

## 5.2. PEST MANAGEMENT STRATEGY FOR AQUATIC PESTS

*Adopted by the Northland Regional Council 26 July 2006*

### Description of Pests

#### Pest Plants

The three oxygen weeds lagarosiphon (*Lagarosiphon major*), egeria (*Egeria densa*) and hornwort (*Ceratophyllum demersum*) are all bottom rooted, submerged aquatic plants. Hornwort has stems of up to 1 metre long with finely divided leaves. *Egeria* grows up to 5 metres in length. Its leaves are arranged in groups (whorls) of 4 or 5. *Lagarosiphon* also grows up to 5 metres in length with its leaves bent backwards and arranged spirally around the stem.

Parrots feather (*Myriophyllum aquaticum*) is a bottom-rooted plant. It has blue-green feathery foliage with trailing stems of up to 6 metres in running water.

Alligator weed (*Alternanthera philoxeroides*) is a perennial emergent aquatic weed which can also grow in terrestrial situations. Its leaves are green, hairless, waxy and have a conspicuous midrib. The flowers resemble those of white clover but are smaller and each cluster is produced on a long stalk. The plant will not root in water deeper than two to three metres, however a marginal weed bed can support a floating mat of vegetation in deeper water. The plant is toxic to livestock.

#### Pest Animals

Koi carp (*Cyprinus carpio*), Rudd (*Scardinius erythrophthalmus*), tench (*Tinca tinca*) and perch (*Perca fluviatilis*) and Orfe (*Leuciscus idus*) are all members of a group of fish commonly referred to as "coarse fish".

Koi carp is an ornamental strain of the common or European carp. They commonly grow to over 5kg and 600mm in length. Colouration is variable, often multicoloured with bronze or olive on the top, ranging to pale yellow to white below.

Catfish (*Ameiurus nebulosus*) are robust fish with distinctive whisker-like barbels (feelers). They have sharp spines at the front of the pectoral and pelvic fin. In New Zealand they often grow to 30 cm and 2 kg.

Rudd is a stocky, deep bodied fish. Its back is olive, sides silver green and belly is silvery white. Rudd normally grow to about 25 cm, and about 500 g. They are highly fecund and females can produce 50,000 eggs per kilogram of body weight.

Perch are coloured olive green to grey with six or more dark vertical bands across the sides and a distinct blotch at the rear of the first dorsal fin. A distinctive feature is the bright reddish-orange colouring of the pelvic and anal fins, as well as the lower half of the tail. Perch often grow to a length of 400 mm and 2 kg in weight, but some populations can become dwarfed and are much smaller.

Tench are heavy built, thick set fish weighing up to five kilos (more commonly 1.5kg). Colour ranges from deep blackish-olive to pale golden tan, with a bright reddish eye. The body is slimy, with the small scales being covered by a thick layer of mucus. They have fleshy, downturned mouths with a small barbel on each side.

Like the other coarse fish, orfe are prolific breeders and large females may contain tens of thousands of eggs. The variety of orfe present in New Zealand is derived from ornamental pond stocks, the golden orfe, and thus they closely resemble rudd. Wild

orfe are usually greyish brown with silver bellies; the orfe's golden colouration may revert to the wild type.

## **Distribution of Pests**

### Pest Plants

*Lagarosiphon* is the most common of these plants being widespread in many rivers although absent from many lakes. *Egeria* and hornwort are less common. Parrots feather is found in many of the Region's waterways although remains absent from many of the Regions' outstanding lakes.

Alligator weed, while previously confined to the North Kaipara area, is now found throughout Northland. Infestations have also been found on islands within the Bay of Islands where it has drifted in weed mats from the Kawakawa River.

### Pest Animals

A recent NIWA survey of Northland found that Koi carp and catfish are still only found in a few places. Rudd and orfe have also been released in Northland lakes, although the status of the orfe populations is unknown. Perch and tench are known in at least one lake respectively.

## **Problems Caused**

### Pest Plants

All these plants obstruct waterways, impeding drainage, causing flooding and affecting water quality. They block water intakes and make boating, fishing and swimming very difficult. They are easily spread by diggers or on outboard motors.

### Pest Animals

They stir up sediment and prey on small native fish, fish eggs and are known to eat and compete with koura. All these species have the potential to significantly alter native freshwater communities.

## **Parties Affected**

All users of waterbodies are affected by the plant, particularly people drawing water or undertaking fishing and recreation.

## **Impacts Evaluation**

<u>Impact</u>	<u>Current</u>	<u>Potential</u>
<i>Cultural</i>	<i>Medium</i>	<i>High</i>
<i>Ecological</i>	<i>Medium</i>	<i>High</i>
<i>Human Health</i>	-	-
<i>Soil &amp; Water</i>	<i>Medium</i>	<i>High</i>
<i>Production</i>	<i>Medium</i>	<i>High</i>
<i>Public Infrastructure</i>	<i>Low</i>	<i>High</i>
<i>Public Safety</i>	<i>Low</i>	<i>Medium</i>
<i>Recreation</i>	<i>Low</i>	<i>Medium</i>
<i>Trade (International)</i>	-	-
<i>Overall Regional</i>	<i>Medium</i>	<i>High</i>

## **Need to Intervene**

### Pest Plants

The plants are currently significant pests in the Region and have the potential to become even more so. Their aggressive, invasive nature means they can seriously detract from the use and enjoyment of the Region's numerous lakes, rivers and

streams. Their establishment in the Kai Iwi Lakes and other major recreational waterbodies would have serious consequences. They also trap sediment, blocking rivers and drains, and impede flood flows in drains and rivers. Rafts of aquatic weed carried by floodwaters can cause serious damage to fences and can block bridges and culvert, causing floodwaters to overflow and damage roads. Once established, the plants are very difficult and expensive to eradicate.

### Pest Animals

These pest fish are not currently widespread throughout the region and are absent from outstanding waterbodies. However, these fish are prolific breeders and therefore the risk of an accidental spread (eg transfer of fish eggs in recreational gear) is high. The impact on native aquatic fauna and water quality would be adverse and eradication is difficult.

## **Regional Effects**

### Pest Plants

The widespread distribution, ability to further spread and rapid ability to colonise new waterbodies make them an ongoing threat to the Region. Alligator weed is seriously affecting both pastoral and arable farming.

### Pest Animals

Accidental or deliberate liberation of these fish into new habitats is a real threat to the region's waterbodies. Where large populations occur cultural, recreational and biodiversity values are impaired.

## **Goals (long-term)**

To prevent the spread of aquatic pests, particularly into lakes and rivers with high ecological, cultural and recreational values.

## **Objectives (Five Years)**

1. To implement an advocacy campaign targeting users of the water bodies and the general public of the threat from aquatic pests to the Region.
2. Implement a monitoring programme to assess prioritised lakes and other waterbodies for pest incursions.
3. To identify at-risk wetlands and rivers.
4. To control where feasible, new pest incursions.
5. To control existing manageable infestations, including by way of community pest control areas.

## **Tactics and Technical Methods to be Used**

**Education** Advice to land owners, water users, drainage contractors and other interested parties.

Community meetings and field days.

Research (biological and chemical control options).

**Service** Implementation of an annual aquatic pest surveillance/monitoring programme of high priority waterways.

Where a new incursion of an aquatic pest is discovered the Council may, if feasible, control or contain the infestation.

The Council may undertake measures on an existing infestation that

will eradicate, control, or contain some or all of the pests identified in this strategy, including providing support for community pest control areas.

Inspection of outlets selling aquatic species

#### Regulation

6.4.1.11 Control of Pest Animal Populations by Land Occupiers in Community Pest Control Areas

6.4.1.17 Prohibition on Distribution and Sale of Pest Animals

6.4.2.9 Prohibition on Distribution and Sale of Pest Plants

6.4.2.14 Total Clearance of Pest Plants within Areas Under Community Control Schemes

Failure to comply with these rules constitutes an offence under section 154 (r) of the Biosecurity Act 1993.

#### **Tactics and Technical Methods Rejected**

Economic Subsidies on herbicides (not effective).

Services Regional Council eradication service (pest too widespread).

Inspections of all boats and earthmoving equipment (not feasible, that is, random inspections only will be made).

#### **Effects of Strategy**

Beneficial Enhancement of the ecological and recreational values of waterbodies.

#### **Cost of the Strategy**

The Strategy is estimated to cost the Regional Council approximately \$60,000 each year.

#### **Funding**

The Strategy is funded from a Land Management Rate. The cost of controlling aquatic pests on individual properties will be borne by landowners except where supported under the community pest control area programme.

#### **Management agency**

Northland Regional Council is responsible for managing the Strategy

#### **Relationship of the Strategy to Other Pest Management Strategies**

The Auckland Regional Council has a similar Strategy targeting aquatic pest species.

#### **Monitoring and Reporting**

Prioritised survey of waterbodies identified as being at risk from aquatic pest invasion. Progress towards objectives set in the Strategy will be reported in the Council's Annual Plan or LTCCP as appropriate.

**Term of Strategy**

5 years

**Rules****6.4.1.11 Control of Pest Animal Populations by Land Occupiers in Community Pest Control Areas**

Where a management agency has undertaken initial control work on a property and/or supplied resources to reduce pest animal population densities to a level agreed to in a management plan for the area, the occupier of the property shall maintain the pest animals population densities to those agreed to in the management plan.

**6.4.1.17 Prohibition on Distribution and Sale of Pest Animals**

No person shall distribute to other persons or offer for sale or hold in a premises where animals are offered for sale any live pest animal, which is subject of a Northland Regional Council Pest Management Strategy, except to slaughter.

**6.4.2.9 Prohibition on Distribution and Sale of Pest Plants**

- (i) No person shall distribute to other persons or offer for sale, or hold in a premises where plants are offered for sale, any pest plant which is subject to a Northland Regional Council Pest Management Strategy or included in the National Accord List of Plants Banned from Sale and Distribution.
- (ii) No person shall distribute or offer for sale to other persons any agricultural lime, roading aggregate, sand or fill material which contains the seeds or any other vegetative material capable of propagation from a pest plant subject of a Northland Regional Council Pest Management Strategy or included in the National Accord List of Plants Banned from Sale and Distribution.
- (iii) No person shall transport or use any equipment, machinery or product which contains the seeds or any other vegetative material capable of propagation from a pest plant subject of a Pest Management Strategy or included in the National Accord List of Plants Banned from Sale and Distribution.
- (iv) No person shall plant, transplant or re-distribute any pest plant subject of a Pest Management Strategy or included in the National Accord List of Plants Banned from Sale and Distribution.

**6.4.2.14 Total Clearance of Pest Plants within Areas Under Community Control Schemes**

Where a community group is undertaking control of pest plants according to a community control programme approved by the Regional Council, the occupier or owner of a property on which the pest plants are growing shall prepare and implement a programme aimed at achieving eradication of that plant on that property.