

Te Waikai Otaota: Te Mahere Nui

Spray plan 2 for Te Arawa Lakes Aquatic Weed Management 2025

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 24th of November and the 19th of December 2025 in Lake Ōkāreka, Lake Ōkātina, Lake Rotoiti and Lake Tarawera 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.

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 | 0.89 | 0.26 | Boat | 24 November – 19 December 2025 |
| Ōkātina | 0.88 | 0.08 | Boat | 24 November – 19 December 2025 |
| Rotoiti | 64.43 | 1.89 | Boat | 24 November – 19 December 2025 |
| Tarawera | 1.21 | 0.02 | Boat | 24 November – 19 December 2025 |

Te Takiwā | *Timing of operations*

The specific timing of operations within each season is dependent on wind, water and weather conditions. Preferred date ranges for each season will be included in each spray plan and provided to the public via methods outlined in the Communications Plan (Appendix 1).

In some cases, follow up control works may be required. Following herbicide application, a 14-day stand-down period will be implemented before further control works can proceed.

Control operations will not occur on any weekend, public holiday or during school holidays to ensure the programme does not impede the use and enjoyment of our lakes.

Ngā Herenga | **Consent conditions**

Ngā Tikiwai | *Water takes:*

Consented water takes will be notified via methods outlined in the Communications Plan (Appendix 1) 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 via letter to ensure those with water takes can take appropriate action.

Ngā Wharau a Ngā Manu Taketake | *Areas of native nesting bird roosting or breeding:*

During pre-spray monitoring a thorough investigation of each site is conducted and any notable areas of bird life recorded. These reports and any others from the community are taken into consideration alongside recommendations from the Department of Conservation to ensure roosting and breeding sites are undisturbed.

Ngā Wāhi Tapu | *Sites of significance to tangata whenua:*

Several sites are considered for control operations each year due to their significance to tangata whenua, such as wāhi tapu, mahinga kai and papakāinga. These sites can be added to or omitted from the programme upon request from hapū.

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.

Ngā Herenga Otaota | *Current weed conditions:*

Pre-spray monitoring survey is undertaken in the weeks prior to spraying to determine if weed and water conditions are suitable for diquat application. Lakes monitored and weed species present in each lake are listed in table 2.

Table 2. Priority lakes for aquatic weed control and the weed species they contain.

| Lake | Lake size (Hectares) | Weeds present |
|---------------|----------------------|--|
| Rotomā | 1100 | <i>Lagarosiphon major</i> , <i>Elodea Canadensis</i> |
| Ōkāreka | 340 | <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> |
| Ōkātina | 1080 | <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> |
| Rotorua | 7980 | <i>Ceratophyllum demersum</i> , <i>Egeria densa</i> , <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> |
| Tarawera | 4130 | <i>Ceratophyllum demersum</i> , <i>Egeria densa</i> , <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> |
| Rotoiti | 3400 | <i>Ceratophyllum demersum</i> , <i>Egeria densa</i> , <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> |
| Rotoehu | 800 | <i>Ceratophyllum demersum</i> , <i>Elodea canadensis</i> , <i>Lagarosiphon major</i> |
| Rerewhakaaitu | 530 | <i>Lagarosiphon major</i> , <i>Elodea canadensis</i> , <i>Egeria densa</i> |

During pre-spray monitoring, scientific divers make observations regarding a number of factors to determine whether or not a site should receive aquatic weed control at this time. Factors such as weed growth, weed condition, sedimentation, algal blooms and lake levels are all taken into account when deciding where aquatic weed control should take place. These decisions are made by the Te Arawa Lakes Aquatic Pest Coordination Group which features representatives from the following organisations; Land Information New Zealand, Department of Conservation, Fish and Game, Earth Sciences NZ (NIWA), Bay of Plenty Regional Council, Rotorua Lakes Council and Te Arawa Lakes Trust.

Scientific divers noted that in Lake Ōkāreka, all sites with the exception of the southern outlet of the lake were free of invasive aquatic weeds and exhibited a diverse range of native aquatic plants.

In Lake Ōkātina, weeds were found to be impacted by fouling and sedimentation at some sites which heavily reduces the efficiency of herbicide. Due to this fouling, the following sites in Lake Ōkātina were omitted from control operations for this period; Log Pool Stream, Otangimoana Bay, Ōruaroa Bay, Kaikākahi Bay, Motuwhetero, Haumingi Bay and Paremata Bay.

Lake Rerewhakaaitu and Lake Rotomā showed great results from previous control operations with minimal invasive weed growth, leading to Rerewhakaaitu and Rotomā being omitted from control operations for this period.

In Lake Tarawera, good results from previous control operations have resulted in the following sites being omitted from control operations due to minimal invasive aquatic

weed growth; Kariri Point/Boatshed Bay, Stoney Point, Te Rātā Bay/Hot water beach and Rāpatu Bay.

In Lake Rotoiti, fouling and sedimentation as well as algal blooms resulted in the following sites being omitted from these operations; Ruatō Bay, Hauparu Bay, Tapuaekura Bay, Te Waiiti Stream, Tokerau Bay, Wairau Bay, Te Ārero Bay, Te Akau peninsula and Hinehopu.

Lake Rotorua and Lake Rotoehu are unsuitable for aquatic weed spraying due to heavy fouling, lake depth, algal blooms and the overall intensity of aquatic weed infestations within these lakes. Alternative methods of aquatic control will be applied at these lakes in the absence of herbicide control, including weed harvesting.

Ngā Pou Ārahi | Cultural Monitoring Plan:

Alongside these control works, cultural monitoring is undertaken before and after control works to evaluate the impact of operations on taonga species and the mauri of our lakes. The purpose of the Cultural Monitoring Plan is to ensure that the values of Te Arawa associated with the lakes are identified and monitored alongside the activity of aquatic weed management.

Ngā tino wāhi | Priority control areas:

Table 3. Total proposed treatment area for each lake and the percentage of the littoral zone this occupies.

| Lake name | Treatment area (ha) | Littoral zone (ha) | Treatment area as a percentage of littoral zone (%) |
|-----------|---------------------|--------------------|---|
| Ōkāreka | 0.89 | 102 | 0.87 |
| Ōkātina | 0.88 | 304 | 0.29 |
| Rotoiti | 64.43 | 800 | 8.05 |
| Tarawera | 1.21 | 543 | 0.22 |

Ngā tino wāhi | *Priority control sites*

Ōkāreka



| Site name | Treatment Area (Hectares) | Application Method | Preferred Date Range |
|-----------------|---------------------------|--------------------|--------------------------------|
| Southern Outlet | 0.89 | Boat | 24 November – 19 December 2025 |

Tarawera



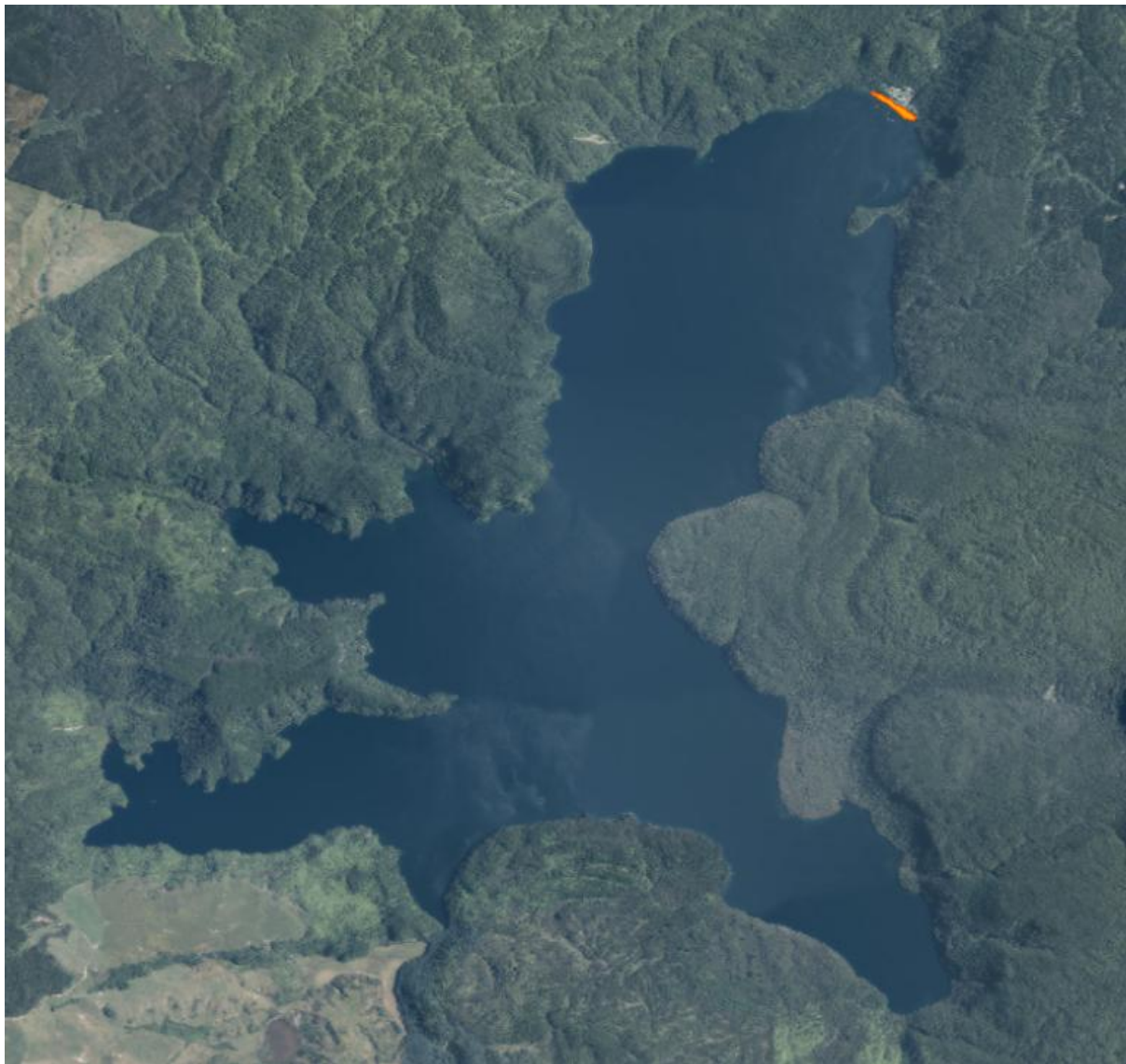
| Site name | Treatment Area (Hectares) | Application Method | Preferred Date Range |
|-----------------------|---------------------------|--------------------|--------------------------------|
| Otumutu Lagoon | 0.98 | Boat | 24 November – 19 December 2025 |
| Punaromia/The Landing | 0.23 | Boat | 24 November – 19 December 2025 |

Rotoiti



| Site name | Treatment Area (Hectares) | Application Method | Preferred Date Range for spray |
|----------------------------------|---------------------------|--------------------|--------------------------------|
| Gisborne Point/Punawhakareia Bay | 9.37 | Boat | 24 November – 19 December 2025 |
| Ōkahutoroa Bay/Cherry Bay | 5.91 | Boat | 24 November – 19 December 2025 |
| Ōkawa Bay | 11.18 | Boat | 24 November – 19 December 2025 |
| Te Weta Bay | 10.7 | Boat | 24 November – 19 December 2025 |
| Te Ti Bay | 1.37 | Boat | 24 November – 19 December 2025 |
| Ōtaramarae Boat Ramp | 1.99 | Boat | 24 November – 19 December 2025 |
| Ōkere Inlet | 9.77 | Boat | 24 November – 19 December 2025 |
| Kakaho Bay | 2 | Boat | 24 November – 19 December 2025 |
| Wairau Bay | 0.89 | Boat | 24 November – 19 December 2025 |
| Teal Bay | 1.91 | Boat | 24 November – 19 December 2025 |

Ōkātaina



| Site name | Treatment Area (Hectares) | Application Method | Preferred Date Range for spray |
|------------------------------|------------------------------|--------------------|-----------------------------------|
| Tauranganui Bay/Boat Ramp | 0.66 | Boat | 24 November – 19 December 2025 |

Te Āpiti 1 | Appendix 1:

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/or 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 2 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/or video media release | Written and/or 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 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 once posted a link will be distributed to stakeholders to share. | 3 days prior to control operations and ongoing daily updates throughout control operations |

| | | |
|---------|--------------------------------------|-----------------------------------|
| Signage | Signage erected around sprayed lake. | 1 day 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 2 | Appendix 2:

Te tohu | Signage

Ōkāreka



Signage locations:

- Acacia Bay boat ramp
- Acacia Road mistletoe walk
- Boyes Beach
- Te Waiariki Purea Trust building
- DOC campground x2

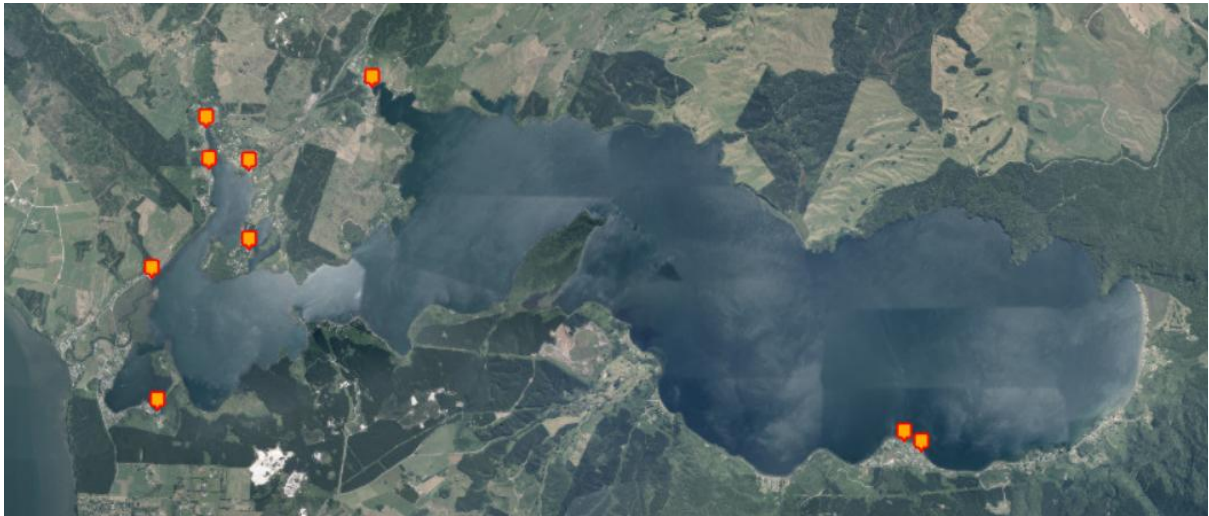
Tarawera



Signage locations:

- Punaromia/The Landing boat ramp
- Otumutu lagoon boat ramp

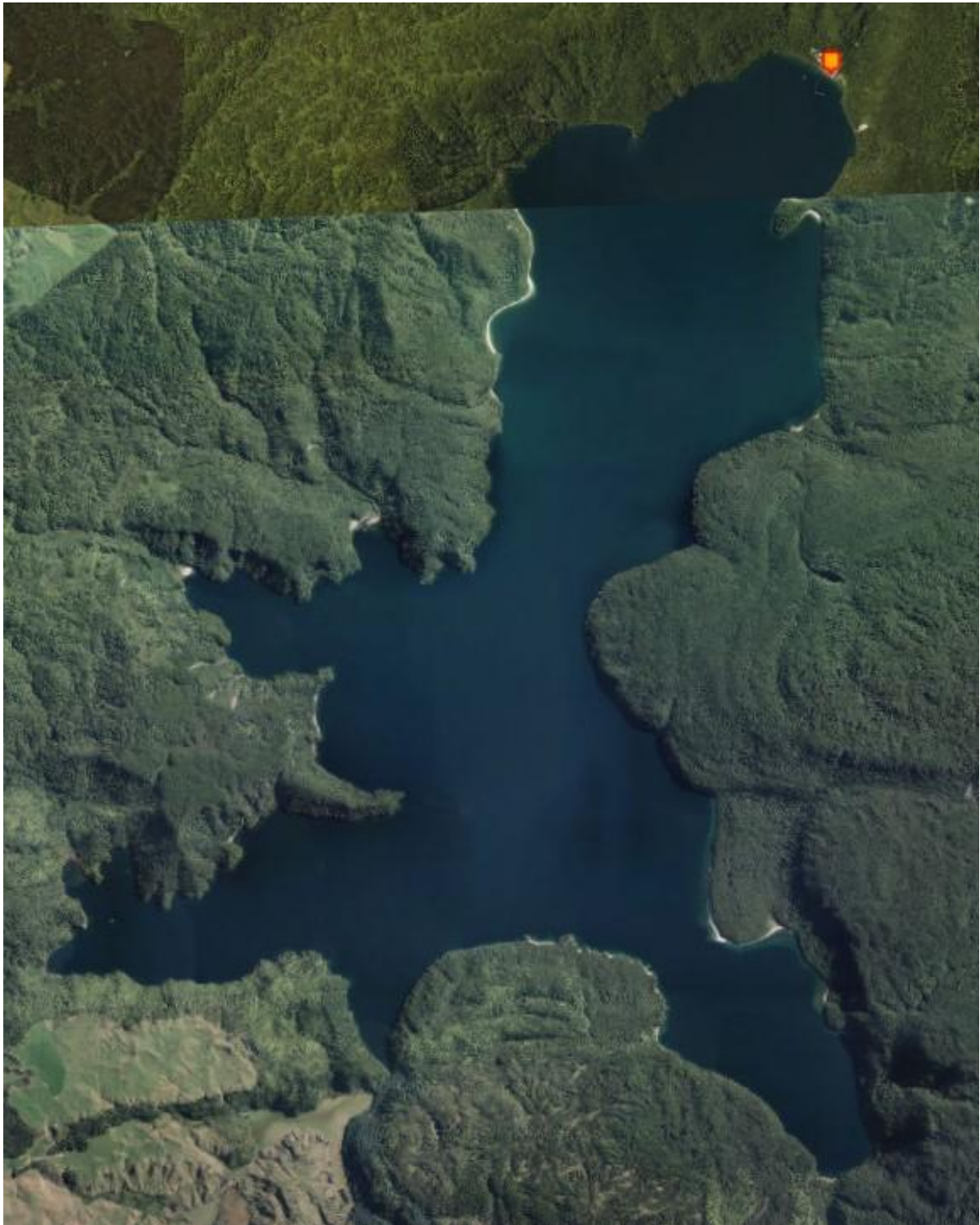
Rotoiti



Signage locations:

- Delta boat ramp
- Ōtaramarae boat ramp
- Rotoiti Holiday Park
- Te Weta Bay (walking track entrance)
- Ōkere Inlet (across from Whangamarino School)
- Ōkere falls store jetty
- Ōkawa Bay boat ramp
- Ruatō Bay
- Gisborne point boat ramp
- Punawhakareia boat ramp
- Hinehopu boat ramp

Ōkataina



Signage locations:

- Tauranganui Boat Ramp