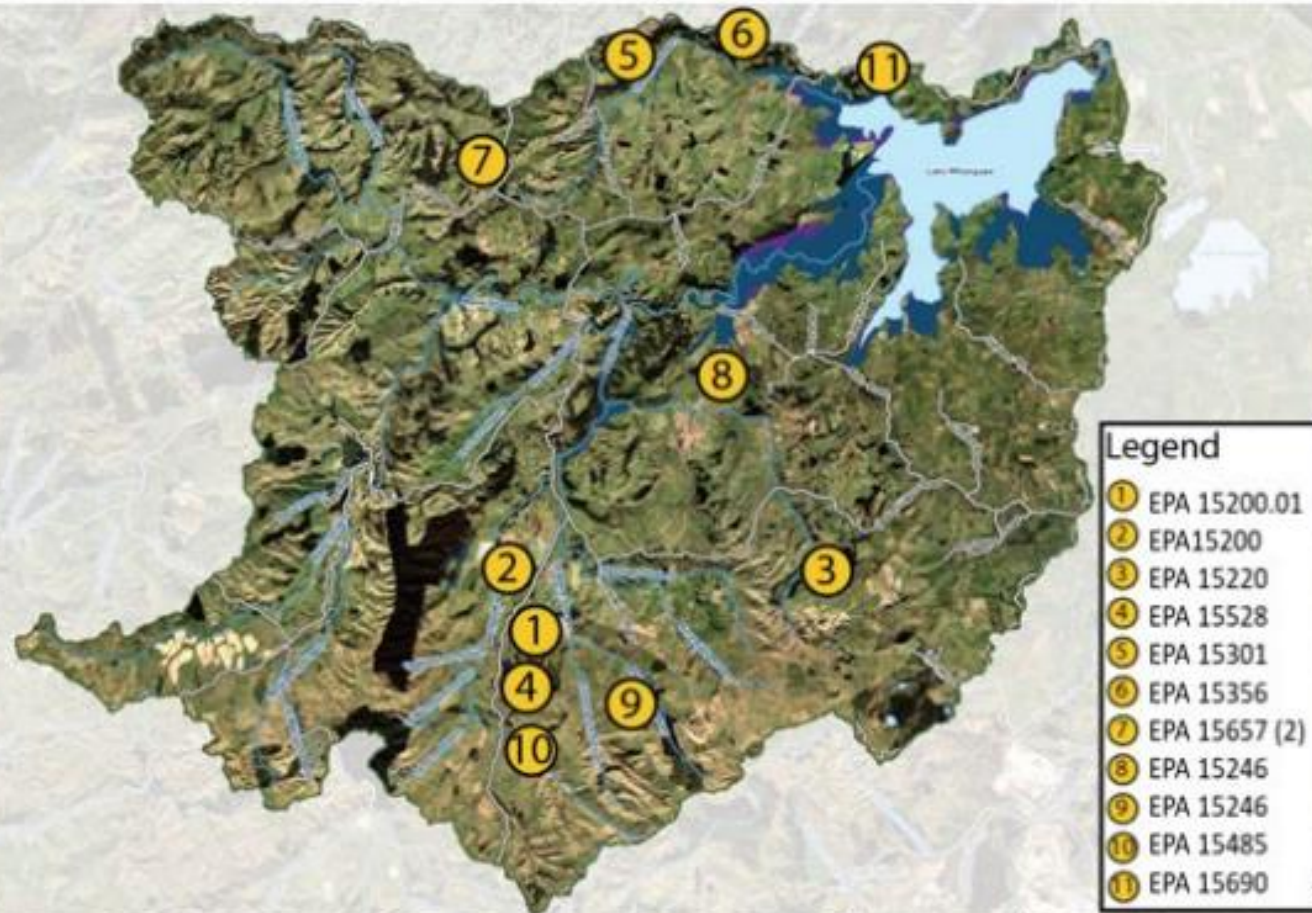


Catchment intervention– focus areas



- Afforestation of south facing slopes
- Managing and retiring wetlands
- Soil management and control

Lake Whangape catchment interventions sites



Lake Whangape catchment interventions



A

B

C

D

Photos 3 A- D Compartment 3. A & B show eroding gully and downstream sediment deposition before DPA works, 12 August 2019. C & D show the same after works, 15 October 2022.

Lake Whangape catchment intervention



Photo 4. Compartments 3 and 4 after DPA works with dashed lines showing the position of new fence lines, 15 October 2022.

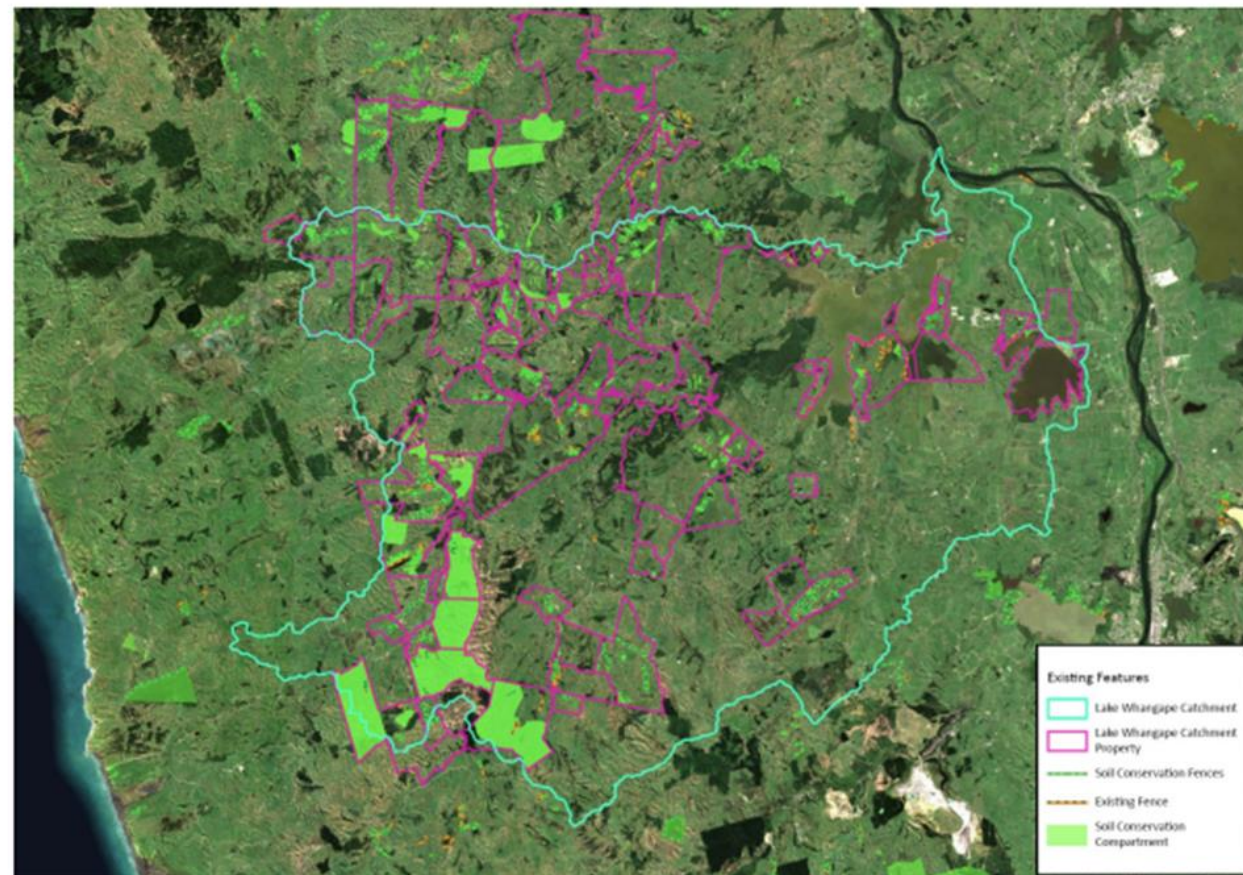
Total Project Costs	WCEET	Waikato Regional Council	Whangape P.	1BTF	Total Contribution of Funding Secured	Landowner	Whangape P. %	Landowner %
\$287,680.00	\$40,000.00	\$25,000.00	\$40,000.00	\$75,660.00	\$180,660.00	\$107,020.00	14%	37%

Lake Whangape catchment intervention

Activity	Total funded directly by the Lake Whangape project	Total funded (all funders)
New fencing (m)	15,517	20,760
Upgraded fencing (m)	2,688	2,688
Native plants (#)	88,806	106,006
Weed control (ha)	2.94	2.94
Weed control (hours)	34	34
Retired land (ha)	56.33	82.93
Culverts removed	2	2
Pole planting	330	330

Table 6. Summary of catchment intervention works directly and indirectly funded by the Lake Whangape project.

Other management actions



Success and learnings

- A plan is very important
- Working in partnership takes time and effort
- Sharing finances of three organisations was complicated
- Good project management essential
- Deliverables achieved
- Outcomes achieved – maybe?

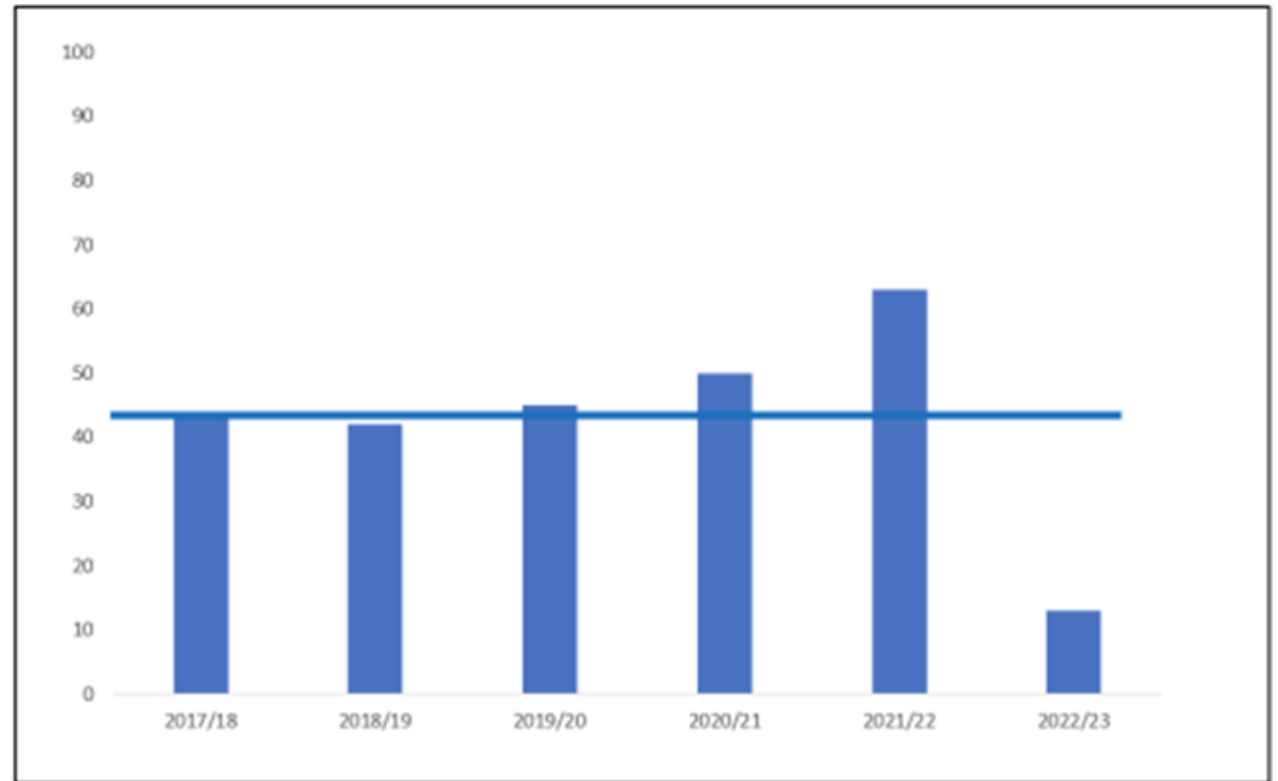


Figure 7. Percentage of cyanobacterial biovolumes in Lake Whangape from 2017 to 2023.

Questions

