

Te Waikai Otaota: Te Mahere Nui

Spray Plan for Te Arawa Lakes Aquatic Weed Management

Koheri ra! Kohera e!
Tutapa mai nuku, tutapa mai whiti
Kia rongo te pō, kia rongo te ao
Kia pā tata mai tō hau manawa
Ki tōku aronga manawa
Hai puta ki te whai ao, ki te ao mārama
Tihē Mauri Ora!
*Toitū te wai,
toitū te whenua,
toitū Te Arawa*

Ngā Tono Whakarite | *Resource consents*

- **68367-AP** (Bay of Plenty Regional Council, Land Information New Zealand)
- **RM16-0520-AP** (Bay of Plenty Regional Council)

Te Waikai Otaota | *Te Arawa Lakes Treatment Areas*

Te Tukunga Waikai Otaota Aquatic weed control operations will be taking place intermittently between the 14th of November and the 2nd of December 2022 in Lake Rotorua, Lake Rotoiti, Lake Tarawera, Lake Ōkātina, Lake Rotomā and Lake Ōkāreka using the herbicide Diquat Dibromide.

Anō Pea Te Tukunga Waikai Otaota: Follow up treatment may be applied following this period depending on the results of the initial treatment.

Ka Rāhui Tēnei Takiwā o Te Moana: A rāhui on the area of control prohibiting swimming, taking food, and collecting drinking water will be in place for 24 hours following control operations.

Ka Whakatūria Ngā Pou Whakamōhio: Signage will be erected during this time to ensure all lake users are aware of this rāhui. See Appendix 1 for control sites.

Table 1. Treatment areas and proposed dates of control for each lake.

Lake	Treatment area (ha)	Treatment area as a percentage of lake area (%)	Application method	Proposed date range
Ōkāreka	6.78	1.99	Boat	14 November – 2 December
Ōkātina	7.23	0.67	Boat	14 November – 2 December
Rotorua	19.7	0.24	Boat	14 November – 2 December
Rotoiti	38.3	1.12	Boat	14 November – 2 December

Rotomā	4.92	0.44	Boat	14 November – 2 December
Tarawera	2.91	0.02	Boat	14 November – 2 December

Ngā Herenga | Consent conditions

Ngā Tikiwai | Water takes:

Consented water takes will be notified prior to control works. All landowners adjacent to control sites and within a 200 metre buffer zone around each site will be notified prior to control works to ensure those with permitted water takes can take appropriate action.

Ngā Wharau a Ngā Manu Taketake | Areas of native nesting bird roosting or breeding: (Waiting on confirmation from Department of Conservation)

Ngā Wāhi Tapu | Sites of significance to tangata whenua:

No new culturally significant sites were identified during this period. Tau kōura monitoring sites were included in the pre-spray monitoring survey and were found to be unimpeded by current weed growth, aside from one in Lake Rotoiti which will receive treatment.

Ngā Karere | Notification:

All practical steps will be taken to ensure that the community, including the Rotorua Lakes Council, the Medical Officer of Health, iwi with mana whenua, landowners and occupiers adjoining or adjacent to areas to be sprayed, and the public are aware of control operations and subsequent rāhui and provided with contact information to discuss any queries or concerns. See Appendix 2 for Communications Plan.

Ngā Herenga Otaota | Current weed conditions:

A pre-spray monitoring survey was undertaken throughout the month of October. At the time of survey, weed and water conditions were suitable for Diquat application in the lakes listed in Table 1. above. Lake Rotoehu was surveyed however water quality was not suitable for Diquat application. Lake Rerewhakaaitu has not been included due to successful results from previous aquatic weed control operations.

Ngā Pou Ārahi | Cultural Monitoring Plan:

Alongside these control works a cultural monitoring plan will be implemented to evaluate the impact of operations on taonga species. See Appendix 3 for Cultural Monitoring Implementation Plan.



Te Āpiti 1 | Appendix 1: Control sites for each lake

Ōkāreka



0.4km
Maxar

Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range
Boyes Beach	0.47	Boat	14 th November – 2 nd December
DOC campsite/eastern face	5.87	Boat	14 th November – 2 nd December
Southern Outlet	0.44	Boat	14 th November – 2 nd December



Tarawera



Earthstar Geographics

Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range
Boat Shed Bay	0.11	Boat	14 th November – 2 nd December
Kotukutuku Bay/The Landing	0.1	Boat	14 th November – 2 nd December
Stoney Point	0.52	Boat	14 th November – 2 nd December
Otumutu Lagoon/Humphries Bay	1.21	Boat	14 th November – 2 nd December
Te Rata Bay/Hot Water Beach	0.23	Boat	14 th November – 2 nd December
Te Karamea Bay	0.21	Boat	14 th November – 2 nd December
Wairua Stream Mouth	0.53	Boat	14 th November – 2 nd December



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Rotomā

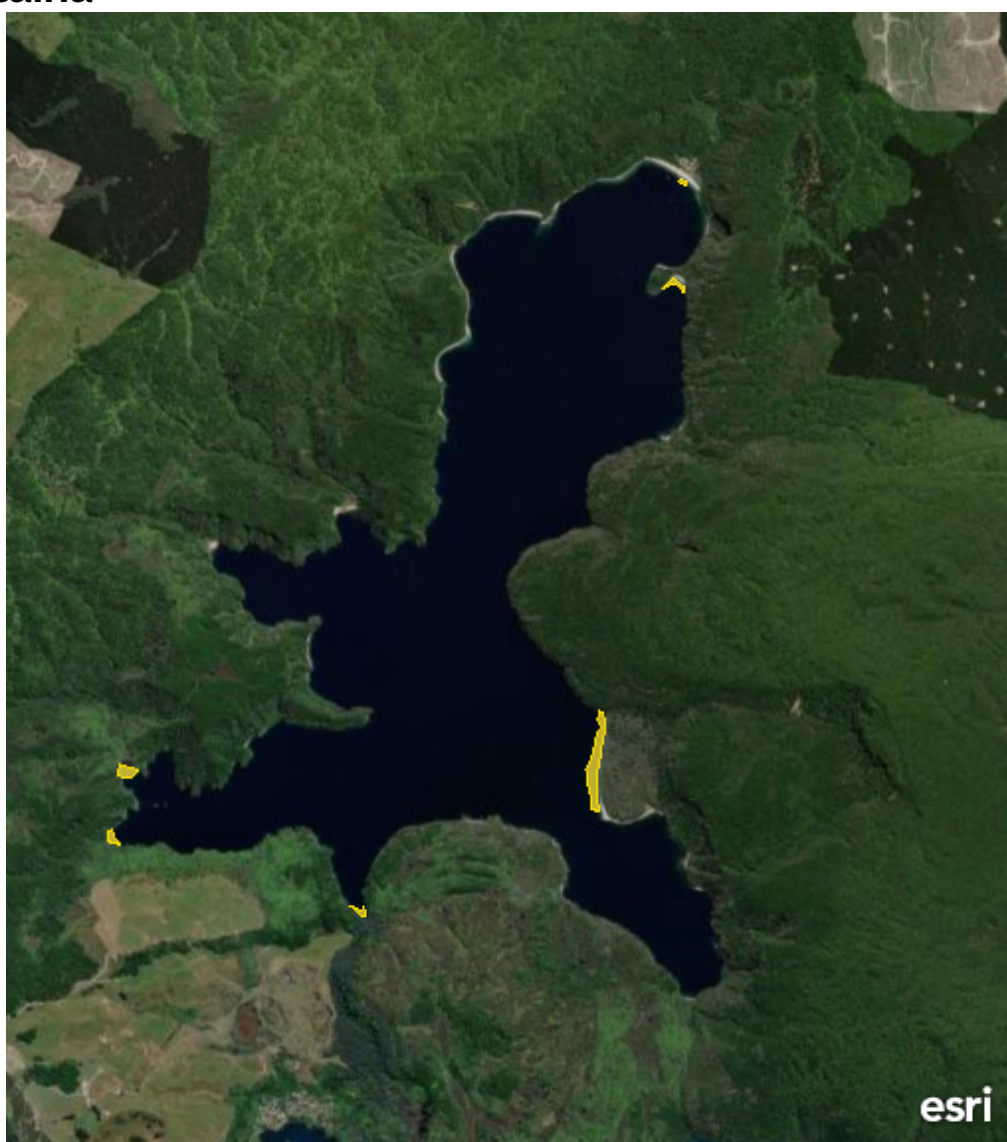


0.6km
Maxar

Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range for spray
Matahi Spit	0.3	Boat	14 th November – 2 nd December
Merge lodge boat ramp	0.28	Boat	14 th November – 2 nd December
Whangaroa Inlet	4.34	Boat	14 th November – 2 nd December



Ōkātina



2km

Earthstar Geographics

Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range for spray
Oruroa bay and Point Beach	4.57	Boat	14 th November – 2 nd December
Turanganui/Boat Ramp	0.18	Boat	14 th November – 2 nd December
South West Corner	0.53	Boat	14 th November – 2 nd December
Haumingi Bay	0.36	Boat	14 th November – 2 nd December
Ngahaua Bay	0.49	Boat	14 th November – 2 nd December
Southern weed cordon	1.1	Boat	14 th November – 2 nd December



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Rotoiti



2km
Earthstar Geographics

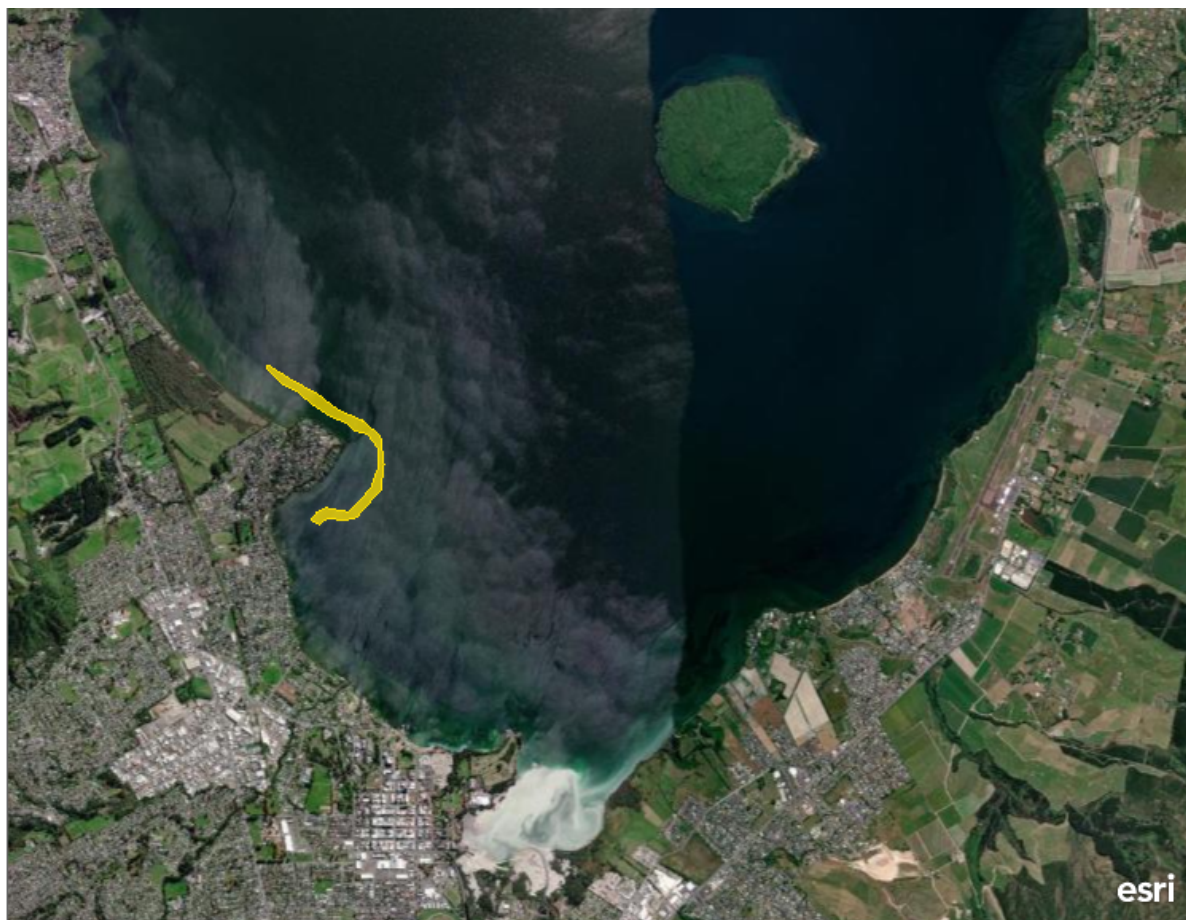
Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range for spray
Gisborne Point	1.75	Boat	14 th November – 2 nd December
Te Puna Whakareia Bay	3.43	Boat	14 th November – 2 nd December
Hauparu Bay	0.16	Boat	14 th November – 2 nd December
Okahuturoa/Cherry Bay	1.35	Boat	14 th November – 2 nd December
Okawa Bay	7.47	Boat	14 th November – 2 nd December
Te Weta Bay 1	3.51	Boat	14 th November – 2 nd December
Te Weta Bay 2	2.36	Boat	14 th November – 2 nd December
Te Ti Bay	1.1	Boat	14 th November – 2 nd December
Otaramarae	2.28	Boat	14 th November – 2 nd December
Okere Inlet	2.98	Boat	14 th November – 2 nd December
Kakaho Bay	1.65	Boat	14 th November – 2 nd December
Whangamoa Drive	0.1	Boat	14 th November – 2 nd December



Tapuaekura bay	0.2	Boat	14 th November – 2 nd December
Te Waiiti Point	3.38	Boat	14 th November – 2 nd December
Tokerau Bay	0.63	Boat	14 th November – 2 nd December
Teal Bay	0.7	Boat	14 th November – 2 nd December
Wairau Bay	0.89	Boat	14 th November – 2 nd December
Te Akau Bay	3.37	Boat	14 th November – 2 nd December
Manupirua Bay	0.32	Boat	14 th November – 2 nd December
Hinehopu	0.68	Boat	14 th November – 2 nd December



Rotorua



2km

Earthstar Geographics

Site name	Treatment Area (Hectares)	Application Method	Preferred Date Range for spray
Kawaha Point	19.7	Boat	14 th November – 2 nd December



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Te Āpiti 2 | Appendix 2:

Whakapāpā | Communications Plan

Kua tuhia tēnei mahere whakapāpā e ai tā te Tono Rauemi 68367-AP i whakaaetia e Te Moana a Toi, mō te whakarehunga otaota ki te waikai e kī nei ko Diquat Dibromide, ki ngā rotomoana o Te Arawa.

This communications plan is written in accordance with Resource Consent 68367-AP granted by Bay of Plenty Regional Council for the purpose of controlling aquatic weeds with Diquat Dibromide across Te Arawa Lakes.

Aratakinga Whakapāpā | Communication objectives

- Engage with stakeholders and audiences to notify them of aquatic weed control works and use this as an opportunity to empower lake users with information about invasive lakeweeds and aquatic weed management.
- Provide a clear pathway for lake users to enquire about operations. Follow up on enquiries and supply sufficient information to ease any concerns.
- Ensure relevant audiences are informed of aquatic spraying operations including location and timing of proposed spraying and withholding period or rāhui for taking of water, swimming, and taking of fish for consumption.
- Comply with resource consent conditions.

Te Ara Tukutuku | Delivery partners and target audiences

- Target audiences are broken down into four categories:
 - **Mana whenua:** iwi and hapū who hold mana whenua status over spraying areas and/or have wāhi tapu or māhinga kai within spraying areas.
 - **Adjacent landowners:** public and private landowners adjacent to spraying areas.
 - **Business owners:** parties with economic or resource interests in spraying areas, including tourism operators and consent holders.
 - **Community groups:** community associations, schools, recreational lake users and any other parties which have an interest in the spraying area including visitors to the area.
- **Ngā Hoa Tāpui | Delivery partners**
 - Bay of Plenty Regional Council (BOPRC)
 - Toitū Te Whenua Land Information New Zealand (LINZ)
 - Te Arawa Lakes Trust (TALT)
 - Rotorua Lakes Council (RLC)
 - Department of Conservation (DOC)
 - Fish and Game (F&G)
 - National Institute of Water and Atmospheric Research (NIWA)
 - AquaAg Ltd.
 - Medical Officer of Health (enquiries@toiteora.govt.nz). To be informed of proposed spray works and of any poisoning events and/or environmental contamination.

Kupu Matua | Key messages

- Aquatic weed spraying will be occurring in _ area on _ date.
- A 24-hour rāhui or stand down period applies for swimming, taking of water and taking of fish for consumption.



- Invasive lakeweeds are a particular problem in Te Arawa rohe due to their ability to form large dense weed beds that have a negative impact on the lake ecosystem including our native species.
- Spraying invasive lakeweeds with the herbicide Diquat is a safe and effective way of suppressing these invasive lakeweeds based on current research and when used correctly it has no adverse effects on native species or humans.
- Consent has been granted by BOPRC to discharge the herbicide diquat into waterbodies for the purposes of controlling aquatic weeds.
- Any questions or comments concerning these matters can be directed to Te Arawa Lakes Trust via aquaticweed@tearawa.iwi.nz

Te Aronga | Approach

Engagement will occur at three levels:

1. **Notify target audiences** via **letter and/or email** detailing the location and timing of proposed spraying dates and rāhui information about taking of water, swimming, and taking of fish for consumption, and contact details for TALT. All target audiences identified above will be notified at this level.
2. Distribute written and video **media release** about upcoming aquatic weed spraying, the nature of diquat and invasive lakeweeds through local and regional newspapers, radio, stakeholder websites and social media.
3. **Signage** will be erected at each lake detailing the location and timing of control operations, their duration, information about rāhui for taking of water, swimming, and taking of fish for consumption, and contact details for TALT. See Appendix 3 for signage locations. Signage will be removed following this rāhui.
4. **Optional hui** will be offered to hapū affiliated with spraying sites. If accepted, TALT staff to give presentation about current aquatic weed management and accept feedback in person. Feedback from these hui will be recorded and incorporated into future operations. If a hui is deemed unnecessary by the hapū, information will be provided for hapū representatives to distribute.

Te Tūhononga Kōrero | Channels of engagement

Channel	Details of engagement	Timing (approximate)
Written and video media release	Written and video media release distributed via social media and TALT website.	1 week prior to control operations
Email/letter/phone call	Distributed to all target audiences.	1 week prior to control operations and throughout control operations
Websites	Copy of Spray Plan and information about the nature of Diquat provided on stakeholder websites.	1 week prior to control operations
Newspaper	Notices in Rotorua Daily Post.	1 week prior to control operations
Radio	Announcements made on local radio station Te Arawa FM before and during control operations.	1 week prior to control operations
Social media	Posts made on TALT social media pages. Content will be developed by TALT and	3 days prior to control operations and ongoing daily



	once posted a link will be distributed to stakeholders to share.	updates throughout control operations
Signage	Signage erected at each spray site.	2 days prior to control operations
Hui	Offered as an option to mana whenua.	Ongoing

Whakapā Mai | Contact details

Any queries should be directed to Te Arawa Lakes Trust via email aquaticweed@tearawa.iwi.nz. Further updates in relation to the work and treatment progress can be found on www.tearawa.iwi.nz and www.linz.govt.nz.

Tuku Kōrero Mai | Feedback form

Te Arawa Rotomoana | Te Arawa Lakes Trust Weed Spray Feedback Form

Please fill this form out and return to 1194 Haupapa Street, Rotorua, or email it to aquaticweed@tearawa.iwi.nz if you have any feedback regarding aquatic weed management operations.

This form will be assessed by Te Arawa Lakes Trust Health and Safety Officer.

Contact details

Name:	
Contact Number:	
Email address:	
Postal address: (optional)	
Signature: Date:	

Location of interest:

Method of application:	Yes/No
Boat	
Helicopter	
Manual (knapsack)	

Feedback:



Te Āpiti 3 | Appendix 3: Pou Whakamōhio | Signage locations

Table 1. Locations of signage for each lake

Lake name	Signage locations
Rotorua	<ul style="list-style-type: none"> • Lakefront boat ramp • Hannahs Bay boat ramp • Hamurana boat ramp • Ngongotahā boat ramp • Manahi Ave Reserve • Haumoana St Reserve • Hei matau paddlers reserve
Rotoiti	<ul style="list-style-type: none"> • Otaramarae boat ramp • Delta boat ramp • Gisborne Point boat ramp • Okawa Bay boat ramp • Hinehopu boat ramp • Rotoiti Holiday Park boat ramp • Te Takinga Marae • Taheke Marae • Te Akau Reserve • Okere Rd • Te Weta Bay walkway
Tarawera	<ul style="list-style-type: none"> • The Landing • Boatshed Bay • Stoney Point boat ramp • Stoney Point Reserve • Otumutu lagoon boat ramp • Hot water beach campsite
Rotomā	<ul style="list-style-type: none"> • Merge boat ramp • Matahi spit boat ramp • Rest stops around inlet (2) • Otangiwao Point
Ōkātaina	<ul style="list-style-type: none"> • Lodge boat ramp • Main beach in front of lodge
Ōkāreka	<ul style="list-style-type: none"> • Acacia Bay boat ramp • Boyes Beach • DOC campsite • Southern Outlet (Ski land beach) • Jumping rocks • South-west walkway

