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Report 00.642

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Report to Rural Services and Wairarapa Committee
from Kevin Worsley, Senior Biosecurity Officer, Plants

Hornwort – Lake Wairarapa Wetlands – Control Proposal

1. Purpose

To seek the Committee's approval for a control option to manage the aquatic pest plant Hornwort in the Lake Wairarapa wetlands.

2. Background

Report 00.187, presented to the Committee at its March 2000 meeting, gave an overview of problems associated with the control of Hornwort in the Lake Wairarapa wetlands. The report discussed the extent of infestation, control work attempted, the success of that work, and options for further control.

The Committee agreed there was an urgent need to investigate possible control programmes for the area. Further research to determine the practicalities of the options were requested. Support for control proposals was to be sought from affected parties. A recommended option was requested to be presented to the August meeting.

A Working Group has been formed to discuss and investigate the issues. The Group consists of representatives from Wellington Regional Council, Department of Conservation, South Wairarapa District Council, South Wairarapa District Council Maori Standing Committee, Iwi, Fish and Game Council and local farmers. The Group represents landowners and others with a specific interest in the Hornwort problem.

Two meetings of this Group have been held. There is agreement that the problem is complex and a solution could be difficult to achieve. The Group, however, supports the Regional Council's initiatives to find a solution.

3. Options

The earlier report listed a range of control options. These included the use of weed matting, mechanical clearance, suction dredging and the application of herbicides

currently registered in NZ for aquatic use. For various reasons these are all found to be wanting in the Wairarapa situation.

Further trials with weed matting will occur next summer. It is likely that this method will have limited use, controlling small isolated sites in sheltered water.

The March report indicated that the National Institute for Water and Atmospheric Research (NIWA) have been trialing a herbicide currently not registered in NZ but which is showing promising results against a range of aquatic pest plants. This product, which is widely used in the United States, is known under its chemical name of Endothall and marketed as Aquathol K.

4. Endothall

NIWA currently hold an Experimental Use Permit (EUP), expiring in August 2002, to trial Endothall in NZ. The product has been available in the United States for over thirty years and is used to control a range of aquatic plant species, including Hornwort.

Endothall is a selective herbicide. Tank trials carried out by NIWA indicate that a range of native aquatic plants are not susceptible or soon recover after contact. The product is a contact herbicide and is available as a liquid or granule in the United States. The EPU only covers the liquid formulation. For submerged plants such as Hornwort, application is generally by injection into the water rather than spraying over the surface. The product breaks down rapidly after application. United States research shows most aquatic fauna are able to tolerate high concentrations.

To date, the trials carried out by NIWA on the use of Endothall to control Hornwort have been in tank situations. A range of application rates and water quality have been used with favourable results. NIWA are now prepared to focus on field trials against a range of aquatic pest species.

5. Expert Opinion

On August 1st and 2nd two scientists from NIWA, Paul Champion and Deborah Hofstra, inspected the major sites infested with Hornwort in the vicinity of Lake Wairarapa and met with members of the Working Party. Mr. Champion is an authority on aquatic weeds and Ms Hofstra is in charge of the Endothall trials.

Mr Champion had visited the area twice before, the last time some 12 months ago. At that time he was of the opinion that little could be done to control Hornwort in the major sites with available methods. He did, however, advise that NIWA were to investigate a number of herbicides not currently registered in NZ for use in water. Endothall has now become the focus of their research.

Both scientists are confident that Endothall will control Hornwort in the Lake Wairarapa wetlands. They agree that the water clarity at some of the infested sites should not be a problem as it would with other aquatic herbicides registered in NZ. Mr Champion, however, is very concerned about the potential of Hornwort to occupy the numerous drainage and irrigation systems networking throughout the Lower Valley unless some prompt action is taken.

6. Proposal

At the meeting with the Working Party, Mr Champion and Ms Hofstra proposed that a trial of Endothall should occur at some of the Lake Wairarapa Hornwort sites. These trials will require a notified resource consent. Initial work could be carried out in early February 2001 if a resource consent was obtained.

Since that meeting, further trial details have been received from Ms Hofstra. The trial is proposed to include three heavily infested areas south west of Barton's Lagoon, and one at the southern end of Matthew's Lagoon. These sites are not large, and in total would amount to an area of approximately 5000 square meters. A Rotorua contractor, using specialised equipment, would apply the herbicide. NIWA would oversee and monitor the trial, and supply all herbicide for the initial work.

If the initial trial proves successful, larger areas could be treated the following summer under NIWA's EUP. These should include Barton's Lagoon and its outlet stream, which is considered the original infestation and a major source of infestation to other areas.

7. Costs

The estimated cost of undertaking the initial trial is made up of two main elements—the resource consent process, and implementation and monitoring of the work. The estimated cost of a notified consent is up to approximately \$20,000. The actual could be higher, depending on the number of objections and whether lengthy hearings were required.

For the trial, NIWA would meet the cost of herbicide and the time spent by their staff on the project. The following are the estimated costs that would require funding by other parties:

• First assessment visit by NIWA. This has already taken place.	\$ 1,200
• Second visit to oversee application.	\$ 1,500
• Third visit. Site assessment, one month after application.	\$ 1,200
• Fourth visit. Site assessment, one year after application.	\$ 1,200
• Water sample analysis, 45 at \$200 each	\$ 9,000
• Estimated contractor charges.	\$ 4,300
• Resource consent, say	\$ <u>20,000</u>
Estimated cost of Initial Trial (excluding GST)	\$38,400

8. Funding

The Committee will be aware that Hornwort is listed as a Total Control plant in the Regional Pest Management Strategy. The Strategy makes landowners and occupiers responsible for the its removal. The Council, as the Management Agency, acts as a regulatory agency to ensure the control works meet satisfactory standards.

Hornwort presents a unique problem, as available control methods are inadequate. Council could serve Notice on affected landowners but this would serve little purpose. It is therefore essential that the trial with Endothall proceed to establish whether a satisfactory, long-term control method is available.

To date, none of the affected parties have indicated that they have funds available for the trial. The Biosecurity Departments budget does not contain funds for such trials. The only flexibility available in 2000/01 is to utilise part of the budget already approved for new biodiversity activities. Alternatively, funds for a trial could be sought at the Council's six months review. There is also the question of whether affected landowners should contribute if this trial is to proceed.

Timing is also a significant difficulty as desirably arrangements for a trial should get underway promptly. This is difficult when there is no approved source of funds.

9. Comment

If successful, the proposed trial could be extended to include other areas during the 2000-01 summer, including Barton's Lagoon outlet stream. Some maintenance control is anticipated for the initial areas.

With the Experimental Use Permit due to expire in 2002, it is imperative that as much work as possible is completed. As NIWA hold this Permit they will continue to oversee the work. NIWA intend to apply for the registration of Endothall in NZ. While they are confident of success, the process could take up to two years, extending beyond the life of the current EUP.

Assuming the success of Endothall as a NZ registered herbicide for the control of Hornwort, a method of dealing with the Wairarapa situation may finally be available. Eradication may no longer be an option but reasonable levels of control and the prevention of new infestations should be achievable.

If this opportunity is not taken or fails through opposition to the resource consent application, or lack of funding, then the status of Hornwort as a Total Control pest plant under the current RPMS will have to be reviewed. Without an effective control method for Hornwort, the maintenance of the Lake Wairarapa wetlands as a site of national significance would be seriously jeopardised.

10. Recommendation

- (1) *That the Committee approve the proposal to seek a resource consent to trial the herbicide Endothall, for the control of Hornwort in the Lake Wairarapa wetlands.*
- (2) *That the initial trial to determine whether Endothall successfully controls Hornwort be funded by the Council and NIWA because of the experimental nature of this work.*
- (3) *That funding of \$38,400 for this initial trial be sought at the Council's six months review in February. Should this not be successful, the trial would then revert to being funded from the KNE biodiversity provision in the Biosecurity Department's budget.*

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