

Wet & Wild

Mangarakau Swamp survives



It's defied every attempt over the last 150 years to drain it, holding on as the largest remaining wetland in the top of the South Island, part of the 10 percent of wetland surviving nationally. Nelson Mail photographer Marion van Dijk and reporter Sally Kidson discover Golden Bay's stunning and tenacious Mangarakau Swamp.

The first time conservationist Geoff Davidson saw northwest Golden Bay he was simply "gob smacked." "It was very revealing to see nature at its rawest," he says from his Waitakere nursery.

Wellington landscape architect Frank Boffa had a similar epiphany on seeing the area for the first time. "I didn't know the place existed," Boffa gushed in a report to the Tasman District Council. "It truly is an outstanding natural landscape, which should be retained as it is."

Turn left north of Pakawau off the well-worn road to Farewell Spit, and take the shingle road through Westhaven Inlet to Mangarakau and beyond, and it's easy to see why the men were

so impressed. The road meanders around a pristine harbour with bush right down to the sea. Past Mangarakau it takes you through rolling farmland dotted with statuesque nikau palms, and offers views of untamed West Coast beaches.

As the scenery unfolds it's easy to picture what primeval New Zealand looked like. It's the sort of area that makes you want to shout out to the world about how stunning it is, but at the same time keep it to yourself to protect it from development.

One of the area's unsung jewels is the Mangarakau Swamp; a 400ha wetland that has survived repeated attempts over the past 150 years to drain it. The swamp, situated on the extreme northwest coast of the South Island, below Farewell Spit, was considered an impediment by early settlers to the access they wanted to goldfields, timber, flax and coal mines in the locality. Later on farmers wanted it drained to graze stock.

(Article continues over the page.)

Wet & Wild is the National Wetland Trust's quarterly publication. We seek contributions, though published at the editor's discretion.

Each issue will be available on:

www.wetlandtrust.org.nz within two months of publication, where they can be downloaded as pdfs.

Membership forms can also be downloaded from the website.

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Submit articles to the editor Shonagh Lindsay at: shonagh.lindsay@xtra.co.nz Contact the NWT on www.wetlandtrust.org.nz





Framed by striking limestone rock formations to the west, and draining into the Te Tai Tapu marine reserve at Westhaven Inlet to the north, the swamp is now protected, thanks to its own tenacity and the foresight of conservationists who realised its ecological importance.

Davidson, a trustee of the Native Forests Restoration Trust, which bought 160ha of the swamp, jokingly blames Golden Bay man Simon Walls for triggering his role in helping protect the wetland. Davidson says that Walls, a biodiversity ranger with the Department of Conservation, was leading a Forest and Bird trip up prominent landmark Knuckle Hill in 1994 when he pointed out the swamp to Davidson and explained how great it would be to protect it.

"We were standing up there looking out at the expanse of Whanganui Inlet, and to the south down to Mangarakau, and he (Walls) told me everything was protected, as far as Kahurangi Park was conservation land, the limestone was a scenic reserve, and the inlet was a marine reserve. The only thing out of sequence, that wasn't protected, was the freshwater swamp, which was the pivotal thing, really, everything flowed into it and out of it."

Davidson says he returned to the North Island, and the need to protect the swamp swirled in his head for a number of years. At the time, the trust was doing most of its work in the North Island, but Davidson says it wasn't difficult to persuade the trustees about the value of purchasing part of the South Island wetland; it was just a question of finding the cash.

A generous bequest by Gisborne woman Rosemary Middleton eventually enabled the Trust to buy its portion of the swamp for \$460,000 in 2002. Middleton was a director of Gisborne Polytechnic and left a large part of her estate to the trust for the protection of wetlands. No record exists that she ever came

to Mangarakau, says Davidson.

Once the trust's purchase was complete, the Government's Nature Heritage Trust agreed to buy the remaining two areas of the swamp. Additional donations helped buy the house and hall buildings that came with the land, and the swamp was officially opened in 2003.

Asked why it was so important to protect the swamp, Davidson pauses - so many reasons exist, he explains. He says the swamp is not only spectacular, but is the best example of a wetland in the top of the South Island. "It's a travesty of what it used to be originally, but it's still so very, very good." Davidson believes the public needs to learn to love swamps for the pivotal role they play in the ecosystem as habitats for numerous species that don't exist anywhere else.

The Friends of the Mangarakau Swamp now look after the section of the swamp bought by the trust, and the rest is in DOC stewardship. Friends secretary Jo-Anne Vaughan says the group has more than 200 members, which includes a small committee and a core group of volunteers responsible for plantings, a trapping programme as well as maintaining tracks and the field centre.

Many of the volunteers are retired and devote countless hours to the swamp. They don't want any accolades, though, and on the early autumn day when the Nelson Mail visits, they greatly underplay the work they do, not wanting to overstate their effort at the expense of others. The amount these modest workers have achieved is evident just by looking at the before and after photos taken at the entrance to the swamp beside the visitor and field centres. Large flax, toetoe and cabbage trees now grow at the entrance, their lush greens replacing the scrappy yellow gorse, which used to greet visitors.

Simply fencing the swamp from stock has also seen sections of it bounce back rapidly. A short walk to nearby Lake Mangarakau through regenerating kanuka offers a glimpse into why the work the volunteers do is vital. A pair of cheeky fern birds make their distinctive clicking sound, and dart through the scrubby undergrowth metres from our feet. The mottled brown birds are sometimes compared with mice, for the way they scuttle through and over the top of ferns rather than flying. The fern bird and bittern, with its characteristic boom, are some of the endangered birds that make the swamp home. A further 54 species of bird have been seen in or around the swamp.

Vaughan says she was also "blown away" the first time she saw the swamp on a field trip run by the Tasman District Council and, as a Forest and Bird member, was keen to volunteer when approached to help set up a group to look after the swamp. She says the group aims not only to protect and restore the swamp but also to provide a facility where members could visit and stay, and learn more about the natural values of wetlands. "We use the swamp to try and influence hearts and minds."

She says one of the group's first priorities was to start a pest and weed control programme, and they have since removed mountains of exotic weeds once in the gardens of village residents, and started a pest trapping programme with the assistance of Dave Butler from the Rotoiti Mainland Island project.

From January 2004 to December 2007 volunteers have caught a total of 168 stoats, 430 rats and 37 weasels. They have also planted a large number of tree seedlings, including hundreds of kahikatea, many of which they raised themselves from seeds sourced directly from the swamp. Hundreds of additional hours have been spent weeding around these plants to help them get the best head start in life.

The group has also done a lot of work on building infrastructure at the swamp, such as tracks, picnic places and car parking. Further tracks and plantings are planned.

Murray Gavin, one of the core volunteers, says the group is under no illusion about the time it will take to undo the damage to the swamp caused mainly by settlement. He says the figure the trust has in mind to restore the area is 500 years. "It's such a worthy cause," says David Morgan who also gives many hours to the swamp.

Ironically, fire is one of the greatest threats to the swamp, and two recent fires, one in 2002 and the other in 2004, have swept through the area with heartbreaking consequences, undoing hard labour the volunteers had put in.

The rushes, flax and raupo that are above the waterline get very dry and once a fire is started it can rip across the swampland.

Humans are the greatest fire risk. The second fire was started by a spark from a roadside mower, which highlights the need to find the balance between allowing public access and protecting the sanctuary. Vaughan says she was devastated by the fires and wanted to walk away after the second one, but the lure of the swamp for all was too strong.

Nelson botanist Edith Shaw says mini-ecosystems exist in the nine or 10 separate geological areas within the basin that holds the swamp. Acidity and chemistry vary between the different geological areas, and each of those areas has its own fauna and flora, which have adapted to the conditions.

Mangarakau has lowland forest remnant areas, raupo reedland areas, harakeke and raupo areas, shrublands, freshwater lakes and dryland areas. Shaw has spent years foraging in and around the swamp and talks passionately about it. She says it is still giving up new species and has a species list of over 800, with a further 12 species of fungi alone discovered at Anzac weekend.

She talks animatedly about the different and

rare plants and creatures she and others have seen at the swamp, and says she's excited by an application currently being prepared, to get the swamp recognised as a Ramsar site. Ramsar is an international treaty for the conservation and wise use of wetlands.

DOC biodiversity ranger Simon Walls also needs little prompting to talk about the value of Mangarakau, and his praise for its distinctive habitat flows freely down the phone from his Takaka office. He agrees that the public has been slow to see the value in wetlands, but says he didn't need any convincing. "People didn't like puddling around in cold mud, but I did," he says with his distinctive laugh.

He estimates that in its native state a large proportion might have been forest, with lots of kahikatea and northern rata. It was likely to have been a "semi floating forest", examples of which can be seen on the West Coast, and mudfish would have swum among the roots of the podocarps.

It's also believed it was the habitat of nine different species of moa, and the giant Haast Eagle along with 50-60m tall kahikatea, puketea and rimu forests. He says the swamp is important because of its size and diversity and that after digging around in the swamp,

some "really, really special things" were found.

Among the treasures was the discovery of a rare brown mudfish species, which is probably genetically different from other species found on the West Coast. He, like Shaw, says a myriad of different ecosystems are found in the swamp, which has its own flora and fauna that have adapted to the conditions. The more unusual plants include a pink orchid with stems nearly a metre tall. There are also "big meadows" of sundews - a carnivorous plant that eats insects - similar to the better-known Venus Flytrap.

Walls is full of praise for the enthusiastic volunteers at Mangarakau, many of whom are out at the swamp in all kinds of weather, checking traps, planting and caring for the plants with "amazing diligence". He "really applauds those guys" whom he describes as the "unsung heroes" of this breathtaking place.

Contact: Jo-Anne Vaughan if you wish to visit Mangarakau and stay in the guesthouse: javn@xtra.co.nz

Photographs: Front Page image taken by John Gilardi, Chairman of Friends of Mangarakau Swamp. Left: Overview of Mangarakau and its display information taken by Karen Denyer.

National Wetlands Symposium 2010

"Wetland Management and Restoration (Freshwater and Estuarine)" Rotorua 3 - 5 March 2010

Wednesday, 3 March 2010

Thursday, 4 & Friday, 5 March 2010

Venue:

Speakers:

Online registration:

For more information please contact:

Pre-Symposium Fieldtrip
"Introduction to the Bay of Plenty Wetlands"
National Wetlands Symposium 2010
Novotel Lakeside, Rotorua, New Zealand
International & National Wetland Experts
www.wetlandtrust.org.nz
Earlybird Registrations open 1 June 2009
National Wetlands Symposium 2010
c/- THE ORGANISER
Phone: +64 7 343 1732
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Costs

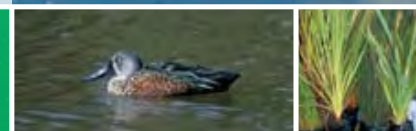
3 March 2010

- Pre-Symposium Fieldtrip \$40.00

4 and 5 March 2010

- Earlybird Registration \$295.00
- Standard Registration \$325.00
- Community Group Member/Student/Private Landowner Registration \$155.00

Registration fees have been subsidised through the generosity of our sponsors, as well as the Bay of Plenty Wetland Forum and the National Wetland Trust. Wetland restoration requires successful relationships between private landowners, community groups and organisations.



NWT News

National Wetland Restoration Symposium: 3-5 March 2010, Rotorua - the field trip is filling fast, register now to get a seat

This symposium, organised by the Bay of Plenty Wetlands Forum in association with the National Wetland Trust, will provide a highly practical forum for knowledge exchange, training and networking.

A discount rate is available for full-time students, wetland landowners and community group volunteers thanks to a grant from the Department of Conservation's Biodiversity Advice Fund.

To register visit www.wetlandtrust.org.nz

There are still exhibition spaces for companies to promote their wetland wares and services. Contact enquiries@wetlandtrust.org.nz for more information.

If you are registered for the conference and have not yet received your confirmation letter and invoice, please contact Nadine at Nadine@RotoruaNZ.com.

Sneak peek at 'the Serp' with the National Wetland Trust

Around 30 members of the Sustainable Business Network (SBN), local regional councillors and interested members of the community visited Lake Serpentine with the National Wetland Trust on Sunday 8th November.

When it came our turn to host an SBN event, the National Wetland Trust departed from the traditional 'drinks and nibbles' on a week night. At the suggestion of regional SBN co-ordinator Michelle Locke, we took our guests on a trip to see and learn about wetlands. Leaving Hamilton in a chartered bus (sustainable transport!) at 9 am the group headed out to beautiful Lake Serpentine near Ohaupo south of Hamilton, with expert commentary from NWT Trustees Keith 'Bog Man' Thompson and NIWA scientist Kerry Bodmin along the way.

Sunny spring day at the lake

Arriving at the lake complex on a stunning spring day, Karen Denyer, EO of the NWT explained the Trust's plans to build and operate a National Wetland Centre, with Serpentine an increasingly likely location. Among her reasons for the need for such a venture, was the general lack of public awareness and knowledge of wetlands, the paucity of folk who have ever



seen or heard of our unique wetland birds, and the general lack of corporate engagement, to date, in wetland species - while BNZ sponsors kiwi, Mitre 10 the takahe and Comalco the kakapo, Karen asked "where is the Fonterra fernbird, the Bunning's bittern, the Cadbury Chocolate Mudfish?"

Visions of a wetland wonderland

Karen explained that when the NWT vision for a centre becomes a reality, people will be shooing these rare wetland birds away from their picnics! The plans include a visitor building (with plans by Gisler Architects and Opus on display at the event), walkways, interactive displays, representative wetland 'gardens' and a predator fence to protect the wetland species. She pointed out a list of their needs and what they can offer potential sponsors.

Fred hunts and goblin forest

Participants were then free to finish up their cuppa (in reusable mugs) and head off to a selection of activities, including kayaking, hunting for 'Fred the Thread' in the rare giant cane rush, a ramble through a 100 year old kahikatea forest, a presentation on DoC's management of the lakes, and a chat with Trustees over the Wetland Centre plans. The few kids present proved a great spontaneous focus group for interpretation ideas.

Lunch on the lake

Back on the bus it was off to the lovely Boat Shed Café on the shores of Lake Karapiro for lunch and a brainstorm to capture the best ideas to turn the vision into reality. Such ideas included funky artwork of wetland species, an offer to write a sustainable travel plan for the centre, a wetland plant nursery, elevated walkway, marketing opportunities, e.g. at the Karapiro Rowing champs in 2010, and, most delightfully, a live leech display!

The National Wetland Trust gained a huge amount of exposure and great inspiration from the participants on the day. Thanks again Michelle Locke and SBN for suggesting and helping to organise what we hope was one of the most enjoyable SBN events of the year.

Photographs above: Lake Serpentine panorama by Sonia Frimmel, and the SBN field trip attendees by Marie Brown.

Wetland Events

Remember to let us know of any wetland events you are running and we'll help promote it on our website and newsletter: enquiries@wetlandtrust.org.nz.



The Motu Manawa (Pollen Island) Marine Reserve

The Motu Manawa (Pollen Island) Marine Reserve is a 500 hectare saltwater wetland located in the Waitemata Harbour bay, traversed by the State Highway 16 stretch of the Northwestern Motorway that runs between Waterview and the Rosebank Peninsula in Auckland City.



There are two low-lying islands within the marine reserve: Pollen Island, which is a scientific reserve administered by the Department of Conservation; and Traherne Island, which is owned by Land Information New Zealand for the purposes of motorway development.

Pollen Island is cut off from the Northwestern Motorway by a tidal channel and an intervening expanse of mudflats. By contrast Traherne Island is bisected by the motorway's route into two parts: an outer, seaward segment that is inaccessible from land because of regulations prohibiting pedestrians on the motorway, and an inner, landward segment accessible from the public cycleway that runs along the inner side of the motorway's edge.

Both islands are recorded habitats of rare and endangered bird species such as the fernbird, the banded rail, the spotless crane, and the New Zealand dotterel, as well as being home to many marine and estuary birds, and native plants.

This year we paid visits to both the landward and seaward sides of Traherne Island and also Pollen Island. The landward side of Traherne Island can be most conveniently reached on foot by entering the cycleway access point adjacent to the Rosebank Road motorway onramp. From there it is a short and pleasant walk along the cycleway through mangroves and along the edge of the motorway to inner Traherne Island.

However, the sheer density of vegetation on the island and unpredictable unevenness of its ground persuaded us to abandon attempts

to bushwhack our way directly across it and instead we walked around its shoreline across sedge and mangrove mudflats at low tide. Although weed species are present on the island, most evident is the exuberant native plant cover, including flax and cabbage trees, grasses and sedges, saltmarsh ribbonwood, and the tree daisy *Olearia solandri*.

A rare and regionally endangered plant we found was a large clump of the low-spreading freshwater marsh plant *Mimulus repens* - the New Zealand musk - growing in the drainage ditch between the island and the cycleway. Although we listened for fernbirds to no avail, they must surely have a suitable habitat on inner Traherne Island unless predators have driven them off.

We found the going through the sedge and mangrove flats boggy and scratchy, and would recommend wearing gumboots - or at least tramping boots - and full length sturdy trousers to protect against the splashing mud and unforgiving vegetation, but what we saw convinced us that inner Traherne Island deserves proper public boardwalk access and educational signage to better enable its observation and appreciation.

We have also visited outer Traherne Island and Pollen Island by boat with Mike Percy of the Pollen Island Care Group. We ventured forth at high tide because the waters are so shallow and waded ashore to help Mike collect sackfuls of the plastic rubbish that washes up along the islands' beaches. The seaward sides of Traherne and Pollen Islands have huge

white sculptured shell banks built up from the remains of estuarine bivalve molluscs.

The soil substrate is also visible: a dark coloured foundation of fresh water peat swamp from the Pleistocene era that was overlaid from 17,000 years ago by lighter marine marsh sediments as seawater levels rose at the end of the last ice age. The land vegetation of Pollen Island is mainly sedges and saltmarsh ribbonwood, while mangroves proliferated around the fringes.

We saw many seabirds and wading birds such as gulls, terns, herons and oystercatchers, and once more listened in vain for fernbirds, which we concluded did not call much at that time of year. However, in October of this year a group of Forest and Bird representatives did a wildlife survey on Pollen Island and confirmed sightings of fernbirds on the central and western ends of Pollen Island.

The 360 degrees view of the inner Waitemata Harbour is spectacular from the seaward shore of Pollen Island and a visit there is to be recommended for wetland lovers.

The need for active wetland conservationist involvement in the Motu Manawa (Pollen Island) Marine Reserve wetland has become more pressing since it was officially announced in September this year that the Northwestern Motorway section of State Highway 16 is going to be significantly increased in height and width where it runs through the marine reserve and across Traherne Island.

Article, and image above right, by Michael Coote and Kent Xie, members of Forest and Bird Waitakere (left image is from Google)

RECOVERY OF PATEKE (*Anas chlorotis*)

The endemic NZ Brown Teal - or Pateke - has been threatened by premature extinction (extinction influenced by humans) ever since Europeans began arriving in New Zealand in the 1800's, initially accompanied by rats, cats and dogs, and eventually by ferrets, stoats, weasels and hedgehogs.

The destruction of wetland and native bush in the early days of colonisation also impacted heavily on Pateke survival, as did duck shooting. In addition, it is now widely acknowledged that the ever-expanding Australasian Harrier population, along with Pukeko (which kill ducklings of all species) are also adversely influencing Pateke survival.

WHAT DISTINGUISHES PATEKE

Fossil research completed in 2002 determined that Pateke were present in New Zealand at least 10,000 years ago, and that they were widespread in large numbers throughout the country inhabiting most types of wetland, including lakes, rivers, lagoons, ponds, creeks, forest streams, swamps and estuaries. This research confirmed Peter Scott's (Founder of the UK's Wildfowl & Wetlands Trust) statement in 1960 that he believed "brown teal were an ancient and primitive form of duck". The Brown Teal Conservation Trust believes that the species evolved from the very beginning of life in New Zealand in a virtually predator-free environment (apart from the Haast's Eagle), and that this is why Pateke have a number of characteristics not commonly found in other waterfowl species. This includes the following:

- * Nocturnal behaviour, possibly generated by Haast's Eagle (*Harpagornis moorei*) with the trait continuing as the harrier population grew
- * Monogamous relationships, along with the ferocious nature of an established pair (In 1960 when Peter Scott received three brown teal at WWT Slimbridge he said that he hoped the New Zealand species were not of a similar nature!)
- * Long-term parental attention given to progeny by both parents
- * Great climbing ability
- * Incredible vulnerability to predation, as well as to being shot during the duck season - in spite of hunting protection from 1921 onwards
- * Failure to adapt to environmental changes
- * A preference today for estuarine habitat
- * Colour, body shape, size, weight, courtship, displays, and vocal sounds along with Pre and Post-Copulatory behaviour

- * Feeding patterns along with food preference
- * A small clutch size, typically 5-6 eggs, and egg shape, size and weight with comparatively huge eggs given the female size
- * Colour, size and weight of progeny
- * Specialised bill, with very prominent lamellae
- * Flocking behaviour - teal become very gregarious after the breeding season and head for their favourite flock site
- * Preference for walking instead of flying

THE RACE TOWARDS EXTINCTION



Whilst the destruction of wetlands and excessive hunting played a significant role in the early decline of brown teal, the species' vulnerability to the unrelenting spread of introduced predators was undoubtedly the main reason for their spectacular decline from a population of millions in the mid-1800's to just c750 in 1999. It is now believed that predator expansion into most parts of the country caused Pateke to retreat - during the early 1920's - from lake, forest swamp and other wetland habitats to that of estuarine habitat in

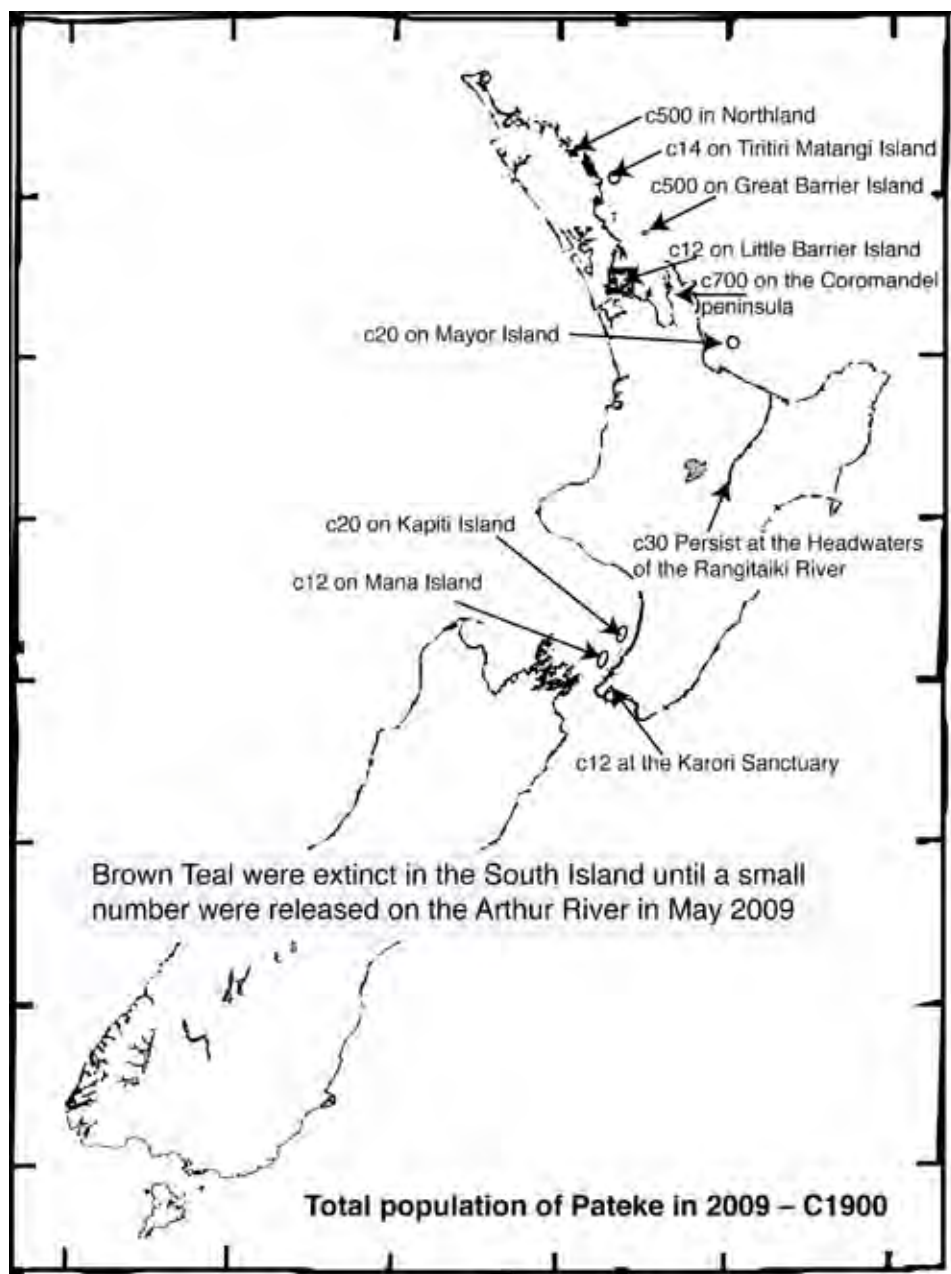
Northland, Coromandel Peninsula and Great Barrier Island where few predators existed. In all three areas Pateke survived for many years in good numbers until predators - mainly rats, cats and mustelids - eventually invaded Northland and the Coromandel Peninsula, with the same predators as well as feral dog and pukeko populations increasing markedly on Great Barrier Island.

Whilst Pateke habitat in these three areas remained relatively unmodified, the situation worsened markedly from the mid-1940's onwards when exponential growth in predator numbers caused an alarming decline in Pateke. By 1999 a straight-line graph showed that Pateke would be extinct on the New Zealand mainland by 2004 and totally extinct by 2015, with the population on Great Barrier Island - once considered to be secure - plummeting from c1200 in 1987 to less than 500 by 1999.

This path towards extinction has begun to be arrested thanks to the power of a television news item featuring two long-term Pateke supporters, which led the Department of Conservation (DoC) to carry out a major audit of the recovery programme, and publish its findings in 2000. The DoC 2000 audit set down clearly defined recommendations in order to save Pateke from extinction, initiating a remarkable increase in population, from c750 in 1999 to a population of c1900 by mid-2009. This remarkable recovery has been achieved in three areas of the North Island mainland: Mimiwhangata Farm Park in Northland, the adjacent Whananaki area (both sites are on the east coast just north of Whangarei), and on the Coromandel Peninsula. In each area major predator control programmes using a variety of trapping techniques were instituted, and these were implemented alongside a programme of Pateke habitat enhancement, creation, protection and management.

By mid-2009 the Mimiwhangata/Whananaki populations of Pateke had risen from c100 in 1999 to over 500, but the most spectacular re-establishment has taken place at the top of the Coromandel Peninsula where a population of c20 Pateke in 1999 has risen to over 700 by mid-2009. The Brown Teal Conservation Trust believes this population growth represents the world's most successful re-establishment of an endangered species of waterfowl.

On Great Barrier Island the population stabilised by mid-2009 following the implementation of major predator control programmes at critically important sites, however it is not yet in recovery mode despite there being no mustelids or hedgehogs on Great Barrier, and virtually no



duck hunting! It is now suspected that habitat deterioration and its accompanying lack of food are the main reasons for the population not reaching recovery, and a research programme aimed at determining habitat usage and habitat preferences, using the latest microchip and GPS technology, will commence in 2010.

The Brown Teal Conservation Trust believes, however, that this should not preclude the enhancement of Pateke habitat, particularly in areas such as Okiwi Station on Great Barrier Island, which once supported c750 Pateke.

The re-establishment programme for Pateke on the Coromandel Peninsula benefited from the highly successful Kiwi Protection Programme in the Moehau Range, immediately adjacent to the Pateke release site at Port Charles, in operation since 2000 with several hundred Kiwi now surviving in the ranges. On top of this success the extensive predator control

programme for Pateke at Port Charles and its environs resulted in a high level of survival of both released and wild teal - to the extent that there are now c700 on the peninsula.

From c20 to c700 is an incredible success story, and clearly confirms the philosophy long held by some enthusiasts that if you provide brown teal with a quality predator free environment they will survive and breed successfully for many years. In fact, Pateke have been recorded as surviving in a quality captive environment to 15, 16, 18 & 24 years of age! The captive breeding programme for Pateke, launched by Ducks Unlimited (NZ) in 1976, is recognised as being the world's most successful captive breeding programme for endangered waterfowl - with close to 3000 reared between 1976 & 2009.

The survival rate of released birds, along with their adaptability and breeding success - coupled with a massive predator control

programme and superb support from the Port Charles community - is an outstanding example of what can be achieved in a very short space of time. Pateke are now being observed in an increasing number in many areas of the peninsula. Historically, a peninsula has proven to be readily defensible against predators, and the long-term control of predators on the Coromandel could conceivably give rise to over 2000 Pateke on the peninsula.

But besides a well-organised and intensive predator control regime on the Coromandel, the support of the farming community and local residents around Port Charles has been an intrinsically important part of the success, with a number of land owners creating quality Pateke habitat and the local community carrying out much of the predator control work.

In addition, the major financial contributions from Banrock Station Wines of Adelaide, Isaac Wildlife Trust, Wetland Care/Ducks Unlimited (NZ), Dept of Conservation, and, critically important to the whole programme - the Pateke captive breeders - all helped ensure the success of the Coromandel re-establishment programme.

In summary, the success of the Pateke Recovery Programme since 1999 can be attributed to:

- * The release of captive reared teal into relatively unmodified habitat, along with the existence of wild Pateke in the area
- * Establishing major predator control programmes
- * Enhancing and creating habitat & habitat management
- * Supplementary feeding
- * The absence of duck shooting
- * Having outstanding community support, a dedicated management team and a dedicated group of captive breeders
- * And finally, appropriate financial backing

The Brown Teal Conservation Trust was founded in late 2001 to save the NZ Brown Teal from extinction, and is registered with the Charities Commission. Since its inception the Trust has published widely on what needs to be done to save Pateke from extinction, including: *The Natural History Captive Management & Survival of the NZ Brown Teal* in 2002, and in 2008 a *Review of the Brown Teal Recovery Programme*. The Trust publishes a newsletter twice per year.

Article and images by Neil Hayes QSM FRSA, Brown Teal Conservation Trust

Wetlands & pateke on Okiwi Station, Great Barrier Island



Great Barrier is a stronghold for pateke but they struggle over the typically very dry summer months to find food (especially juveniles) as all the previously soggy pasture dries up and wetlands become overgrown with weed species. We do still graze some “wetlands” periodically over summer specifically for pateke (these are generally heavily modified seeps that have been grazed for decades and if are not grazed, quickly become rank with thick swards mercer or kikuyu grass).

Apart from grazing I have also been looking at other alternatives over the past year. This has involved spraying some wetlands and digging out small ponds, building bunds and damming up a few drains. Spraying sounds terrible but these wetlands were so overgrown (with mercer grass & *Lotus major*) that they were taking over the wetlands and making it practically impenetrable for foraging teal to access. It's still early days but so far the results look

promising with water pooling on the surface of these areas. This wetland is now riddled with teal foot prints and probing bill marks. There are juvenile teal living on its edges and teal have been seen feeding there at night (as well as eels, pukeko & stilts).

One trial bund has been built, seeming to work far. It involved damming and building a bund across one branch of a drain that was trickling slowly downstream into a road ditch. The aim is to hold some water back to encourage damp pasture around the edges and retain shallow water over summer. Monitoring is being done at night to check whether teal are using these areas. So far, over two nights (only a couple of hours) I have caught or seen 10 teal associated with this area. One teal seems to be residing there in the day as well, and just recently I saw five teal on the new bund wetland.

Damming up other small drains and culverts has also been carried out with instant gratification! I am also going to trial hoses off the water

troughs to keep shallow ponding areas wet in paddocks. Some areas we literally want as flooded pasture but others I am hoping to restore to wetlands in their former glory. I have been planting some wetlands with help from the local school and other area staff, and plan a big planting of wetlands & their margins next autumn.

Three more roosting rafts have been built and launched onto ponds. The first raft built in 2007 has proved to be a hit with currently more than 20 teal on it. Hopefully, the new rafts will prove to be just as popular as pateke start flocking to their favourite sites.

Photographs, left to right: Looking upstream at the old drain before any work was done; “Airport Pond” October 2009; Looking upstream three weeks after bund built; Roosting pateke on their mussel buoy raft.

Article and photographs by Joanna Sim | Pateke Ranger - Kaiārahi Tiaki Pāteke | Great Barrier Island Area Office

Restoration Planting at Wherowhero Lagoon

An ongoing community project to restore Wherowhero Lagoon 20 kilometres south of Gisborne has completed the second stage of a tree planting programme.

Andy Bassett, Area Manager of the Department of Conservation (DOC) on behalf of the Te Wherowhero Lagoon Restoration Trust, says funding from the DOC Biodiversity Condition and Advice Fund, Banrock Station Wines and Wetland Care NZ has made it possible for this stage to be completed.

"This is an excellent example of the combined effort between the landowners and agencies as well as the community working together on a project. The Trust was established to protect and enhance the lagoon and its environs; and is made up of the three landowners of Te Wherowhero Lagoon – Gisborne District Council, Queen Elizabeth II Trust and DOC.

"Wherowhero Lagoon is a nationally recognised wetland/estuarine lagoon, which provides feeding and habitat for over 34 species of coastal waders and shore birds. It is an important habitat for the highly threatened NZ dotterel and a key breeding site", says Mr Bassett.

The 6,500 trees planted on the Mangatu Blocks, and Ian Foxley sections of the lagoon, include Karo, Ngaio, Taupata and Harakeke grown by Native Garden Nursery and the Ngai Tamanuhiri Trust Nursery. Prior to the planting, fencing, weed spraying and pest control was undertaken.

The tree planting was completed last month by contractor Tom Stone and his team. Mr Stone commented that he was careful to use trees of sufficient quality to survive at the lagoon site. There had previously been losses to the 2008 plantings due to the dry summer. Planting conditions were favourable on the day of planting and the seedlings have an excellent chance of survival. There will be an ongoing process of looking after these plants as we head into the summer months.

Andy Bassett says the Trust are now working towards next year's planting programme for the inland and coastal side of the lagoon. "I would like to ask the public to take care of the new planting areas and those areas being prepared for next year. The public need to be conscious of this when lighting camp fires and using vehicles at the lagoon", says Mr Bassett.

Article provided by Rebecca Lander, Te Papa Atawhai, Department of Conservation, East Coast, Bay of Plenty



Photographs, top to bottom: Completed new plantings at the lagoon taken by Don McLean, DoC; A group of contractors preparing the area; and Lani Latu (front) and Tom Stone (back) carrying out the planting, both taken by Malcom Piper (QEII).

Just Add Water ...



Whether angling for that wily rainbow in a burbling stream, nosing your kayak through a reedy backwater, joshing with the boys in the maimai on a misty morning, or lining up a rare waterbird through the viewfinder there's one need that anglers, boaties, duckshooters and birdwatchers have in common. Water.

Our rivers, lakes, estuaries and swamps were appreciated by outdoors folk long before the real estate industry cottoned on to their capital gains potential. Now, finally, after years of abuse by society in general, draining 90% of our wetlands and treating rivers as sewers, the pendulum is firmly swinging and water is now one of the government's top environmental priorities.

Restoring waterways and wetlands is becoming de-rigueur, fashionable among well-heeled life-stylers, back-country farmers, community groups, schools, outdoor clubs and councils. Even developers are getting in on the act, seeing wetland construction as a slick way to deal with stormwater in new subdivisions.

Healthy wetlands and lakes are not only attractive and important habitat for native and

valued exotic species, they are now being eyed up as potential carbon sinks. The stuff wetlands do for us at no charge is staggering; stripping nutrients and silt, storing floodwaters, recharging aquifers to name a few. In fact, the dollar value of the 'ecosystem services' that wetlands provide is ten times more than farmland or forest. Putting them back in the landscape makes economic sense, as well as boosting outdoor recreation.

For many wetlands, restoration may be as simple as adding water by gradually blocking up drains dug in less enlightened times. Of course there is usually much more to it than that. How to deal with weeds and pests. What to plant where. How to attract waterfowl or help fish get there. Where to put the fences. And that vexing question, will I need a resource consent?

How to go about restoring wetlands is the subject of a gathering in Rotorua next March - the 4th National Wetland Restoration Symposium organised by the National Wetland Trust and the Bay of Plenty Wetland Forum. Talks, field trips, and practical demonstrations will teach delegates the finer points of wetland restoration, with tips on how and where to find the dollars to do it. It's also a great opportunity to meet others

who are already getting stuck in and fixing up waterbodies. The National Wetland Trust can put you in touch with more local restoration projects.

If you can't make it to the symposium, check out the Wetland Restoration Handbook, available from the New Zealand Landcare Trust, or talk to your regional council, most of them have information on restoring wetlands and stream banks.

Joining a community project, or restoring wetlands on your own land is a great way to give something back to the ecosystem that has given you so much enjoyment. Given the range of projects across the country we can look forward to cleaner water, more wildlife and more accessible wet and wild places.

Article prepared by Karen Denyer for ***Fishing and Outdoors***, and used with its permission. ***Fishing and Outdoors*** is a monthly newspaper distributed free to 20,000 homes in the Waikato and Bay of Plenty. The NWT aims to be a regular contributor.

Photograph of Lake Kohangatera provided by Greater Wellington Regional Council



Groups join forces to save the longfin eel

A coalition of environmental groups, Maori, and Massey University researchers are calling on the public to sign a petition asking for a moratorium on the commercial harvest of the threatened longfin eel.

The petition, to be presented to Fisheries Minister Phil Heatley, aims to stop the serious decline of the longfin eel, which now has the same risk classification as the great spotted kiwi. The groups backing the petition include the newly formed Manaaki Tuna (the Massey University Tuna Research and Restoration Group), Forest & Bird, Greenpeace, the Environment and Conservation Organizations of NZ (ECO), and a growing number of iwi groups.

They are concerned that, despite the increasing rarity of large, sexually mature longfin eels and decreasing numbers of elvers (very young eels) being found throughout New Zealand, longfin eels are still being targeted by commercial fishers under the Quota Management System, which is managed by the Ministry of Fisheries. "The eels being caught commercially are almost all in the smallest size range now," says Massey University freshwater ecologist and senior lecturer, Dr Mike Joy.

The bulk of the commercial eel catch is exported. "Export earnings from the longfin eel harvest are negligible for the national economy," says Dr Joy. "The commercial fishery is responsible for depleting a threatened native (endemic) species."

"Before the 1960s, when commercial eeling started, there were huge elver runs," says Caleb Royal, who has been researching tuna (eel) at Te Wananga o Raukawa in Otaki.

"The number of longfin elvers seen nowadays is much, much less. The same is true of the adult migrations that used to take place up until the 1960s. The old people talked of streams being clogged with thousands of adults heading to the ocean for spawning. Now, that's just a distant memory."

Longfin quota in the commercial eel fishery is measured in tonnes," says Royal. "The tuna population simply cannot sustain that sort of commercial scale harvest."

In order to reproduce, sexually mature eels migrate to sea and swim thousands of kilometres to undertake a mass-spawning event, after which they die. "It takes many decades - up to 100 years - for female longfins to mature to breeding age. They are at constant risk of capture all that time," says Forest & Bird Advocacy Manager Kevin Hackwell. "Every eel caught is one less which will breed."

The larvae drift on ocean currents, changing into 'glass eels' once they reach New Zealand's rivers. They turn into darker 'elvers' as they swim upstream.

"Eel numbers are declining for many reasons," says Dr Russell Death, from the Ecology group in the Institute of Natural Resources, and a

member of Manaaki Tuna. "Commercial harvest puts pressure on a population already suffering from loss and degradation of habitat (from swamp drainage and pollution) and barriers to migration such as dams. Improving the health of our river water quality is a vital step if the fishery is to be protected and restored."

"It is not acceptable anymore to harvest native birds or marine mammals for food" says Hackwell. "Yet they are commercially harvesting a native fish species to the point of collapse. Because eels need clean rivers, they are a crucial indicator for freshwater quality."

Manaaki Tuna is advocating a moratorium and a Treaty based co-management regime to protect and restore the tuna. "We need a very different approach to deal with this type of challenge," says Dr Marjan van den Belt from the NZ Centre of Ecological Economics.

Forest and Bird believes that with broad public support and good research, it will be possible to save the tuna. "It's crucial that we act now to bring about a recovery of the tuna and clean up our polluted rivers. We urge anyone who shares our concerns to sign the petition."

To sign the petition go to: <http://www.forestandbird.org.nz/> and click on "Lifeline for Longfins."

Article by Helen Bain, Communications Manager, Royal Forest and Bird Protection Society of New Zealand Inc.

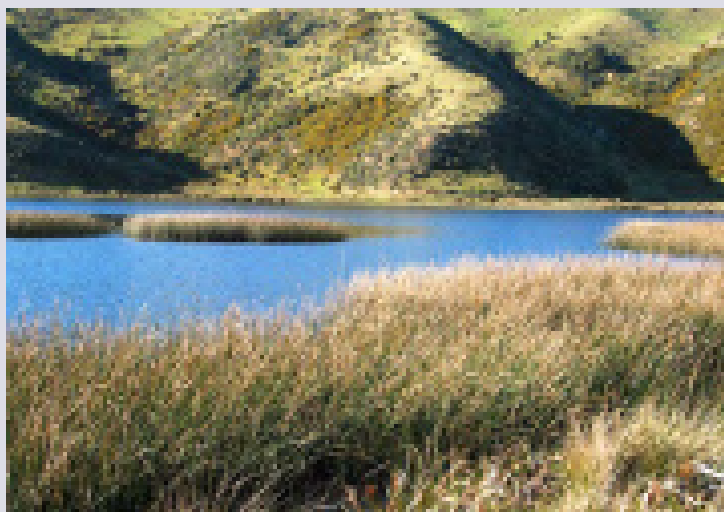
Wetlands to visit

This is a new regular slot in our newsletter profiling wetlands that are accessible to the public. We are developing an on-line directory of wetlands people can visit and are still seeking sponsorship for many regions. **Visit:** http://www.wetlandtrust.org.nz/directory_main.html

If you wish to sponsor your region or let us know about a wetland open to the public contact: karen.dwyer@wetlandtrust.org.nz

Situated in East Harbour Regional Park at the entrance to Wellington Harbour, these two lakes, Kohangatera and Kohangapiripiri, are just four km 'as the crow flies' from Wellington airport.

The lakes are home to many rare and endangered species including birds that depend on large areas of thick wetland vegetation (e.g. Australasian bittern and spotless crane) and aquatic plants that



Pencarrow (Kohanga) Lakes, Wellington, photograph taken by Rohan Wells

have been displaced elsewhere by introduced species (e.g. *Lepilaena bilocularis*, *Ruppia polycarpa*). The adjacent beach ridges also support a range of rare plants.

There are walkways around the lakes, a wetland boardwalk, and mountain bike trails.

Access requires a 2 hour walk or 35 min mountain bike ride (bicycles available for hire at Burdans Gate).





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

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.

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