



**PLANT ALERT:** The Marlborough District Council's environmental scientist Peter Hamill with the noxious weed Parrot's Feather that has been found at two sites in Marlborough. Photo Jess Parker.

## unwanted plant

**I**t may look like a typical pond plant but in reality Parrot's Feather is an unwanted aquatic weed that has the capability to clog Marlborough's waterways.

Parrot's Feather, which is illegal to propagate, distribute or sell, has been found at two sites in Marlborough recently and the Marlborough District Council's environmental scientist, Peter Hamill, would like to know if there is any more of the plant in the region. Parrot's Feather has been listed as a nationally unwanted organism.

Peter is calling on people who have seen the plant in waterways on their properties or any other waterways in Marlborough to contact the council so it can be removed.

Of the recent finds, the first plants were discovered in the upper Gibsons Creek area upstream of Seresin Estate Ltd and the second group of plants were found in the backyard pond of a Blenheim property.

Parrot's Feather has not been seen in Marlborough since 1990 when it was found in Fultons Creek.

The top of the leafy green plant protrudes above the water line but belies the tangled mass that dwells beneath the surface.

The plant will out-compete native water species and soon choke waterways, causing problems for drainage systems and destroying the habitat of native fish species.

It is very important that the plant be stopped from spreading any further, says Peter.

Waterways in the North Island are already congested with the weed as are some areas of the South Island's West Coast.

Parrot's Feather is of South American origin. It does not grow seeds and spreads when plant fragments break off from the main plant.

"All it takes is for one fragment to break off. The plant has a very fast growth rate and so it spreads very easily," says Peter. "We would just like anyone who has seen the plant to contact us so we can remove it so it does not spread further."



*Setting nets in the Taylor Dam*

## PEST FISH

The discovery of pest fish in the Taylor Dam was reported in the 2002/2003 Update. The presence of tench and rudd in the dam was confirmed by Department of Conservation staff. Neither of these species had previously been found in Marlborough. Their discovery was concerning, as along with other introduced species, they are threatening New Zealand's freshwater species and environments.

Rudd feed voraciously on insects, aquatic plants and other fish, competing with other species for food and damaging native fish habitat. Tench also eat a range of invertebrates, insects and small



fish and can weigh up to five kilos (more commonly 1.5kg). It is unclear how the tench and rudd came to be in the Taylor Dam but they must have been introduced either accidentally, or on purpose, given that this is not an area where these species have previously been recorded.

The Department of Conservation and Council have been working together over the last two years to eradicate rudd and tench, from the Taylor Dam. Netting over this period has removed approximately 50 fish, although none have been caught, despite intensive netting, between February 2003 and January 2004. In January 2004 the control gates on the dam were opened slightly to lower the water levels in the dam. The water levels were lowered to reduce the area of available habitat for the fish and make netting and trapping easier. Once the water had lowered to its lowest natural level, four Department of Conservation fire pumps were used to drain the remaining area of water further. Approximately 450 metres of monofilament gill nets were then set during the day and over night to determine the numbers of fish still in the dam. Netting during the day did not catch any fish, however seven were caught when the nets were set over night.

Following on from the works and pumping that have been carried out, it has been decided to use a specially designed fish poison (rotenone), to help ensure these pest fish are eradicated. A discharge permit is needed for this poison to be used, and the Department of Conservation has now lodged its application for this permit with the Council. It is expected that the poisoning work will be carried out in autumn of 2005.

*Pest fish rudd (orange) and tench have been illegally released in Taylor Dam*



## WETLANDS

Wetlands are the most productive places on Earth, providing an enormous food source for fish, birds and other animals. They absorb large amounts of water and nutrients from outside sources, and their micro-organisms (fungi and bacteria) efficiently decompose and recycle nutrients. Wetlands are also important to Maori, featuring in the history and culture of our local iwi. However, wetlands were once considered useless wastelands and often used as waste disposal sites or seen as 'potential pasture'.

Less than 2% of New Zealand's land area is now covered by wetlands, yet these areas are home to 22% of our native land bird species. Wetlands support an immense variety of animals, some of which are very rare. Most of New Zealand's wetland animals are not found anywhere else in the world. They include scaup, paradise shelducks, and giant kokopu. Many of our wetland plant species are also not found anywhere else in the world. If wetlands are drained, and these unique plant communities are lost, they will be gone forever.

The Marlborough of today is more renowned for its dry hills than its wetlands. Hot dry summers and parched landscapes come to mind when most people think of Marlborough. However, if we could turn back the clock and go back to the 1840's things would be different. Very large areas of wetlands were once found in the lowlands of Marlborough, particularly around the Blenheim area. In those days Blenheim was known as Beavertown, and travel across the Wairau Plain was an arduous journey during the winter.

The wetlands have now been almost eliminated with approximately 1% of the original freshwater wetland area remaining on the Wairau Plain. This means that each and every one of our remaining wetlands is precious and worthy of protection and restoration. In recognition of the importance of wetlands - and that conserving and restoring them benefits not only wetland species, but also many other aspects that supports our environment and way of life - the Council has recently put out a wetland restoration booklet entitled "Your Wetland".

The booklet describes the different role and type of wetlands found in Marlborough and gives a step by step guide to developing or restoring a wetland. Copies are available free of charge from the Council's offices.



## MARLBOROUGH'S WETLANDS

Marlborough has 4 main types of remaining wetlands: swamps; lakes, tarns and ponds; coastal/estuarine wetlands; and faultline associated wetlands.

**Swamps** are wetlands that have water flowing through them and have water levels that fluctuate seasonally. The water flowing through them brings silt and organic matter into the swamp making them fertile areas. Typical swamp plants include Harakeke (flax), Raupo and Purei (carex). The organic matter these plants produce encourages large populations of aquatic invertebrates including insects, water-snails, crustaceans, worms and vertebrates such as birds and fish.

**Lakes, tarns and ponds** are permanent areas of open freshwater. Open water areas with shallow margins surrounded by swamp vegetation provide ideal habitat for waterfowl. Lakes are natural areas of open water. Tarns are small lakes occupying glacially formed depressions. Ponds are man made wetlands, with the majority of the area in open water.

**Estuaries and coastal wetlands** are the most productive of all wetlands, and are especially rich in animal life. Many coastal fish, such as flounder, depend on estuaries as fish spawning grounds.

**Faultline associated wetlands** - Marlborough is notable for the earthquake faultlines that run through it, in particular the Wairau (Alpine), Awatere and Clarence Faults. Associated with these faults are a series of wetlands. The movement along these faultlines turns rock into clay. Water moving slowly through the soil cannot get past the clay and is forced to the surface where it forms a wetland upstream of the faultline.

**Other wetlands types in Marlborough** - Beach ridge wetlands around Rarangi are unique within Marlborough. They are a rare landform in New Zealand, and are not common on a global scale.

Bogs are wetlands that are only fed by rainfall and are therefore low in fertility and are acidic. Bogs are very rare in Marlborough with less than 1 hectare of bog remaining.



*Rarangi Beach ridge wetland*



*Flax is a common wetland species*



*Children in flax at Grovetown Lagoon*

*Planting by school children along the margins of the Grovetown Lagoon*



## GROVETOWN LAGOON

It is almost four years since local iwi Rangitane, Ngati Rarua and Ngati Toa approached the Council for support in restoring Grovetown Lagoon - an area deeply valued as a source of freshwater foods and the site of historic and currently used burial grounds. Today, many organisations with an interest in the Lagoon's ecological, cultural, historic and recreational values have joined together as a working group. The group is guided by a community management plan that has as its vision statement "The restoration of the Grovetown Lagoon to enhance the habitat for fish and bird life, to enable the gathering of food and to encourage recreational uses".

It is intended that by working with iwi, the Grovetown community and other interested people and groups, the outcomes of implementing the management plan will:

- make the lagoon safe, clean and friendly;
- improve the water quality;
- be visually pleasant;
- provide habitat and enhance biodiversity;
- provide a source of food;
- be a place for family recreation;
- celebrate bicultural co-operation.

Objectives for dealing with a range of issues are defined and recommendations and methods for achieving the objectives are set out in the management plan.

Several working bees have been carried out at the Lagoon during 2003 and 2004. Dozens of volunteers - from children to the elderly - have helped with weed control and planting, getting plenty of work done and having a good time too!

Old mans beard, in particular, has been targeted as a pest weed with a lot of the removal being carried out by volunteers.

The planting of native plant species has also begun. Locally sourced manuka, kanuka, kowhai, kahikatea and cabbage trees are now in the ground, with seedlings for planting next winter being grown-on at Morgans Road Nursery. Significant introduced trees including oaks - planted as a food source for ducks - silver birch, walnuts and poplars will be retained.

Early planting efforts are concentrated on the water's edge, where species have been selected to create shade and thus suppress oxygen weed.

The project is funded by the Council and the Department of Conservation. Grants have also been received from Transpower Landcare Trust and the Community Trust. People are welcome to visit the area and are invited to take part in working bees.



*Council Staff working with school children*

## **WHITEBAIT CONNECTION**

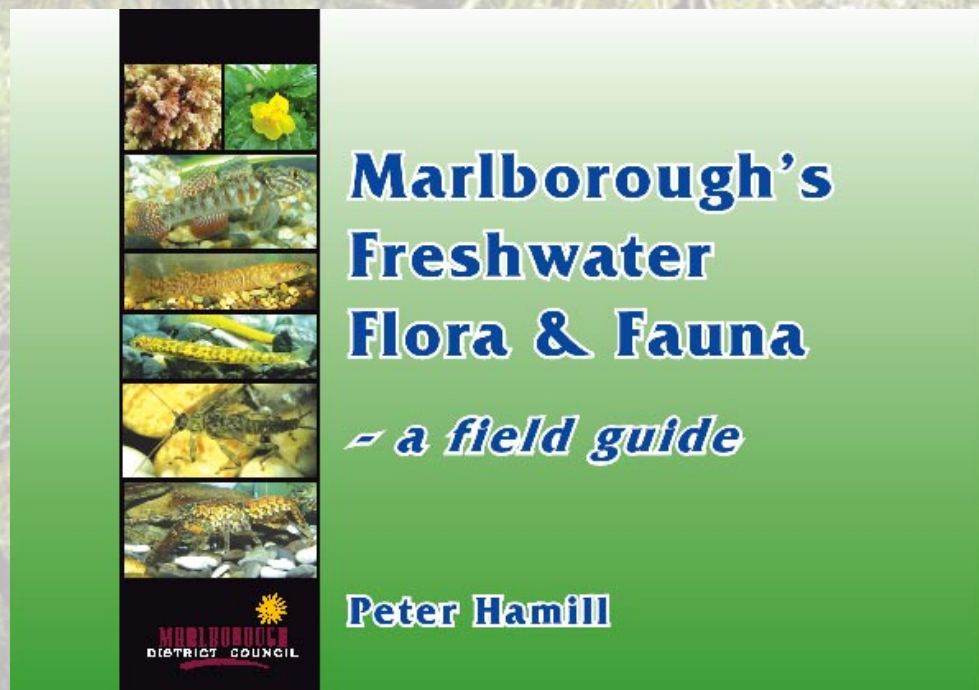
The children in our schools will one day be the adults who are making choices about the future management of our freshwater resources. To help make sure these young children become aware of how important our rivers and streams are, the Council has continued to carry out stream studies with primary school students. The Council is also working with the Department of Conservation to promote a school programme called the Whitebait Connection. The Whitebait Connection introduces primary school children, in a hands-on way, to the instream life in our waterways and how important it is to keep our waterways clean.

Part of the resource material that is used in this program is a set of laminated biodiversity cards with photos and a description of 20 of the most commonly found freshwater animals and plants in Marlborough.



The biodiversity cards have also been adopted by the Royal Society of New Zealand through its national waterways project. The Royal Society has produced one thousand sets of these cards and is distributing them to schools around New Zealand to promote an awareness of our freshwater biodiversity.

*Example of biodiversity card*



## FLORA AND FAUNA GUIDE

The Council has published a field guide on the freshwater flora and fauna of Marlborough's waterways as part of its commitment to informing the community of the special and unique biodiversity that we have in Marlborough. This guide has been developed to help the people of Marlborough become more aware of the diverse flora and fauna that is present in our waterways. For ease of use we have divided this book into three sections - Plants, Fish and Macroinvertebrates (insects and other critters).

The guide has coloured photographs and a brief description of all of the fish and the most common plants and invertebrates that are found in Marlborough's waterways. Also included are descriptions and photographs of some of the pest plants and fish that have been found in Marlborough's waterways.

The guide has been distributed free of charge to schools and is available for purchase from the Council's offices for only \$10.00.



## REFERENCES

Grovetown Lagoon Working Group. February 2003. **Te Whanau Hou Caring for the Grovetown Lagoon – A Community Management Plan.**

Marlborough District Council. September 2001. **Regional Pest Management Strategy for Marlborough.**

Marlborough District Council. April 2004. **Marlborough's Freshwater Flora & Fauna – A Field Guide.** Prepared by Peter Hamill for the Marlborough District Council.

Marlborough District Council. July 2004. **Your Wetland.** Prepared by Peter Hamill for the Marlborough District Council.

Ministry for the Environment. June 2003. **Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas.**