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

Hornwort Control Trial

1. Purpose

To advise the Committee of the results of a trial to evaluate the herbicide Endothall as a control for the aquatic pest plant Hornwort.

2. Background

Hornwort is currently established through a range of lagoons, streams and wetlands associated with the northern and eastern shores of Lake Wairarapa. This submerged aquatic pest plant was first discovered in the outlet of Barton's Lagoon at Lake Reserve in 1995. It is thought that the species may have been accidentally introduced into the Lake Wairarapa area, from elsewhere in the North Island, by plant particles attached to eel nets. The Lake Wairarapa area is the only recorded site in the Region.

This species does not form roots and is loosely attached to the bed of a water body by silt build-up on the lower branches of individual plants. Particles or whole plants are easily dislodged and will float to other areas to establish new colonies. During periods of warmer water temperature Hornwort growth and spread is extremely rapid with the result that water flows in streams and drainage systems are greatly restricted.

Various methods to control Hornwort at a range of sites at Lake Wairarapa have been attempted. Herbicides currently registered in NZ for use in water do not have a satisfactory control rate on this species. The water quality in the infested area further reduces the effectiveness of these products. Mechanical clearance has been effective where minor infestations have been located, but once a site is established this method only breaks up the plants, encouraging movement to other areas. Sites cleared by drain cleaning machines are soon re-infested. The use of weed matting has shown some success but is only practical where the infestation is confined to a narrow stream or drain.

3. Endothall Trial

In January 2000, the Biosecurity Department was advised that the National Institute for Water and Atmospheric Research (NIWA) were to trial the herbicide Endothall on various aquatic plants in NZ. This product is registered in the United States where it had been available for many years. An approach was made to NIWA to trial the product on Hornwort in the Lake Wairarapa area under their Experimental Use Permit. An agreement was reached that Biosecurity would obtain and meet the cost of resource consent and fund the trial with the exception of chemical costs and NIWA staff time.

The trial, using various rates of herbicide, was laid in two drains and a small pond at Lake Reserve on the 28 March 2001. NIWA supervised the operation, which was carried out by a Rotorua contractor experienced in aquatic weed control using high-pressure gun spray application on the water surface. The cost of the trial to the Biosecurity Department, excluding staff time, was \$21,104.00.

4. Comment

The results of the trial were most satisfactory with a high level of selective control. Analysis of results indicates that application methods need to be modified where there is water movement through the control zone. This should not pose a problem as the range of Endothall formulations available will allow direct injection into the water or the use of a gel material able to adhere to plants in the moving water column.

The registration of Endothall in NZ will be necessary before the product can be available for general use. This may take up to 12 months. NIWA are currently working with the manufacturer to progress this. However, the cost of registration and the limited market for Endothall in NZ may discourage the interest of the manufacturer.

5. Recommendation

- (a) *That the report be received.*
- (b) *That the Committee note the inclusion of Hornwort in the Proposed Regional Pest Management Strategy as being subject to registration of the chemical Endothall.*

Report prepared by:

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