

# Wet & Wild

## Love New Zealand *Arohaina i a Aotearoa*

**New Zealanders are being asked to show how much they love New Zealand by celebrating Conservation Week from 11-18 September 2011.**

A major highlight of the week is **The Great Living Legends Muck-in**, a community conservation project that is coordinating 17 native tree-planting projects in different areas across the country.

Each planting project is dedicated to a 'Rugby Legend', someone who has made a significant contribution to rugby in New Zealand, and together these projects intend to plant 85,000 trees across the country.

People are also being asked to post photos that show how much they love New Zealand to this Flickr group:

<http://www.flickr.com/groups/conservationweek/>

In the Waikato, the Living Legends project will be Lake Areare - a peat lake that like other peat lakes in the much-modified Waikato landscape lacks surrounding natural vegetation. On Saturday 17 September volunteers will have an extensive area to plant with both fencing and access in place by planting day.

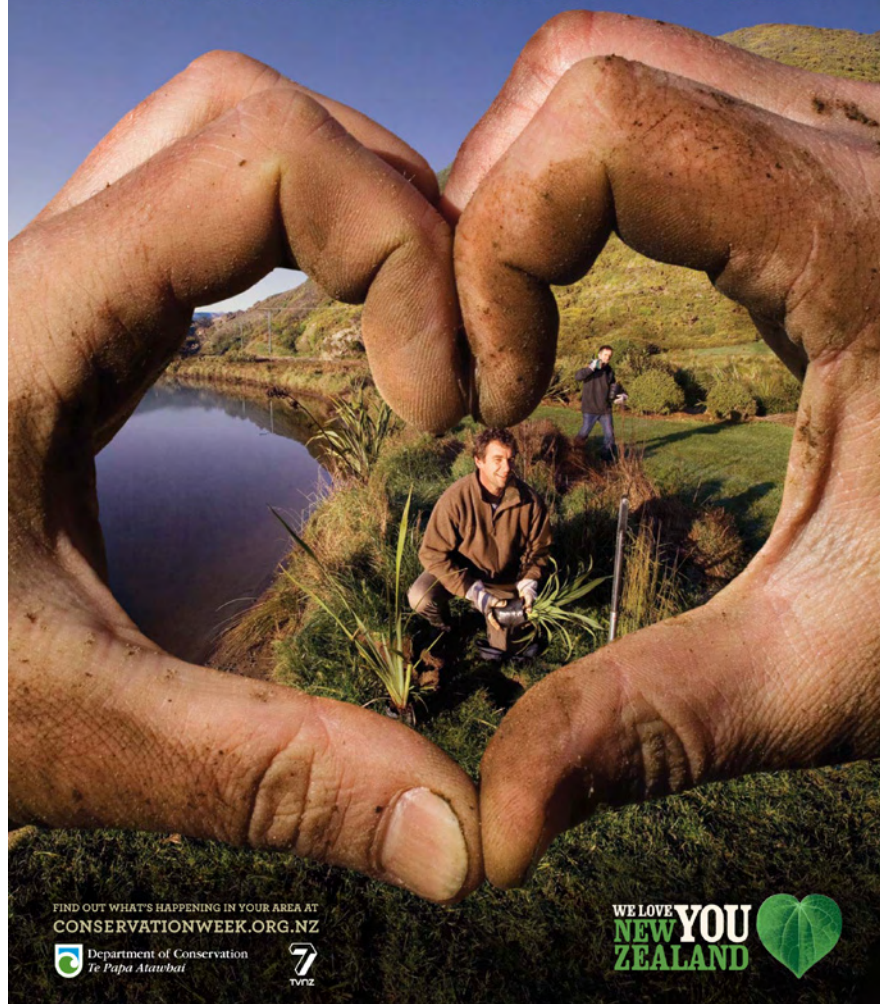
Conservation Week is a partnership between DoC and TVNZ 7.

During the week TVNZ 7 will screen a special line-up of environment-themed programming, including a half-hour episode of Meet the Locals. The DoC and TVNZ 7 co-produced TV series showcases New Zealand's wildlife, wild places and the people who look after them.

Living Legends is managed by Project Crimson and is sponsored by The Tindall Foundation, DOC and Meridian Energy.

Go to this web address to find the Living Legend event in your area: <http://www.doc.govt.nz/conservation-week-home/teachers/the-great-living-legends-muck-in/>

## SHOW YOUR NATURAL AFFECTION FOR NZ CONSERVATION WEEK 11-18 SEPT



### Target 40 Campaign

2011 is the 40th anniversary of the Ramsar Convention on internationally significant wetlands. To celebrate DoC and the NWT are jointly producing a booklet on 40 NZ wetlands to visit – hopefully launched late this year. **Let us know about your favourite wetland, and send us photos to help promote it.**

We are also joining forces with DOC to develop a kit on running a wetland-themed challenge – based on the NWT's **Target 40 Challenge** held at Serpentine last February. We'll package our ideas, along with new ideas, for teachers, community groups and agencies who want to hold their own version of this hands-on/ site based learning event. We hope to test our programme on attendees of the NZ Association of Environmental Educators Conference in Hamilton next January.

**Wet & Wild** is the National Wetland Trust's quarterly publication.

We welcome contributions, published at the editor's discretion. Please email to: [shonagh.lindsay@xtra.co.nz](mailto:shonagh.lindsay@xtra.co.nz)

Each issue is available on: [www.wetlandtrust.org.nz](http://www.wetlandtrust.org.nz) within two months of publication, where they can be downloaded as pdfs.

A grateful thanks to Mighty River Power for sponsoring the National Wetland Trust newsletter.





# NWT News

## Taste of Nature: Wetland cuisine and AGM at the lake on Sept 6th

The 2011 National Wetland Trust AGM is at the Don Rowlands Centre, Mighty River Domain (off Maungatautari Road, 10 km south of Cambridge). The AGM will be followed by a formal wetland-themed dinner of duck, salmon, watercress, cranberries and more, carefully prepared by Cambridge caterers, Gourmet Delicious.



**Photo: Komodo Dragons by Rod Morris**

After-dinner speaker Rod Morris, renowned wildlife photographer and filmmaker, will share his experiences filming wild komodo dragons for the Discovery Channel, and remind us that monsters of a similar size once lived in the Waikato wetlands.

Our largest freshwater fish, the taniwha of the rivers, and our tallest tree, are both now under threat as a result of wetland loss and modification - a trend the National Wetland Trust aims to help reverse by promotional event such as this. Invites have been sent to all members.

## Free wetland interpretation signs

A reminder that we have a range of wetland type interpretation panels that anyone is welcome to use for their sites.

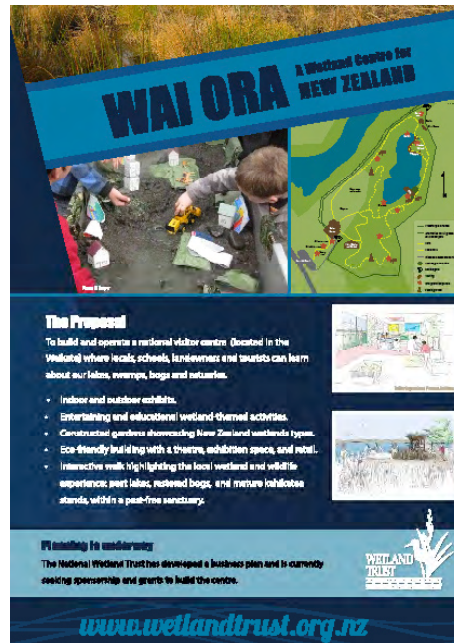
The signs provide generic information on four wetland types: kahikatea swamp forest, peat lakes, restiad bogs, and lowland swamps. With stunning photos and snappy titles they are designed to be used to enhance visitor enjoyment at any of these wetland type sites.

The hard work has been done, you just need to fund the sign-making and installation. Modifications can be made to text/ logos, etc to suit your situation.

## Wetland Restoration Symposium: 21-23 March 2012

Don't forget to put this event in your diary. See our website for more details.

## Posters explain the NWC vision



We also have a series of posters to promote the National Wetland Centre. We'd love to have your help installing these in public places to promote the concept. Download them from the Wetland Centre page on our website: [www.wetlandtrust.org.nz/centre.html](http://www.wetlandtrust.org.nz/centre.html) or contact us and we'll send out a set.

## Strap line for the Trust

We need a strap line for our logo that tells people what our organisation is all about - and we're looking to you, our members, for inspiration. Remember our main focus is advocacy and education to encourage and inspire New Zealanders to appreciate and care for wetlands, and to facilitate safe access to wetland areas.

Send us your suggestion, or vote for these options:

- \* Working for wetlands
- \* Getting Kiwis into wetlands
- \* Treasuring NZ's wetlands
- \* Appreciating wetlands
- \* Wild about wetlands

Some of these have a double meaning, e.g. getting Kiwis into wetlands means physically (via wetland trails) and figuratively, while 'appreciating wetlands' can mean both valuing them and enhancing their value (e.g. restoring them).

Send your ideas to [karen.denyer@wetlandtrust.org.nz](mailto:karen.denyer@wetlandtrust.org.nz).

The best idea will win a copy of our Ramsar wetlands book: *Our wet and wild places*.

## National Wetland Centre update

The Waikato Regional Council has stepped aboard to help us build the National Wetland Centre. The council has granted us three years of funding (at \$40,000 per year) to cover project management, planning and contribute towards facilities development. That's a fantastic show of support.

As with any NWT endeavours, we'd love to have our members help out. If you are interested in being part of this exciting venture, even just a couple of hours per month, please let us know. We need volunteers with all sorts of skills: marketing, building, fundraising, seed collection/propagation, artistic skills, education, planning etc.

## Tamahere Community Nursery to help out

To showcase wetlands from around New Zealand our Wetland Centre aims to have a series of wetland 'gardens' representing estuarine wetlands, braided river, alpine tarn and geothermal wetland. To help us out, the Tamahere Community Nursery, between Hamilton and Cambridge, has agreed to grow native plants for us. If you are keen to help collect seed and propagate plants let us know.

## Running a wetland event?

Remember to send us details and we'll promote it free on our events page and newsletter. Check out the events page to find out about training days, conferences, planting days, field trips and other wetland related happenings.

## Follow us on Facebook

The National Wetland Trust has a Facebook Page. See what others think about wetlands and wetland issues, and link to our Facebook page to spread the word about wetlands.

## Want to increase your web profile?

Our Links page has a range of useful wetland related links. If your website isn't there, let's talk. Contact [karen.denyer@wetlandtrust.org.nz](mailto:karen.denyer@wetlandtrust.org.nz)

## Visiting wetlands

We recently completed our latest region of wetlands to visit, thanks to help from the Northland Regional Council. Northland has many stunning sites from huge harbours with blinding white sand to other-worldly gumlands and crystal clear dune lakes.

Put it on your itinerary! Check out our directory on-line: [www.wetlandtrust.org.nz/directory\\_nthland.html](http://www.wetlandtrust.org.nz/directory_nthland.html)

Let us know about wetlands near you that



have public access and we'll add them to our directory. We are still looking for sponsors to complete other regions including: Bay of Plenty, Taranaki, Southland, Canterbury, West Coast, Otago, Manawatu, Gisborne and Hawkes Bay.

### Southland Wetland Trail

Gay Munroe, and her colleagues in the Southland Wetlands Working Party, have been working on a wetland heritage trail for Southland, taking in some amazing locations. Mazda Foundation has given us a grant to get this project underway. We hope to launch the trail at the next wetland restoration symposium.



**MAZDA  
FOUNDATION**

*The Mazda Foundation has granted us funds to develop the Southland Wetland Trail - thanks Mazda!*

### Win a copy of 'Wetland Restoration'

Please help us improve wetland restoration science by telling us about wetland restoration projects you are aware of, or involved in.

Send us a completed spreadsheet by 29 October 2011 and you'll go in the draw for a copy of the excellent *Wetland Restoration Handbook*.

Dr Bev Clarkson (Landcare Research), Monica Peters (NZ Landcare Trust) and Karen Denyer (National Wetland Trust) are compiling a dataset of freshwater wetland restoration projects across New Zealand.

We need to know the total area and number of freshwater wetlands that were being actively restored as of 1 October 2009. This is for a Foundation for Research, Science and Technology project titled: *Restoring wetland ecosystem functioning*, which includes this objective:

"By 2016 there is a 15% increase over 2009 in the number and areal extent of wetlands being restored by wetland landowners and managers (DOC, local authorities, iwi, conservation groups, and wider wetland community. And this results from:

- guidelines for allowable water abstraction and nutrient influxes;
- techniques to measure restoration efforts;
- improved indicators for measuring ecological and cultural integrity of wetland ecosystems.

See our **Latest Updates** page to download the spreadsheet and information on how to complete it: [www.wetlandtrust.org.nz/latestupdates.html](http://www.wetlandtrust.org.nz/latestupdates.html)



*The Awarua Waituna walkway is one of the places you will be able to enjoy on the Southland Wetland Trail, photograph provided by Sally Chesterfield, DoC*

## World Wetlands Day 2012 NWT Field Trip



World Wetlands Day is celebrated internationally each year on 2 February. It marks the anniversary of the signing of the Convention on Wetlands of International Importance (Ramsar Convention) in Ramsar, Iran, on 2 February 1971.

World Wetlands Day was first celebrated in 1997. Since then government agencies, non-government organisations and community groups have celebrated World Wetlands Day by undertaking actions to raise public awareness of wetland values and benefits and promote the conservation and wise use of wetlands.

The National Wetland Trust of New Zealand has celebrated World Wetlands Day since 2000 and its bus tours to out-of-the-way wetlands around the Waikato have been enjoyed by hundreds of people. The theme, set by the Ramsar Bureau, for WWD 2012 is Wetlands and Tourism, and we will be organising a tour of Kawhia and Raglan wetlands on Saturday 5 February 2012. Keep an eye on the NWT website for further details.

### *It's time to start planning your February 2012.*

Start thinking about the 2012 theme – Wetlands and Tourism – by considering promoting and/or opening wetland trails, activities at existing wetland centres, guided walks, boat trips and other ways to get people into wetlands. Keep an eye on our website for theme updates and support material from the Ramsar Secretariat.:

[www.wetlandtrust.org.nz/wwday.html](http://www.wetlandtrust.org.nz/wwday.html)





# Freshwater NPS workshop

*The Ministry for the Environment recently ran public workshops on the National Policy Statement (NPS) for Freshwater Management, which came into effect on 1 July 2011.*

The Freshwater NPS is part of the Fresh Start for Fresh Water package of reforms announced by the Government in May 2011. It came out of the Land & Water Forum, a diverse group of primary industry representatives, environmental and recreational NGOs and iwi along with a range of other organisations interested in freshwater and land management. The Forum had 53 recommendations based upon these principles: **More national direction; Limits on the resource; Good management practice; Efficient allocation and Transferable water permits**

As outlined at the workshops, the NPS takes the approach of using integrated land and catchment management alongside economic instruments. Not surprisingly, given that the workshop was well attended by resource management practitioners, one of the key questions was how the NPS would fit into the Resource Management Act? In short, it is a tool to give guidance to the RMA, and so is expected to set objectives and policies for nationally significant matters, and give effect to regional and district level planning. It will also be reviewed in five years after it comes into force. The NPS expects councils to take a proactive approach to both safeguard and maintain or improve overall water quality in a region. So both outstanding water bodies and wetlands must be protected.

Although the NPS sets these broad objectives, which follow, councils are also expected to work closely with local iwi and communities to develop 'broad values-based narratives before focusing these down to actual standards': **Safeguard ecosystems and indigenous species; Reduce and avoid over-allocation; Improve and maximise efficient water allocation and use; and Protect wetlands.**

In terms of tangata whenua roles and interests, the NPS expects councils to build a relationship with iwi that suits local contexts, with the key words being: *reasonable steps, work with, involve and reflect.*

By providing additional certainty around freshwater impacts, the NPS should create greater efficiency in the consenting process, while at the same time avoiding the 'salam' approach where a lot of small water uptakes and effects ramp up to being too much. Councils will have to establish rules and methods to avoid over-allocation, including all permitted as well as consenting activities, and reduce all existing over-allocation within defined time frames by using regulatory and non-regulatory methods. In addition, the NPS stresses the importance of the relationship between land use management and infrastructure, as well as the need for regional councils and territorial authorities to work together.

Local government authorities are expected to have fully implemented the NPS into district and regional plans by December 2030 at the latest. But there will

also be a formal implementation programme for any councils that have not achieved these steps by 2014: identified a critical path and actions, and formally adopted and publicly notified these by January 2013.

However, the Green Party go further with the following plan to clean up our rivers and lakes:

- 1. Implement clear, robust standards for clean water** that set limits to the amount of water being taken from rivers and lakes, and the amount of pollution going into them. This will include a minimum standard for intensive agricultural practice, which is one of the main causes of our current water quality decline.

- 2. Introduce a fair charge for irrigation water through creating incentives** for the efficient use of water by putting a fair price on its commercial use. This will help stop over-use of our precious water resources. A charge of 10 cents per 1,000 litres would raise \$370-570 million dollars per year of which we would use \$138 million to fund river clean-up projects by farmers and councils.

- 3. Support water clean-up initiatives by providing financial assistance** to farmers and councils to help them clean up our waterways. This will create jobs that help the environment by funding people to work with farmers to fence and plant their streams to keep stock and pollution out of rivers. In addition, by providing financial assistance to councils to upgrade their sewage treatment plants so that wastewater no longer pollutes our rivers. **Shonagh Lindsay, NWT Trustee**



[www.weedbusters.org.nz](http://www.weedbusters.org.nz)

## *Lonicera japonica* **Japanese honeysuckle**

This vigorous, evergreen climber vine from Asia first established in the wild in New Zealand as early as 1926. Most of us will know it by its pretty flowers and lovely fragrance, but when it spreads into the wrong places it wreaks havoc and has been likened to old man's beard (*Clematis vitalba*) for the devastation it can cause. Japanese honeysuckle has been banned from sale, distribution and propagation in New Zealand for quite a few years, but there is still plenty of it about.

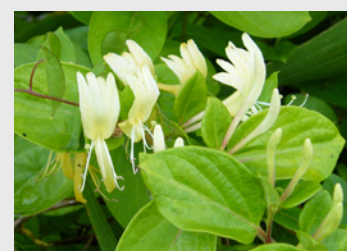
Stems are tough and wiry, and twine clockwise. They are purplish and hairy when young, and turn woody as they mature. Leaves (3-12 x 2-6 cm) are in opposite pairs on the stems, are

shiny dark green (occasionally yellowish) on the top and lighter green underneath, and are wavy-edged to lobed when produced in cold climates, otherwise they are entire. Pairs of 2-lipped, sweetly scented tubular white flowers (2-5 cm long) that age to yellow are produced from September to May, and are followed by egg-shaped, glossy black berries (5-7 mm diameter) in cold climates, each containing seeds (2mm).

Japanese honeysuckle will climb over and smother anything in its path, and can even cause the collapse of the forest canopy. It can grow 15 m in a year and is mostly a problem in small patches of bush, and around the edges of forest and wetlands. For example, on the East Coast, 890 kg of mostly Japanese honeysuckle was removed from a tiny reserve (less than 2ha). It tolerates moderate-shade, frost, salt, damage, wet or dry, most soil types, and high to low temperatures, so there are not many places it won't grow! It also lives a very long time. Although it doesn't seed much in the warmer parts of New Zealand, it forms very long stems that take root when they touch the ground – so it layers prolifically and is spread easily by stem fragments.

Japanese honeysuckle is hard to kill because it forms such dense masses of vegetation. Small sites can be dug out, but be sure not to leave stems and roots where they can resprout. The stems can be cut and stumps painted with a suitable herbicide within 10-15 minutes of cutting, or it can be overall sprayed, but this can be problematic if it is growing over desirable vegetation. For full control information, check out:

[www.weedbusters.co.nz](http://www.weedbusters.co.nz)





# Waimate wetland covenants protects important values

***Around 100 ha of freshwater wetland habitat bordering Wainono Lagoon near Waimate in South Canterbury was formally registered as a QEII covenant this year.***

This wetland is owned by David Johnstone and has been in the family for over 70 years. David farms organically and runs a Romney stud. He is well known in the district for his low input method of farming, and is a great believer in looking after the soil by having low stocking rates and a large variety of grasses in his paddocks. Legal protection of the wetlands further extends these practices to enhance the health of his land.

The covenanted area is highly representative of the original wetland ecosystems that were once extensive throughout the region before drainage and pasture development; the wetlands surrounding Wainono Lagoon are significant because they represent approximately a quarter of all saline/estuarine wetland areas remaining in South Canterbury.

It is the only extensive wetland between Christchurch and Dunedin, and forms an important habitat for some 57 different bird species, many resident, and others migratory. The area has high conservation, recreation, fisheries and wildlife values. For takata whenua Wainono Lagoon has practical and spiritual



**Photograph: White heron at Wainono, QEII Trust**

importance with its wahi tapu, wai toanga and mahinga kai values. High numbers of waterfowl can be seen here; lucky bird watchers have even spotted the beautiful white heron (*Egretta alba*).

QEII, DOC, and ECan (Environment Canterbury) have supported David to establish his covenant with rates rebates and funding support for fencing. ECan will greatly aid restoration efforts by funding a five-year-control programme to

tackle a 20-ha willow infestation, blackberry and the invasive salt tolerant reed canary grass, which threaten to smother the wetlands.

An existing covenant owned by Central South Island Fish and Game protects 180 ha of contiguous habitat to the south of Wainono Lagoon. With the addition of David's covenant, large areas of wetland at the lagoon's northern and southern ends are now protected.

**Anne McLean, QEII National Trust**

## Facebook campaign to restore wetlands in Christchurch

***Many people right now are mourning the loss of their much-loved homes in Christchurch's residential red zone.***

The loss is dreadfully sad, but we also have a once-in-a-lifetime opportunity to create a magnificent place for Christchurch; a place where Christchurch comes to terms with and revels in her environment, rather than trying to fight it; a magnificent park in which the wetlands and natural river environments are restored and celebrated, where wildlife can return and flourish, and people can really enjoy the natural beauty of this place.

Imagine a park running the length of the red zone, with river walks, bird sanctuaries, BMX and horse-riding tracks, sports fields, picnic grounds, natural swamps and marshes with estuarine near the Estuary, and changing native flora as it goes further inland and the geography changes. A park that returns a bit of Christchurch to what it was like, and what it can be.



Imagine what that will do for the return of wildlife to urban Christchurch, imagine how it will add real quality of life for the people. Having grown up in the suburb of Bexley during the 1960s and 70s – when much of the wetland was a dump, in disrepair, littered with rubbish and rusting car bodies – I saw the remarkable transformation in environment and wildlife once the restoration of those wetlands began. My parents' home just across from the Avon became a bird-watcher's paradise.

Now here is a chance for Christchurch to achieve that transformation again - on a much, much bigger scale. People who live in Christchurch, and who love Christchurch, have an opportunity to let the Government, and Council, know that out of this disaster they want something truly magnificent to be built – an Avon River Park (perhaps with a much more melodic Maori name) that turns the red zone into a thing of beauty – reconnecting the broken city with the river that is at its heart.

It could bring wildlife back into urban areas, and create an asset that sets Christchurch apart as a city at peace with its environment.

If you have the same vision, and want to turn it into reality, *like* this page, spread the news, and get discussing how to make this happen.

**Sourced: Avon River Facebook Page:**

**<http://www.facebook.com/AvonRiverPark>**





# Arawai Kākāriki - progress and future directions

It is four years since the establishment of the Arawai Kākāriki ('Green Waterway') Wetland Restoration Programme. Over this period there has been significant investment by the Department of Conservation at the Whangamarino wetland, O Tu Wharekai (Ashburton basin and upper Rangitata River) and Awarua/Waituna.

## Implementation 2007-2010 - where did we invest our resources?

The recently completed *Arawai Kākāriki Wetland Restoration Programme 2007-2010 – Implementation Report* provides a comprehensive overview of the restoration, community engagement, monitoring and research projects that we undertook during the initial three years of the programme. The report will soon be available on the DOC website [doc.govt.nz/conservation/land-and-freshwater/wetlands/](http://doc.govt.nz/conservation/land-and-freshwater/wetlands/).

It provides the first synthesis of our work to date and, using a defined set of indicators, describes progress and investment at each site – with a focus on the three core aspects of Arawai Kākāriki: Biodiversity, Community and Learning. Examples of our achievements are listed below.

## Biodiversity

- \* Over 15,000 ha of weed control and weed surveillance across the three sites focusing on Spanish heath, Crack willow, Grey willow and Broom.
- \* 27 km of boundary fencing across the three sites to reduce stock damage to wetlands, and 55 km of riparian fencing to reduce sediment and nutrient input.
- \* 19,000 ha of annual deer surveillance with 16 deer culled;
- \* Use of fire to promote regeneration of the threatened orchid *Anzybas carsei*;
- \* Major upgrade of the Whangamarino weir to restore minimum water levels;
- \* Establishment of hydrological (water level) monitoring at key sites;
- \* Working with regional councils on water quality management initiatives, such as monitoring the health of the Waituna Lagoon Ramsar site.

## Community

- \* Installing six new recreation facilities for the public, including wetland viewing shelters, boat



**Over 27 km of boundary fencing has been installed across the three sites, with a significant amount of this at the Whangamarino wetland (shown here).**

ramps, and walking tracks.

- \* Promotion of wetland values through more than 30 organised public events.
- \* Publication of newsletters to keep communities up to date.
- \* Liaison with iwi on wetland values and cultural assessments such as the O Tu Wharekai State of the Takiwa.
- \* Establishment of a community Advisory Group for Awarua-Waituna (AWAG) to promote sustainable land use.

## Learning

- \* Development of methods to monitor wetland birds, mammalian predators, and wetland vegetation (Monitoring Tool Kit).
- \* Assessment of the vulnerability of Waituna Lagoon to increased nutrients and lagoon opening events.
- \* Research on the population dynamics of wetland birds (e.g. Australasian Bittern) and the mammalian predators that threaten them.
- \* Co-funding of university research projects –



four postgraduate students, examining wetland hydrology, palaeoecology and bird ecology.

Of the more than 27 km of boundary fencing installed across the three sites, a significant amount of this was at the Whangamarino wetland (see page 6).



**Image above:** Colin O'Donnell trialling automatic recorders for monitoring cryptic wetland birds such as Australasian Bittern. A key goal of Arawai Kākāriki is to develop new monitoring methods for use across NZ.

### Site Outcomes – are we making a difference?

The Arawai Kākāriki team is now preparing Site Outcome Reports. These will describe the ecological condition of Whangamarino, O Tu Wharekai and Awarua/Waituna as recorded from our wetland monitoring, and detail the project's effectiveness in promoting recreation and engaging with community.

A range of technical reports and publications have also been completed (see examples below) that describe the ecology of our wetlands and are likely to be applicable to other systems – an example of the 'learning' focus of Arawai Kākāriki.

### Looking forward

Over the next two to three years our priority is to continue to implement on-ground actions to restore the unique values of the sites, which represent three of New Zealand's most important wetland areas. This will include tackling significant challenges, such as mitigating impacts associated with poor water quality. Other priorities are to share our tools for wetland monitoring, and to continue to build partnerships with community, iwi and stakeholders.

### Selected reports and publications

Robertson, H. and Suggate, R. (2011) *Arawai Kakariki Wetland Restoration Programme 2007-2010. I. Implementation Report*. Department of Conservation. Christchurch.

Atkinson, E. (2008) *What's lurking in the Waituna wetlands? A freshwater fish survey - Arawai Kakariki Project*. Southland Conservancy Office, Department of Conservation.

Blyth, J.M. (2011) *Eco-hydrological characterisation of the Whangamarino Wetland*. Thesis submitted in partial fulfilment of Masters of Science in Earth Sciences, The University of Waikato, Hamilton, 207pp.

Cosgrove, S. (2011). *Anthropogenic impacts on Waituna Lagoon: Reconstructing the environmental history*. A dissertation submitted

in partial fulfilment of the requirements for a Master of Science, University of Otago, Dunedin, New Zealand.

Bodmin, K.A. and Champion, P.D. (2010). *Response of Whangamarino Wetland vegetation to the willow control programme*. NIWA Report: HAM2010-010 prepared for Waikato Conservancy Office, Department of Conservation, National Institute of Water & Atmospheric Research Ltd, Hamilton.

de Winton, M. (2008). *LakeSPI assessments for the lakes of the Ashburton River Basin*. NIWA Report: HAM2008-017 prepared for the Department of Conservation, National Institute of Water & Atmospheric Research Ltd, Hamilton.

Ledgard, G. (2011). *Donatia novae-zelandiae in the Awarua-Waituna wetland complex: current research, results and future management considerations*. Southland Conservancy Office, Department of Conservation.

O'Donnell, C. (in press) *Breeding of the Australasian Bittern (Botaurus poeciloptilus) in New Zealand*. Emu.

Stevens, L. and Robertson, B. (2010) *Waituna Lagoon 2010: Macrophyte (Ruppia) monitoring*. Prepared for Department of Conservation, Wriggle Coastal Management, Nelson.

Wildland Consultants (2009) *Whangamarino threatened plant surveys 2008-2009*. Report No. 2090 prepared for the Department of Conservation, Wildland Consultants, Rotorua.

**By Hugh Robertson, Scientific Officer (Wetlands), Research & Development, DOC.**  
harobertson@doc.govt.nz

## Marie Neverman Wetland Reserve, South Kaipara Head

**Earlier this year the NZ Native Forests Restoration Trust's Marie Neverman Reserve was extended by the acquisition of 113 ha of coastal wetland bordering the Kaipara Harbour, south of Shelly Beach.**

This forms a major addition to the Trust's earlier purchase of 22 ha to create the nucleus of the reserve at Tupare. The principal lake (formerly Leighton's dam) was surveyed in April as part of the Ornithological Society's annual survey of the South Kaipara Peninsula.

Waterbirds seen there included 15 dabchicks, 42 grey teal, 17 NZ shoveler and a few scaup, however the chosen day struck bad weather with poor visibility which made counting difficult (the post-count



sausage-sizzle and warm up provided by the South Kaipara Landcare group was particularly welcome). Shallow patches of open water in the new part of the reserve have attracted pairs of NZ dabchicks, and grey teal in considerable numbers. Royal spoonbills and bittern have been seen, and a flock of up to 50 pied stilts is often present.

Restoration work over the past months includes regular trapping of predators around the lake, and has also focussed on elimination of pampas to protect the groves of kowhai and ngaio that are developing well in the slightly elevated gallery areas of the wetland.

Tree planting during the winter period aims to reinforce native vegetation in the reserve, especially along the escarpment which harbours a nesting colony of pied and little shags. Hydrological studies are being commissioned as part of the Trust's management plan for the property.

**Michael Taylor, NZ Native Forests Restoration Trust**

taylor.mjk@xtra.co.nz



# Wetlands scientists meet in Prague, Czech Republic

*Exchanging new ideas on wetland research and conservation, whether they relate to threatened species management, reducing environmental impacts or evaluating ecosystem services, is essential to refine our approaches to protecting and restoring wetlands.*

New scientific advances can help to address the decline in wetland health being observed internationally. As wetland conservation issues are often very similar across Australasia, Europe, Asia, Africa and other regions of the world, sharing our knowledge and experiences also helps us to learn from others' mistakes and successes.

The Society of Wetland Scientists (SWS) was established in 1980 to provide a forum for wetland researchers, students and managers to interact. It has since expanded to be the largest society with a wetland science focus.

The 2011 annual meeting of the SWS was held in Prague on 3-8 July, in association with WETPOL (Wetland Pollutant Dynamics and Control) and The Wetland Biogeochemistry Symposium. Hugh Robertson (DOC), Bev Clarkson and Jake Overton (Landcare Research) and Brian Sorrell (currently with Aarhus University, Denmark) made up the kiwi contingent.

## New Zealand research papers

We each presented papers describing research on NZ wetlands - sharing the insights we have gained on the ecological function, vulnerability and conservation of our southern hemisphere systems.

The papers were associated with both the MSI Restoring Wetlands programmes, led by Landcare Research and NIWA, and the DOC Arawai Kakariki wetland restoration programme. Specific papers were:

H. Robertson - *Restoring three of New Zealand's foremost wetlands: ecosystem conservation amid ecological uncertainty;*

B. Clarkson - *Litter decomposition in peatlands, Waikato, New Zealand;*

J. Overton - *Physical drivers of wetland plant species composition in New Zealand;*

B. Sorrell - *It's time to set some standards: environmental classification of freshwater wetlands and their protection from eutrophication;*

T. Moore & B. Clarkson - *Nitrogen and  $\delta^{15}N$  in Sphagnum from New Zealand and elsewhere.*



## Field trips

The field trips were a highlight of the meeting, with the opportunity to get out and experience wetland restoration projects. One trip was to the Sumava National Park where the Soumarský Most blanket bog of 90 ha is under active restoration following a long history of peat harvest and drainage. The local Czech authorities have successfully installed barriers on drainage ditches to increase water tables, and applied mulch to the peat soil surface to promote growth of vascular plants and mosses. It has resulted in over 50% of the mined surface being colonised with characteristic bog vegetation (see photo above). The wetland managers expect that it will take at least 15 years for successful regeneration across the Soumarský Most wetlands.

## SWS Australasian Chapter

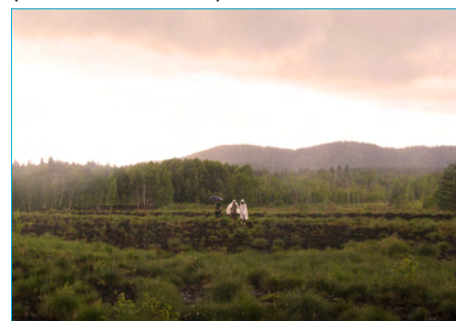
Although not well known, there is an Australasian Chapter of SWS that represents the Australian and New Zealand members. The aim of this chapter is to share knowledge and information in our part of the world, and seek opportunities for collaboration. In future a newsletter will be distributed to promote current research and events. We participated in the Australasian Chapter meeting while at the conference in Prague. This provided an opportunity to promote local events such as the National Wetland Symposium and we invited our Australian colleagues to join us there next year in Invercargill. <http://www.wetlandtrust.org.nz/symposia.html>

## Next meeting in 2012

The next SWS meeting will be held June 2012 in Orlando, Florida in conjunction with the international INTECOL Wetlands conference <http://conference.ifas.ufl.edu/INTECOL/>. These meetings are also rewarding for post-graduate students, and there is often financial support for students to attend.

If you are interested in learning more about the Society for Wetland Scientists visit [www.sws.org](http://www.sws.org) or contact Hugh Robertson (SWS Australasian Section contact) on [harobertson@doc.govt.nz](mailto:harobertson@doc.govt.nz)

**Hugh Robertson (DOC) and Bev Clarkson (Landcare Research)**



**Photographs: Hugh Robertson visiting the Soumarský Most blanket bog in Sumava National Park, Czech Republic.**

**The Soumarský Most wetland, which was previously drained and had more than 1m of top (peat) soil removed, is under active restoration. Our field trip also encountered some unexpected thunder storms.**



# Wetlands to Visit - Ambury Regional Park, South Auckland

*The Manukau Harbour supports over 85 bird species, and up to 50,000 waders in season. These include bar-tailed godwit, red knot, white heron, royal spoonbill, black stilt, the threatened wrybill and Northern NZ dotterel – with Ambury Regional Park a great place to see them.*

Sandwiched between the nation's busiest airport and largest city, the harbour is the site of an 'extreme wetland make-over'. For a change, a reclamation has been just that! Land previously annexed for human use, has been reclaimed and returned to its original owner – the harbour.

Until recently, a section of the harbour adjacent to Ambury Regional Park was occupied by 500 hectares of oxidation

ponds. In 2005 the old ponds were replaced by a state of the art treatment station, and the harbour foreshore was returned to the birds.

Led and funded by Watercare, the restoration involved planting over 300,000 eco-sourced natives, and installing 13 km of walking tracks, bird hides, artificial high tide roost sites, boardwalks and interpretation signs.

The Regional Park has a bird hide, camping, walks, picnic facilities, and the start of a seven km coastal walk to historic Otutau Stonefields and Ihumatao fossil forest. It is also a working farm where visitors can mingle with friendly livestock or enjoy the free BBQ facilities.

See more at: [www.wetlandtrust.org.nz/directory\\_auck.html](http://www.wetlandtrust.org.nz/directory_auck.html)



## Mucking in for black mudfish



**A new brochure focusing on the unique black mudfish has been produced by DOC (with the help of the National Wetland Trust) as part of the Arawai Kākāriki wetland restoration programme.**

Five species of mudfish are found in New Zealand. Waikato, along with Auckland and Northland, is home to the black mudfish, *Neochanna diversus*, found nowhere else in the world.

Haven't heard of mudfish? Not surprising. These small, reclusive fish have leathery, scale-free skin and hide out under logs during the day. Coloured black or speckled brown, black mudfish are hard to spot even when you

know what you're looking for. Māori named these interesting creatures waikaka, meaning cunning in water. This reflects their clever ability to bury themselves into moist mud or under logs to survive dry periods.

The Whangamarino Wetland, one of three sites included in the national Arawai Kākāriki wetland restoration programme, plays a critical role in the survival of black mudfish. Currently considered 'at risk', the species are buffered from falling into a more critical state by the presence of large populations present within two Ramsar sites protected as public conservation land: the Whangamarino Wetland and the Koputai Peat Dome.



Mudfish are becoming increasingly threatened by habitat loss, invading pest fish and reduced water quality (contrary to their name, they prefer clear, *not muddy*, water). The newly developed brochure focuses on black mudfish in the Waikato, explains how mudfish can live on land and some simple ways to help save them from decline.

**Kathryn Duggan, Biodiversity Ranger, Waikato Area Office** [kduggan@doc.govt.nz](mailto:kduggan@doc.govt.nz)

To see more: <http://www.doc.govt.nz/publications/conservation/native-animals/fish/mucking-in-for-mudfish/>





# Restoring Wetlands Research

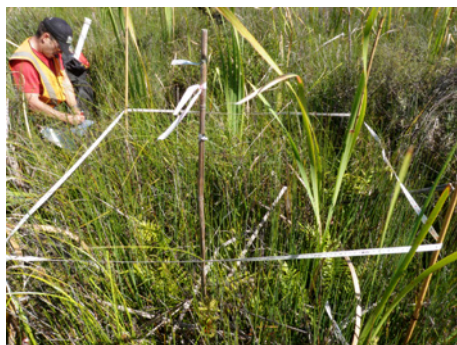
## Programme Update 1: October 2010 - June 2011

*The following is a summary of achievements during the first nine months of our six-year wetland research programme funded by MSI (formerly FRST).*

### Fertiliser Experiment

Chris Tanner, Kerry Bodmin, Scott Bartlam, Bev Clarkson and James Sukias harvested our fertiliser experiment after 3.5 years. The experiment was set up to determine whether wetlands along a successional gradient are N- or P- or co-limited, as Northern Hemisphere studies have shown early successional wetlands are N- limited and late successional wetlands are P-limited.

The experiment will also test the efficacy of the N:P ratio as an indicator of N- or P- or co-limitation. This is based on NH studies in wetlands, which have shown N:P<13 indicates N-limitation, N:P>16 indicates P-limitation, and N:P 13–16 indicates co-limitation or no limitation. We have three study sites: Toreparu Swamp (near Raglan) – early succession; Whangamarino fen (near Meremere) – mid succession; Kopuatai Bog (Hauraki Plains) – late succession. The samples are currently being analysed.



**Scott helping with fertiliser experiment harvest, Toreparu**

### Sabbatical Visitor

Professor Tim Moore, an internationally renowned peatland researcher from McGill University, Montreal, Canada was on sabbatical leave at Landcare Research, Hamilton from January to April 2011. Several collaborative projects were undertaken, including harvesting a 5-year litter bag experiment set up during his last visit in 2006.

The experiment investigated the rates of litter decomposition of the important peat forming plant litters in wetlands. These represent different successional (and nutrient) phases

and include litter from a Northern Hemisphere wetland species (*Typha latifolia*) to allow NH comparisons. Results showed surface decomposition rates decreased from early to late successional species, and buried decomposition rates increased from early to late successional sites, and decreased as % saturation increased, similar to NH wetlands.

More disturbingly, the results indicate that any lowering of the water table (an on-going threat in New Zealand wetlands) speeds up decomposition, which can lead to significant increases in Carbon being released, thus potentially contributing to global warming.



**Tim Moore taking water samples in Southland peatlands**

### C exchange PhD Scholarship

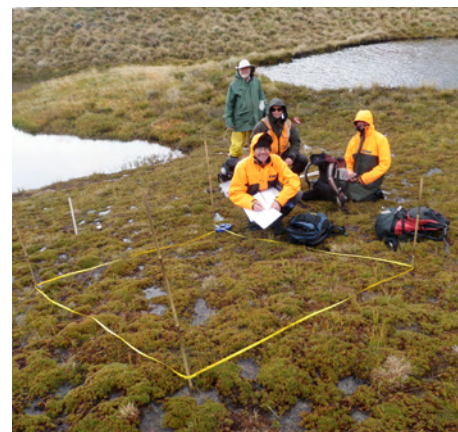
This was advertised internationally and generated significant interest from several high quality candidates. The successful applicant was Jordan Goodrich from University of New Hampshire, USA, who has an excellent background in biogeochemistry research in peatlands for his MSc.

Jordan will be undertaking a 2-week Fluxnet summer school (flux measurements, modelling, remote sensing etc) in Colorado in early July, and he will then start his fieldwork in Waikato bogs (Kopuatai) in September 2011. Thanks to Dave Campbell and the rest of the University of Waikato team for organising this.

### Southland Wetlands Visit

Several wetland programme members visited Southland in February to collaborate on various wetland projects. These included sampling new wetlands to add to our NZ wetlands database, completing a FENZ/WONI wetland mapping exercise with local DOC and Environment Southland staff, as well as field visits and discussions of wetland issues. It also includes assessing possibilities for new Ramsar nominations, and how to best integrate the DOC Arawai Kakariki project at Awarua/Waituna into our wetland programme.

Southland is without doubt a stronghold for NZ wetlands, with the cluster of the extensive and unique wetlands in the Te Anau basin deserving recognition as being internationally significant. Thanks to Brian Rance, Hugh Robertson, Chris Rance, George Ledgard, Sanjay Thakur, Bonnie Rowell, Hamish Ogilvie, Scott, Tim and others who organised and participated in the visit.



**Tim, Brian, Scott and Sanjay sampling the cushion bog on Mt Burns, Fiordland National Park**

### Whangamarino Experiment

Kerry Bodmin, Corinne Watts, Scott Bartlam, Danny Thornburrow, Alastair Suren, Janine Welch, Bev Clarkson, Matt Brady and Kevin Hutchinson set up a BACI design (Before-After-Control-Impact) experiment at Whangamarino, aligned with the DOC Arawai Kakariki project, determining the effects of willow control on vegetation and invertebrates (aquatic and terrestrial), with the long-term goal of restoring wetland biodiversity.

This year we are conducting baseline surveys before the spraying by DOC of half the experimental block in February 2012.





*One of Corinne's malaise traps set up at Whangamarino for sampling invertebrates*

### Waikato-Tainui Research Progress

There has been good progress on research collaborations with Waikato-Tainui over the past few months, thanks to Cheri van Schravendijk and the rest of the Waikato Raupatu River Trust team. We have attended hui with Huakina Management Committee and Waahi Whanui Trust to introduce the wetland programme and initiate discussions on research opportunities. We participated in an inspirational 2-day waananga with Nga Muka at Maurea Marae (Rangiriri) in which mana whenua shared their



*Some of the attendees of the waananga at Maurea Marae. Photo: Chris Tanner*

history with programme members and our DOC partners, who, in turn, shared their research relevant to the Whangamarino/Rangiriri rohe. Fruitful discussions resulted in several potential restoration projects and collaborations. We thank Moko Tauariki and the Maurea Marae committee and whanau for organising the waananga, and thanks also to presenters and participants.

Cheri has also been busy organising a 1-year Certificate of Technology course at WINTEC specialising in wetland technical skills for tribal

members. The wetland programme, through the Waikato-Tainui subcontract, is providing two scholarships for students to gain wetland skills through work placements with programme members and partners. The successful candidates are Joshua Ormsby and Jonathon Brown. We look forward to working with Joshua and Jonathon over the next 12 months.

**Dr Beverley Clarkson, Landcare Research NZ**

**For further information email:**  
**bev@landcareresearch.co.nz.**

## Catchment Care celebrates 40th Ramsar Convention in Taranaki

*Nowell's Lake in Hawera, South Taranaki, was the scene of a special tree planting on 20 April.*

Volunteers from our Catchment Care programme, a partnership with Conservation Volunteers New Zealand, planted 40 kowhai trees at the lake to celebrate the 40th anniversary of the Ramsar Convention on Wetlands. Leana Hunt, Fonterra's Corporate Social Responsibility Manager, said the partnership approach between Fonterra, Taranaki Regional Council, Hawera Rotary Club and Conservation Volunteers made the event successful.

"There were local and international volunteers and, because Ramsar is an international convention, there was a real synergy between everyone on the day. Everyone felt they'd made a real and lasting contribution to this beautiful environment," she said.

The Ramsar Convention on Wetlands is an

international treaty for the conservation and sustainable use of wetlands to prevent their loss. Ramsar, named after a town in Iran, recognises the important ecological functions of wetlands and their economic, cultural, and recreational value.

The work at Nowell's Lake continues the restoration of two beautiful freshwater lakes and wetlands to improve water quality and wetland habitats for native birds and fish. In total Fonterra Whareroa staff, nine local schools, eight community groups and the local Rotary Club have now planted over 18,000 native plants at Nowell's Lakes.

Catchment Care volunteers also weeded around native trees, and tended to the 'special endangered species garden' that contains plants like *Pimelea*, Pikao sedges and eighteen species of flax, all which are rare in the Taranaki region. **Fiona McLaughlin, Volunteer Engagement Officer, Conservation Volunteers New Zealand**



**Jeffrey Glenn planting at Nowell's Lake, Taranaki**





# A taniwha to 'swim' through your room

A year ago American artist and environmental educator, Stephanie Bowman, initiated a social and environmental art project to raise awareness of New Zealand's threatened freshwater ecosystems, in particular our longfin eels.

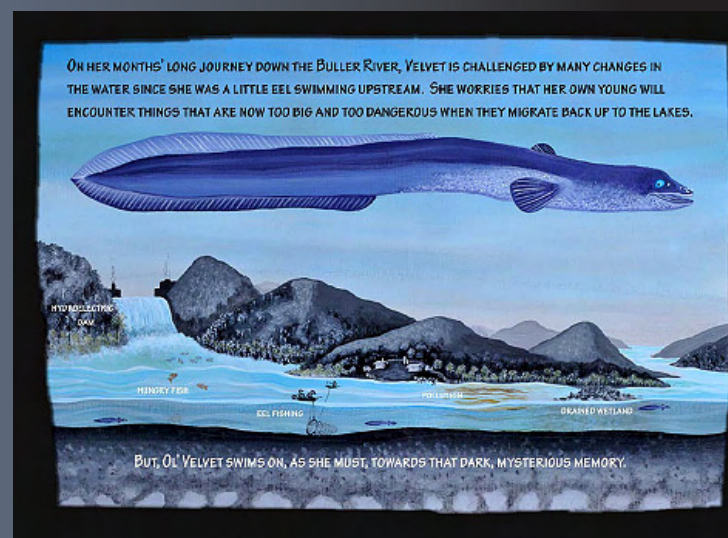
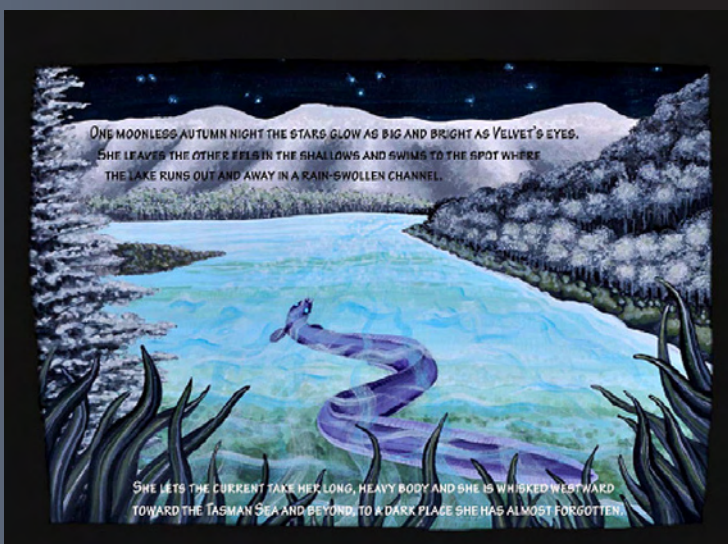
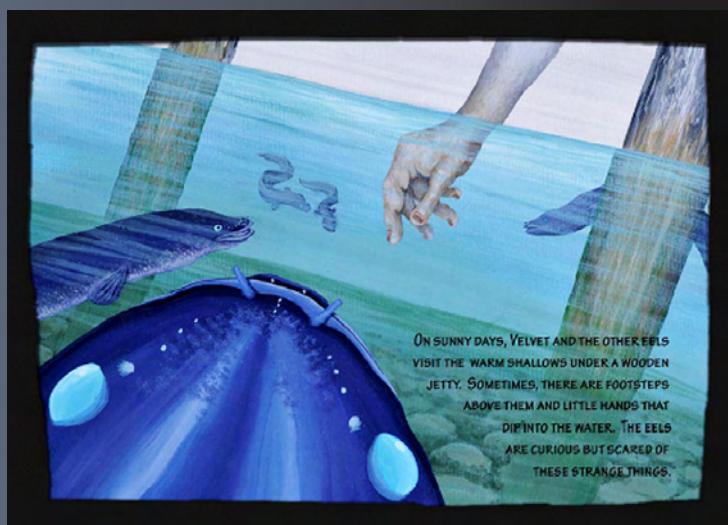
Working with friends, neighbours and students in the Arizona desert they used recycled fabric and mixed-media to create the head and tail of a taniwha-sized longfin eel, before adding images of other species in Aotearoa's rivers, lakes, and oceans.

In the US fall Stephanie returned to NZ to tour her project to schools and other community groups. She says, "Many of the folks I worked with were inspired to create their own two-metre long section of eel body, along with various other watery life forms that volunteers have since added between the head and tail. The whole thing is starting to tour at about 40 meters long, and GROWING! "

She says the taniwha art project can be displayed in different ways. "It can be hung indoors running from room to room, "swimming" along the ground outside, draped onto the side of a building either horizontally or vertically, carried in a "SeaWeek" parade, or whatever works for your space or event."

As a potentially interactive and kinetic art event, Stephanie believes the project could increase publicity for the outreach efforts of any group or organization, as well as "inspire local citizens to help return the mauri (life and soul) to the wai (water). And..... it's FUN!\_"

To order the pdf on how to exhibit the free project, contact Stephanie Bowman on 520-904-2364 or go to [www.bowmansart.com](http://www.bowmansart.com). To get a sense of the project's development visit its blog: <http://savetheeels.wordpress.com/>



**Photographs: Left above – a community project in its early stages. Left – Stephanie, and her son Zane, by the South Island's Makaroa River**





# Plant profile

By Monica Peters

**Latin name:** *Myriophyllum robustum*

**Family:** Haloragaceae

**Other names:** Stout water milfoil

**Status:** Declining

**Distribution:** Endemic to both the North and South Islands though distribution is limited. In the North Island, only found from Northland to Taranaki and the northern Rangitikei, and in the South Island only from North West Nelson, the West Coast and Fiordland.

**Habitat:** Shallow peaty lakes, slow flowing streams, dune lakes, muddy or seasonally flooded ground in alluvial forest. Threats include the drainage of wetlands, competition from wetland weeds and eutrophication.

**Features:** Perennial aquatic herb. Firmly rooted to the bottom if found in shallow pools. Stems are spongy and up to 1.5 m long. The emergent part is up to 300mm tall, leaves

yellow-green or glaucous with an acute tip. Leaves are in whorls of 4-7 with those below the water surface threadlike and very finely divided. Four-petalled flowers are only a few mm across. Fruits are globular.

**Fl: September - March**

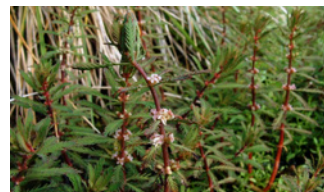
**Fr: October - April**

The naturalised *M. aquaticum* or parrotfeather is very similar to *M. robustum*. The main differences are that *M. robustum* is monoecious (males and females on the same plant), the exposed stems are typically pink, and leaf tips are acute as opposed to blunt. *M. aquaticum* though producing flowers in New Zealand, does not set fruit.

Parrotfeather, easy to cultivate and attractive, has been introduced worldwide into indoor and outdoor aquaria as well as aquatic gardens. However, it has spread widely by plant fragments and intentional plantings. Parrotfeather appears to be adapted to high nutrient environments.



*Myriophyllum robustum*,  
Waipapa Mire



*Myriophyllum robustum*,  
Oratia Plant Nursery



*M. aquaticum*

[www.nzpcn.co.nz](http://www.nzpcn.co.nz)  
[www.ecy.wa.gov/programs/wq/plants/weeds/aqua003.html](http://www.ecy.wa.gov/programs/wq/plants/weeds/aqua003.html)

*Wetland Plants in New Zealand*. Johnson, P.N & Brooke, P. 1998

## Glaciers to Wetlands Restoration Project

The Glaciers to Wetlands project is a four year programme, managed by DOC to restore the Okarito Wetland System (near Franz Josef Glacier) and has been made possible by funding and support from the Air New Zealand Environment Trust.

The Okarito Wetland System contains a huge diversity of freshwater ecosystems: coastal lagoons, kahikatea swamp forests, braided rivers and Pakihi swamps. This diversity of habitat supports a wide range of plant and animal life, including many species that are threatened, or known nowhere else in New Zealand.

The kotuku (white heron) and royal spoonbill both breed in the area, and the endangered matuku (Australasian bittern) shelters here as well. Twelve species of native fish can be found within the watercourses. The rowi, New Zealand's rarest kiwi, depends on the wetland ecosystems for shelter and survival of the fewer than 400 birds remaining in the world.

West Coast wetlands support many cultural values of importance to Maori, particularly harvestable species such as eels and inanga (whitebait), and the provision of habitat for

many other taonga species. Recreational values are also of great importance to community and visitors. The freshwater and estuarine habitats of the region support fishing, boating, hunting, kayaking, camping and walking in a spectacular setting beneath the Southern Alps – Ka Tiritiri o te Moana. Franz Josef and Fox Glaciers attract large numbers of national and international visitors annually.

The Okarito wetland system has survived decades of logging, weed invasion and introduced mammalian predators. This project is an opportunity to restore a magnificent part of our natural heritage, and to enhance recreation opportunities and provide a greater understanding of the importance of not only this wetland system, but all wetlands nationally. By working with the ANZET and the community we can ensure that these nationally significant wetland systems are protected for future generations.

### Vision

The partnership between the Department of Conservation and Air New Zealand Environment Trust will protect and restore an internationally significant wetland system to its original natural glory and, in the process, re-connect and educate

people about the value of healthy functioning ecosystems for future generations.

### Goals

1. Protect and restore the kahikatea swamp forest habitat around Lake Wahapo.
2. Protect and restore the wetlands, podocarp forest and coastal habitats of the Okarito Lagoon system.
3. Develop focal points where people can engage and learn about this project through participation and recreation activities.
4. Involve ANZET, the local community, Te Runanga o Makawhio, together with Air New Zealand staff and volunteers to deliver project outcomes, educate people and create a sense of kaitiakitanga or stewardship toward the location and the project.
5. Grow local, national and international awareness of the Glaciers to Wetlands Restoration Project and ANZET's involvement.

**Want to be involved?** Please contact the Glacier to Wetlands Restoration Project team at the Franz Josef Waiau Area Office [franzjosefvolunteers@doc.govt.nz](mailto:franzjosefvolunteers@doc.govt.nz) or phone +64 3 752 0796.







# National Wetland Trust

The National Wetland Trust was established in 1999 to increase the appreciation of wetlands and their values by all New Zealanders. Our first major task is to build a wetland interpretation centre for people to learn more about wetlands and experience their special qualities. For more information visit our website: [www.nationalwetlandtrust.org.nz](http://www.nationalwetlandtrust.org.nz)

Other Trust aims are to:

- Increase public knowledge and appreciation of wetland values;
- Increase understanding of wetland functions and processes;
- Ensure landowners and government agencies commit to wetland protection, enhancement and restoration.

The trust has thirteen elected trustees representing: iwi, landowners, tourism and farming industries, local government authorities, Fish and Game Councils, the Department of Conservation, NGOs, Crown Research Institutes, and universities.

## MEMBERSHIP FORM

**An annual family subscription is \$20 (current members, your renewal is due in April)**

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