

Report to the Rural Services and Wairarapa Committee  
From Wayne O'Donnell, Manager, Biosecurity

## **Aquatic Pest Plants – Lake Wairarapa Wetlands**

### **1. Purpose**

To update the Committee on the aquatic pest plant situation in the Lake Wairarapa wetlands.

### **2. Background**

The aquatic plant Hornwort was identified in the Lake Wairarapa wetlands approximately 4 years ago. The plant was restricted to a small number of sites.

Over the last two years, inspections in conjunction with the YMCA Conservation Corps have identified an increasing number of new sites. A recent inspection located another aquatic invader, Lagarosiphon major, in a stream draining Donalds Reserve.

### **3. Hornwort**

#### **(a) Background**

Hornwort is considered to be one of New Zealand's most troublesome submerged aquatic plants. It has caused significant problems in the hydro-electric lakes in the Waikato.

Like many other waterplants, Hornwort has been sold as an aquarium plant. However, its potential habitat includes any sandy or muddy submerged soils between 0.4 and 15 metres in depth. Hornwort does not appear to reproduce sexually in New Zealand. Its spread is by natural water flow or by human activities such as liberalisation of aquarium contents, transfer by boats, trailers or other watercraft, fishing nets and the fyke nets used by eel fishers. Waterfowl do not appear to play any role in spreading the plant.

**(b) Lake Wairarapa Inspections**

In January 1998, Hornwort infestations were restricted to the outlet stream of Bartons Lagoon and a drain in the south-east of Mathews Lagoon. Floating mats were observed in the Lake, but it was concluded that these came from the Bartons Lagoon outlet stream.

The area was inspected by Dr Paul Champion, a NIWA scientist with expertise in aquatic plants. Dr Champion concluded that Hornwort could be expected to spread throughout the shallow lagoons surrounding the Lake, initially establishing in sheltered embayments, but eventually forming surface-reaching beds over the entire lagoon surface. Dr Champion recommended that a thorough survey be undertaken during March/April when Hornwort was most abundant.

Wildland Consultants were contracted by the Department of Conservation (DoC) to complete the survey. Hornwort was located in the Bartons Lagoon outlet stream (heavy infestation), Ruamahanga cut-off, Allsops Bay (small fragments), and a drainage channel discharging approximately 50m upstream of the Barrage Gates. Fragments of Hornwort were located on the margins of the Lake itself; adjacent to all infested outlet drains and streams.

The consultants concluded that priority should be given to attempting control in the Bartons Lagoon outlet stream and the drainage channel upstream of the Gates. These two sites were considered to be the main sources of supply.

Council staff completed further inspections in April and October 1999. The Bartons Lagoon / Lake Reserve infestation covered a 400m length. Further infestations were identified in the Oporua Floodway, Pepperills stream in Donald Reserve, and in a small backwater south of the Tauherenikau River mouth. Lagarisophon major was also identified in Pepperills Stream, with minor infestations over a one kilometre reach.

## **4. Control Options**

**(a) Chemical**

The present control options for both aquatics are limited. Chemicals currently available are in the form of a desiccant. This will only give short-term relief with several applications possibly required each season. These chemicals also have limited capabilities if soil contact occurs.

Trials are currently being undertaken on other chemicals but commercial products are unlikely to be available for at least 5 years.

**(b) Weed matting**

DoC are currently trialing this method at the Lake Reserve. In some areas this may be a suitable method but where there is considerable depth and flow it has restricted use. Significant stretches of water would need to be covered with regular shifting required. Considerable resources are necessary to apply this technique successfully.

**(c) Physical removal**

An option where only minor infestations exist. Efforts in the Bartons Lagoon outlet stream have proven to be short-lived with total reinvasion noted within a three month period. Any fragments remaining or escaping will quickly re-establish.

**(d) Mechanical removal**

A drain excavator was used in an attempt to remove Hornwort in the outlet stream. However, the plant reappeared within months. The use of the excavator has compounded the problem by widening and deepening the streambed, providing a more suitable habitat.

**5. Implications for the RPMS**

Hornwort is listed as a Total Control plant in the RPMS. Landowners are required to destroy all plants where they occur in waterbodies on their land. DoC have attempted to control Hornwort in the worst affected areas. However, it is acknowledged that current control options are inadequate for an eradication programme.

Lagarosiphon major is listed as a Regional Surveillance plant. These plants must not be propagated, distributed or offered for sale. There is no legal requirement for landowners to control these plants.

Dr Champion has recommended that priority be given to preventing further ingress of Hornwort into Mathews Lagoon, and keeping Boggy Pond Hornwort free. Remaining areas could be 'managed' by a combination of weed matting and shade plantings. It is recognised that these would be interim measures. A new chemical tool is urgently needed.

With the pending review of the RPMS, it may be appropriate to reconsider the status of Hornwort in the Lake Wairarapa environment. Downgrading to a Regional Surveillance plant should be considered until such time as sufficient resources are available to effectively control Hornwort.

**6. Communications**

A communications programme was commenced earlier this year. The programme is a joint effort with DoC. It has involved construction of signs at strategic locations around the Lake, production of an information pamphlet on

Hornwort, and a series of media articles. All known commercial eel fishers have been contacted. Regular discussions are also occurring with the Fish & Game Council.

**7. Recommendation**

*That the report be received and its contents noted.*

Report prepared by:

Approved for submission by:

Wayne O'Donnell  
Manager, Biosecurity

Colin Wright  
Divisional Manager, Wairarapa