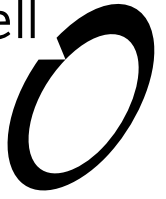


Boffa Miskell



Lake Dunstan Lakeweed Spraying Public Notification Protocol

Lake Dunstan Aquatic Weed Management
Prepared for Land Information New Zealand

1.0 Document purpose

This document sets out the public notification standards when boat-based or aerial aquatic weed spraying is being undertaken in Lake Dunstan, as part of Toitū Te Whenua Land Information New Zealand's (LINZ) annual lakeweed control programme. The public notification standards are made up of six separate but interlinked standards for:

- warning signs
- radio notifications
- print and online local newspapers
- email notifications to a stakeholder list
- email notifications to owners of consented water takes
- information on the LINZ's website.

The public notification standards ensure that the local community is notified via a variety of channels with different target audiences.

2.0 About lagarosiphon

Lagarosiphon major (aka South African oxygen weed) is an unwanted organism under the Biosecurity Act 1993 and there are severe penalties for people who knowingly sell or distribute this species. It is a highly challenging and expensive weed to control, and once established the ability to eradicate is extremely difficult (see [Freshwater Invasive Species of New Zealand 2020](#) for more information). Given the upstream sources of lagarosiphon and that Lake Dunstan is 'saturated' (all available weed habitat is occupied) by lagarosiphon, the only feasible control objective in Lake Dunstan is sustained control under the Otago Regional Pest Management Plan 2019-29.

Sustained control focuses on reducing the impacts of lagarosiphon and preventing its spread to other water bodies. The areas for control are agreed by the Lake Dunstan Aquatic Weed Management Group (LDAWMG) and included in the [Ten-Year Management Plan for lagarosiphon at Lake Dunstan: 2016 to 2025](#) (High-Risk and High-Amenity Areas under active management - see Appendix 1).

3.0 Aquatic herbicides

Treatment of lagarosiphon at Lake Dunstan utilises both diver-based control methods and herbicide treatment using diquat dibromide. Diquat is one of two herbicides in New Zealand that is registered for application directly into water for the purpose of controlling aquatic weeds (endothall being the other). The use of diquat in Otago waterways is a permitted activity under the Regional Plan: Water for Otago rule 12.B.1.1 (https://www.orc.govt.nz/media/12421/regional-plan_water-for-otago-updated-to-4-june-2022-chapters-1-19.pdf).

Diquat is the active ingredient in Reglone®, a herbicide that has been used in New Zealand for over 60 years for both agricultural operations and lake-weed control.

Diquat is a safe and effective herbicide that controls unwanted aquatic weed species. Most native plant species are not affected by diquat at the rates at which they are applied, nor are fish species affected. When diquat comes into contact with aquatic weeds it is rapidly absorbed producing peroxide that acts like a bleach desiccating plant tissue and disrupting cell membranes. As per the label requirements, it is recommended that lake users don't swim, fish, consume or use water for irrigation until 24 hours after control.

For more information on Diquat please see the factsheet that has been provided by NIWA [Diquat FAQs_A4.indd \(niwa.co.nz\)](#)

4.0 Public notifications

Before undertaking boat-based or aerial aquatic weed spraying, a range of public notifications channels are used to inform lake and river users, including owners of consented water takes, neighbouring landowners, district and regional councils, iwi, advocacy groups, and the local community, of the timing and use of herbicide treatment at Lake Dunstan.

4.1 Warning signage

Warning signs will be erected at key access points to High-Risk Areas and High-Amenity Areas, within two kilometres of the planned treatment sites (see Appendix 1).

Signage will be erected 24-hours before the scheduled date of control and remain in place for a minimum of 24-hours following. Once the 24-hour stand down period for swimming, fishing and taking water has lapsed following control operations, signs will be removed.

Figure 1 shows the signage that will be erected. This sign includes information on:

- the proposed treatment dates
- the diquat label recommendations for standdown times
- target weed species, application method and hazard classification of diquat
- a scannable QR code which links to the LINZ webpage giving up-to-date information on specific sites and timing for when sites were controlled and when they are safe to use again.
- an 0800 number that can be called during business hours if a member of the public has questions about the spray operations.

A signage register is kept up to date to record information on the location of signs, and when they are erected and removed.



Figure 1. An example warning sign that will be erected at key lake access points proximate to the application areas.

4.2 Radio notifications

Radio notifications will be run at a minimum seven days prior to the proposed treatment date and daily throughout the week the control is taking place.

The information included in the radio notification includes:

- the proposed treatment dates and location
- the diquat label recommendations for standdown times
- target weed species and application method
- an 0800 number that can be called during business hours if the member of the public has questions about the spray operations.

Radio Notifications will be placed on NZME key radio stations within the Cromwell area.

4.3 Newspaper and app advertisements

Newspaper notifications will be placed in local newspapers seven days prior to the schedule date of control, as well as on the first day of the period in which spraying is planned to be carried out (applies to the Otago Daily times only).

The information included in the newspaper notifications includes:

- the proposed treatment dates and location
- the diquat label recommendations for standdown times

- target weed species, application method and hazard classification of diquat
- an 0800 number that can be called during business hours if the member of the public has questions about the spray operations.

Notifications will be placed in the following newspapers:

- Cromwell Bulletin (print and online)
- Otago Daily Times (print and online)

4.4 Stakeholder emails

Emails are sent to a comprehensive list of stakeholders, which include district and regional councils, DOC offices, community groups, relevant businesses, schools and affected individuals in advance of proposed spray dates, as well as 24-hours prior to application, on the day(s) of application and at the conclusion of application.

The information included in the email notifications includes:

- the proposed treatment dates and locations
- maps showing the proposed spraying locations
- a PDF version of the NIWA diquat fact sheet
- the diquat label recommendations for standdown times
- target weed species, application method and hazard classification of diquat
- an 0800 number that can be called during business hours if the member of the public has questions about the spray operations.

Please email biosecurity@boffamiskell.co.nz if you would like to be added to the distribution list.

4.5 Email notifications to owners of consented water takes

Identification of consented water takes is undertaken 10 days prior to application using the Otago Regional Council's surface water take information database. The owners of consented water takes that are within one kilometre of application areas will be notified via email at least seven days prior to the planned application.

The information included in the email notifications includes:

- the proposed treatment dates and location
- the diquat label recommendations for standdown times
- target weed species, application method and hazard classification of diquat
- an invitation to discuss how spraying could take place without contaminating water supplies. Mitigations may include temporarily disabling the water take or electing not to treat the proposed control site

4.6 LINZ website

Notification of spraying is published on the [LINZ website](#) giving up-to-date information on current and upcoming control at lakes and specific sites. This information includes the scheduled date of control, actual date of treatment, and if the site is safe to swim at, gather food from, and/or take water for irrigation or domestic purposes.

This LINZ website can be accessed using a scannable QR code present on warning signage.



Figure 2. An example of a scannable QR code included on warning signage that will be erected at key lake access points proximate to the application areas.

4.7 Public concerns

Should a member of the public have any concerns, they are encouraged to contact BML's 0800 number 0800 638 943 or email BML Biosecurity biosecurity@boffamiskell.co.nz. All enquires are responded to during business hours as soon as possible and logged for future reference.

Appendix 1: Proposed Lake Dunstan Control Sites and Signage Locations.



About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Whangarei, Auckland, Hamilton, Tauranga, Wellington, Nelson, Christchurch, Dunedin, and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

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