

# Wet & Wild

## *It's been a busy year ...*

The National Wetland Trust completed its National Wetlands Centre Business Plan and a Due Diligence Report on the Centre this year. Both, taken together with the NWT Business Plan 2000-2005, give us a strong framework to work to over the next few years.

Our thanks go to Jody Bennett, School of Marketing, University of Waikato, who wrote the final business plan.

The Business Plan's main purpose was to demonstrate to potential investors the capability of the National Wetland Centre as a viable entity, so for that reason it focuses on 'life after' the Centre has been built and opened. It does this by outlining the market for the Centre, examining its operating costs and analysing its marketing opportunities through its strengths and weaknesses.

### **PROJECT GOALS**

- Build and maintain a National Wetland Centre.
- Provide an educational facility for school groups, visitors and researchers.
- Provide a centralised national database for wetlands information.
- Increase the appreciation of wetlands and raise awareness of the value of wetlands to New Zealand's ecosystem.
- Encourage visitors to experience and enjoy natural wetland environments
- Provide a facility for furthering wetland research.
- Make available a meeting place for wetland organisations and others with an interest in the natural environment.
- Develop and provide information on walking trails and vehicle-based wetland 'heritage trails' throughout New Zealand.
- Act as a gateway for enquiries to wetlands in New Zealand, as the place to go for information on national and international wetland developments

### **THE MARKET**

The Centre is described as being in the 'environmental appreciation industry, which has grown out of an 'increasing awareness of environment concern and the need for a holistic approach to environmental preservation.'

Organisations that do this are expected to have a growing audience – school children, tertiary students and teachers in the education system as well as the general public. They are also expected to work in 'co-opetition' with the diversity of organisations in this area, meaning they will work together to achieve common goals.

### **PROJECT VISION**

The establishment of a National Wetland Centre to facilitate and promote the appreciation of wetlands and their values by all New Zealanders, and the enhancement and restoration of wetlands throughout New Zealand.

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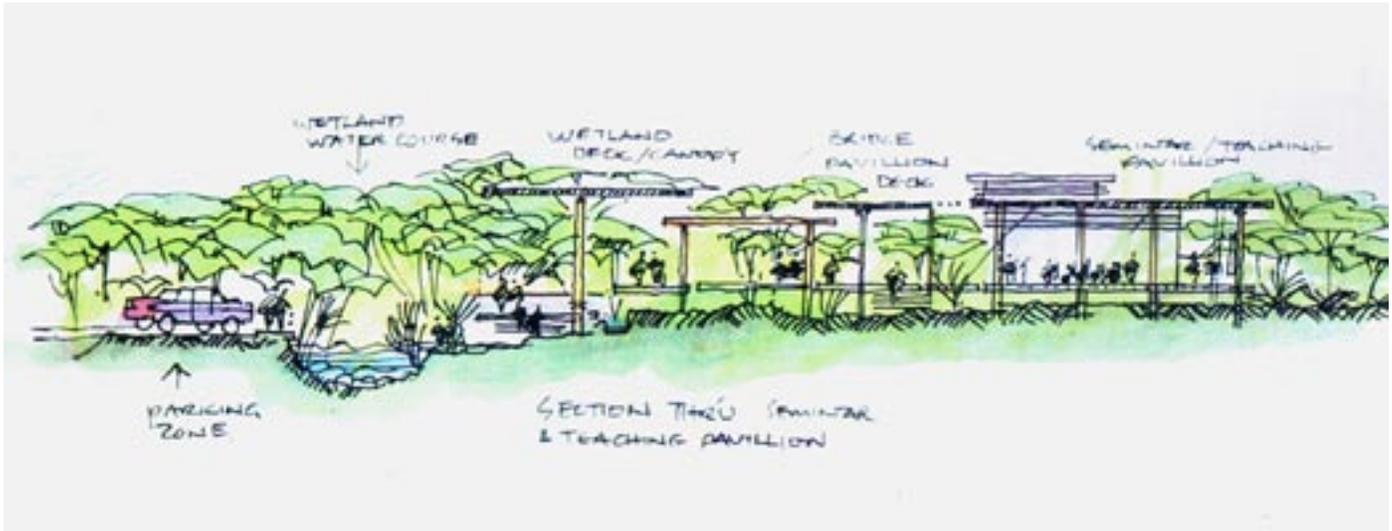
## THE PRODUCT

The National Wetland Centre aspires to offer a complete education encounter through audiovisual interpretive panels, pavilions and demonstration gardens designed to cater for different groups – to be ‘an educational ‘one-stop-shop’ by way of detailed knowledge relating to the promotion of wetlands to New Zealand’s ecological system.’

Preliminary Development Concepts were finished by Chow Hill Architects and Priest Mansergh Graham Landscape Architects last year (they accompany this article).

## MARKETING OPPORTUNITIES

Amongst the Centre’s many unique marketing opportunities are its: state of the art wetland trail experience; location central to Auckland, Hamilton and Bay of Plenty as well as to five internationally recognised wetlands ( approximately 4,400 cars drive past Rangiriri every day); site which is immersed in Maori and early European history; direct links to biodiversity research through academic and scientific community and strong connection to sustainability within New Zealand through links such as to fisheries, agriculture and flood control.



## THE COMPETITORS

These range from national to regional, with the latter including Miranda Shorebirds, Pirongia Forest Park, Waitomo Caves, Hamilton Zoo, Bridal Veil Falls, Otorohanga Kiwi House, Manugatautari Ecological Island, Auckland Zoo and Rainbow Springs.

There is expected to be scope for co-opetition amongst these, such as a ‘tour package,’ as well as networks for sharing visitor information and research knowledge.

Nationally, it identifies an opportunity for the Centre to create a unique wetland destination for international tourists, many of who are passing the Waikato by in their search for the ‘natural’ New Zealand.

## From these come its brand values:

- o An unexpected total educational experience
- o Indigenous character
- o Creative
- o Innovative
- o Inspiring
- o Caters for the needs of all visitors
- o Friendly
- o Accessible
- o Recreational
- o Important, dynamic and an interesting place
- o Fascinating
- o Valuable
- o Amazing variety

***It is assumed that the Centre will attract 15,000 visitors in its first year rising to 40,000 visitors by year 2010. This is based on the rationale of average expected visitors to its competitor sites. It is expected that Initially the majority of the Centre’s services will be undertaken by volunteers with one fulltime paid staff person acting as site manager and educational officer, with other staff being hired as visitor numbers increase.***

## News Items

### WETLAND TRAIL BROCHURE

Further to the previous reports in earlier newsletters the wetland trail through the Whangamarino Wetland and around Lake Waikare is now sign posted from the three entry points from State Highway 1, with signs at approximately every 4kms and the main intersections.

The next stage in the process is the preparation of the information brochure that will be available to explain in more detail points of interest along the trail to supplement the information boards which are also currently in preparation. The major portion of the cost of the preparation of the brochure has been funded by the Waikato Catchment Ecological Enhancement Trust to assist in increasing public knowledge and appreciation of wetland values in the lower Waikato catchment. Our Trust is grateful to those Trustees for their support.

While the final layout of the brochure is not yet available the basis will be a map of the route with the key points identified and brief descriptions of the important areas through which the trail passes. With that format it would be possible to add extra information in the future as board walks and lookouts are established, which would be the next stage in the development of the trail.

### MEMBERSHIP & SUBSCRIPTIONS

Over the past years as the Trustees have struggled to come to grips with the establishment of the Trust the value that can be obtained by having a well informed membership and a subscription base has not been given a high priority. The Trustees are however aware of the requirement to provide not only value for the cost of the subscription but also to fulfil the role that regular newsletters can provide in the dissemination of information and as a focal point.

The Trustees are aware that newsletters have been distributed on an irregular basis in the past and it would appear that there have been some problems in reconciling the mailing list with paid up members. It is hoped that this current edition of the newsletter will reach as many of the people who have paid subscriptions over the past 2 years as possible.

If there are doubts about your membership status then contact the Trust by email at enquiries@wetlandtrust.org.nz.

During the discussion at the Annual General Meeting earlier this year it was decided that the subscription for the next financial year which commences on 1 April 2005 it would be set at \$20 for an ordinary member. As treasurer I will be investigating options to ensure that reminder notices are sent to unpaid members early in the financial year.

The consideration leading to the increase in subscriptions was based on the delivery of regular newsletters containing more information and also to provide some capital to enable the website to be expanded to become a key focal site for the dissemination of wetland information in New Zealand. The Trust also needs to be aware that the generous sponsorship of Mighty River Power covering the printing and posting of the newsletter may not continue indefinitely.

While the subscriptions are not due until 1 April 2005 obviously early payment will simplify our task of updating the membership list. If there are any queries over status of your membership or the non-receipt of newsletters do not hesitate to either contact myself direct or through the website mentioned above.

*David Lawrie, Treasurer*

### RAMSAR BOOKLET

A new publication celebrating New Zealand's internationally significant wetlands

World Wetlands Day celebrations during February 2005 will see the release of a new book celebrating New Zealand's five Ramsar wetland sites. The National Wetland Trust has commissioned the publication of a booklet which covers the unique features of the Whangamarino Wetland, Kopuatai Peat Dome, Firth of Thames, Farewell Spit and Waituna Lagoon.

It is hoped that the booklet will promote the recognition of Ramsar sites and encourage community groups and agencies to look at other potential sites which could also be recognised. Information on how to purchase the book will be placed on the Wetland Trust website closer to the release date.

## Banrock Station Sponsors Wetland Trail signage at Rangiriri

*Banrock Station (Australia-based) announced their sponsorship of the new Wetland Trail's signage in Rangiriri - worth \$5000 – at a presentation ceremony in Auckland earlier this year.*



Left to right: John Staniland ( Forest & Bird) David Lawrie and Tony Sharland

The donation comes to the National Wetland Trust under a partnership Banrock has formed with Wetland Care NZ in association with Ducks Unlimited to sponsor wetland restoration projects throughout New Zealand.

Last year this partnership began a two-year project at the Te Henga Wetland, on the Waitakere River, near Auckland with a donation of more than \$15,000. Funds for the restoration work come from part proceeds of the sale of Banrock Station Wines in New Zealand. The funds have helped pay for the construction of wetland control structures – a vital part of redeveloping new wetlands within the Sanctuary's two lake areas.

Additionally, the first year's proceeds under the sponsorship helped develop a wetland within the widely acclaimed Karori Sanctuary in Wellington on the North Island.

A second project was sponsored in 2002 at the Masterton Intermediate School in the Wairarapa District north of Wellington. The school has commenced revegetating the wetland with native species of flax, and will use the wetland to combine its studies in agricultural science with environmental science in a region that has lost most of its wetlands through drainage schemes and conversion to farmland.

Banrock Station Manager, Tony Sharley, visited New Zealand last year in search of wetlands in need of restoration. Te Henga and a visit to the Waikato wetlands were part of this tour, and from that came both projects.

“The reason we went into partnership with Wetland Care NZ is their history of small to large projects both in creating and restoring wetlands,” said Sharley at Wetland Trail sponsorship presentation earlier this year.

“They also have national coverage and are a non-government organization. So they were just what we needed to broker conservation projects as governments won't, as a rule, share funding with corporate partnerships such as ours.”

Sharley said companies such as Banrock find it easier to get a larger benefit for the money they put into such projects when they can work on a community basis. This gives them more leverage for every dollar they put in. So, for example, Wetland Care NZ's logo goes onto every Banrock Station wine bottle's label giving both a branding opportunity.

In Australia, where the majority of their conservation projects are, the company has won an international reputation for the wetland habitat it has created around its home winery. It has restored thousands of hectares of wetlands, and now passes its waste water from the winery slowly through the wetlands – a huge filtering system – before releasing this back into the Murray River.

The Station has several PhD and Masters students researching restoration in the wetlands, including issues around salinity, over grazing and pests, in particular European Carp in the water, and foxes, feral cats and rabbits on land along with the impact of willow. It also employs two professional ecologists – Sharley and Renee Webster, who was just appointed this year, and coordinates a large community revegetation programme.



Walking trails have been developed which maximize visitor interest, they wind from one side to the other, include bird hides, and are focused on educating and inspiring the public about the issues of degradation and restoration.

“My generation grew up with the environment a very changed one,” says Sharley. “Wetlands had always followed the same cycles as the weather, but the dams and weirs we have put in to maintain water levels has changed this connection to nature for us.”



“ I spent two years in the Kakadus researching largely freshwater species ecology where I learnt that the incredible biodiversity there – 90 species of mosquitos let alone all the other insects, plants and animals – is due to the cycles of drying out and flooding that occur. In this process – rivers that flood and spill out on to vast floodplains, usually annually – signals are sent to all these species to lay their eggs and breed.”

“ From the bottom of the food chain up I observed that “pulse” come through, seeing this huge swarm of life - insects, fish, crocodiles, Jabiru storks, two species of crane, water lilies, tens of thousands of Magpie goose – so many that you



can’t hear yourself think till they settle. Then I went back to the Murray River realising I knew nothing about its local ecology.”

By contrast, Sharley believes even young children today are getting opportunities – through their schooling and other educational initiatives – to learn much more about their local environment.

“That’s why we are keen to support education on a wider level, initiatives such as yours, and although in Australia we have school programmes like ‘Water Watch’ and ‘Stream Watch’, it is important to have places like Banrock Station where people can get access to wetlands.



“There is also the opportunity to profit from a restored wetland because people are now willing to pay for an eco-experience, but eco-tourism is at its best when interpreted by people who know the most about it.”

Sharley says the Willalooka Wetlands Project, which is working to save and extend 6% of native vegetation remaining in the Marcollat Watercourse in the upper South East of South Australia is a good demonstration of the value of eco-tourism.

“We are restoring a series of lakes that network onto this watercourse, and the land around them is owned by different farmers who have come together to form a landcare group to improve the quality of habitat on the lakes.

“They are all cattle farmers who have grazed to the edge of these lakes over the last 70 years but today are strategically fencing with fantastic success. Why? Because they know that farms with native habitat are more valuable than farms without, as it gives them the chance to diversify their incomes with eco-tourism. Many of these farms are setting up bed and breakfasts with a point of difference – the great bird life now developing in their area.”



Banrock Station Wetland Walkway

**TE HENGA**

Partially protected by the forested hills, the Te Henga wetland is the largest relatively unmodified freshwater wetland in the Auckland region. Around 20 hectares of this wetland lies within the magnificent Matuku Reserve. This stage of Banrock Station’s contributions will build a pontoon at the end of the existing boardwalk at Matuku, and to assist in its continued pest eradication effort. The second stage will see the building of a viewing tower.

**BANROCK STATION**

The picturesque Banrock Station property includes 3,400 acres of bushland and extensive wetlands that are being carefully restored to their natural state.



When the property was first purchased, over a century of rabbit and stock grazing, and timber felling had degraded native vegetation, wildlife habitats and floodplains. Lock's controlling the ebb and flow of the river had interrupted the natural wetting and drying cycles, favouring feral European Carp and upsetting the local habitats.

Now, following passionate conservation work by Banrock Station and dedicated conservation groups like Wetland Care Australia, the wetlands and woodlands are carefully being rejuvenated. The re-introduction of natural wetting and drying cycles has spurred life. The replanting of native vegetation has reduced soil erosion, and provided homes for animals to nest. Fish barriers and drying cycles have significantly reduced the number of damaging European Carp. Importantly, native water birds are returning to nest at Banrock Station. Native fish, water plants, frogs, insects, birds and reptiles are once again contributing to the diversity of the River Murray.

The success at Banrock Station has encouraged Banrock to make important annual donations to save and restore nature reserves throughout the world. Currently, Banrock Station's wetland sponsorships spans 10 countries throughout the globe.

Taking the sponsorship of conservation concept to the broader community, Banrock Station partnered with Landcare Australia and Wetland Care Australia to commit part proceeds from all wine sales to various wetland conservation projects throughout Australia. This idea soon spread throughout the globe, and today, Banrock Station donates important funds to wetland conservation partners in 9 different countries.

**The Australian projects to date include:**

- The Coomaditchy Lagoon in the Illawarra region of the New South Wales south coast where the habitat of the green and gold bellfrog is being maintained.
- Wetlands vital to endangered migratory birds have been preserved at Seaford in Victoria.
- Work on the banks of the Erapah Creek and surrounding bushland near Brisbane has helped to improve the local environment.
- Funding to counter urban development, feral animals and stormwater pollution in the Yellagonga Regional Park, in the suburbs just north of Perth.
- The Willalooka Wetlands Project which protects and increases native vegetation remaining in the Marcollat Watercourse in the upper South East of South Australia.

- Along the banks of the River Murray in South Australia, four projects: Toolunka Flat, Reedy Creek, Riverglades and Paisley Creek, where we are helping to restore natural river flow and reduce salinity.

- Mason Park Wetlands Restoration Project at Homebush Park in Sydney - a feature of the Olympic Games site.

- Funding will help build fences and an alternative stock watering area to protect organic mound springs in Northern Kimberly, which have become damaged by grazing cattle surrounding the springs.

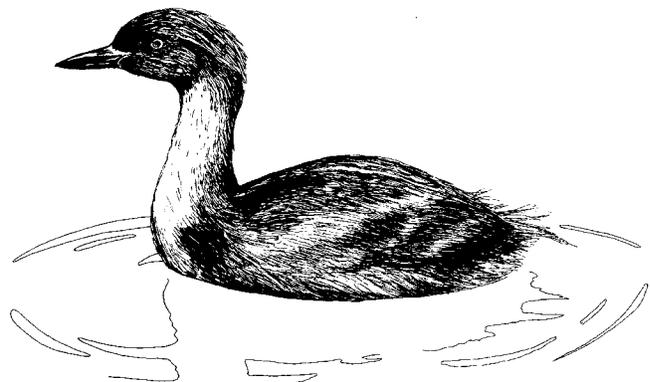
- Piney Lake - a volcanic lake approx. 10km south of Perth has suffered from continual stock grazing. Contributions will go towards fences to exclude cattle.

- Lake Bullen Merri in Victoria, 160km west of Melbourne, will benefit from work done on weed removal, revegetation and signage.

- Donations from Banrock Station will go towards rejuvenating mangroves on either side of the creek at the Oxbow Wetland at Bulimba Creek, southwest of Brisbane.
- An Oyster Farmers Site, located in New South Wales currently has a major problem with acid-sulphate soil and weed invasion problems. The sponsorship means that a better wetland will increase the breeding potential of the Green and Golden Bell Frog.

- Woolaweyah Lagoon, in the Clarence River, Yamba, 600km north of Sydney in NSW has lost most of its inter-tidal marsh habitat, vital to the life cycle of the school prawn. Together with the landowners, the Clarence River Fishermans Coop and local council, Banrock Station is helping to restore this important habitat.

For more information on Banrock Station go to [www.banrockstation.com.au](http://www.banrockstation.com.au)



# There's wealth in wetland diversity – don't lose it'

## World Wetlands Day 2005 on Sunday 6 February

The National Wetland Trust of NZ, Auckland/Waikato Fish & Game Council and DOC invite you to join us in celebrating World Wetlands Day 2005. The national theme for World Wetlands Day 2005 is the cultural and biological diversity of wetlands illustrated by the words 'There's wealth in wetland diversity – don't lose it.

In keeping with this we have created a diverse programme for the event. It starts with a field trip to three different wetlands and ends with a barbeque and illustrated talk in sponsor Mighty River Power's corporate marquee at Rangiriri on the site of the planned National Wetland Centre.

### Game Bird Habitat Trust

The World Wetland Day event this year at Rangiriri also features the launch of the annual Game Bird Habitat Trust Stamp.

This Stamp – a new one is created from original artwork illustrating one of New Zealand's game birds or wildlife species each year - is part of the Fish & Game New Zealand Game Bird Habitat Stamp Programme, which raises funds from the collection of game bird habitat stamp fees - \$2 of every hunting licence sale - as well as the sale of game bird habitat stamps and associated products.

These funds are used to improve New Zealand game bird habitat, and secondarily to improve the habitat of other wildlife, and the Trust Board seeks applications for funding wetland development projects on both public and private property

To date, it has made grants in excess of \$390,000. To assist in the consideration of Grant applications the Trust has adopted the following priorities, which listed in order of importance are used to assess the habitat:

1. Will provide hunting opportunities on public or private land with a high level of secured protection (such as QE11 Covenant, Conservation and Fish & Game Covenant, etc).
2. If not providing hunting opportunities still is on public or private land with a high level of secured protection (such as QE11 Covenant, Conservation and Fish & Game Covenant, etc).

### WORLD WETLAND DAY ITINERARY

#### Sunday 6 February

9.00am Meet at the Rangiriri Carpark, opposite the site of the National Wetlands Centre, to depart on the field trip taken by Keith Thompson, wetland ecologist. Bus transport provided from the carpark. 9.15am Leave on field trip

**10.20am** Visit Lake Kaituna at Horsham Downs, just south of Hamilton, to see a restored wetland near one of the peat lakes.

**11am** Visit Kimihia, a wetland fed by water from Huntly East Coalmine, to look at a constructed wetland with high conservation values.

**12 midday** visit to either Opuatia to see a bog wetland in good condition or to the Fish & Game owned Cocks block to see a wetland constructed to enhance a particular aspect as well as being restored to an earlier condition.

**1.30pm - 2.30pm** Barbeque and Game Bird Habitat Trust Stamp launch back at Rangiriri in the Mighty River Power Marquee.

**2.30 - 4.30pm** Illustrated talks on how wetlands represent 'wealth in diversity.'

Bring water bottles and morning tea, and don't forget your sunblock!!

**Please RSVP by 25 January to:**

**Shonagh Lindsay**

**Public Awareness Advisor**

**Fish & Game NZ**

**Email: [slindsay@fishandgame.org.nz](mailto:slindsay@fishandgame.org.nz)**

3. Provide significant game bird habitat with or without hunting opportunities on private land without secured protection.

4. In all cases, restoring or enhancing existing habitat to higher production will be given priority over creating new habitat.

These priorities reflect the contribution that game bird hunters make to the programme through the stamps they purchase with each licence; and the knowledge that better quality, more productive habitat is created by improving existing wetlands than by creating new habitat.

Over the eight years of its existence – prior to the 2002 funding round – the Trust approved 30 grants with a total expenditure of \$308,091. These grants - on habitat widely spaced throughout the country - ranged from small developments under \$2000 to the substantial purchase and creation of wetlands up to \$48,000. Although this overall level of expenditure is less than originally expected it still represents a significant investment in game bird habitat development.

## *There's wealth in wetland diversity – don't lose it'*

These photos illustrating the World Wetland Day theme next year 'There's wealth in wetland diversity – don't lose it, demonstrate the cultural and biological diversity of wetlands in those words.

The Ramsar Convention definition of “wetland” and classification system for wetland type is that:

“... wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.”

...That “may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands”.



Gediz Delta. Izmir Gulf in Turkey; 14,900 ha. on the Gediz River.



Oasis de Tamantit et Sid Ahmed Timmi. National Heritage Monument in Algeria.



Myall Lakes Myall Lakes in New South Wales, Australia



Lake Titicaca, the world's highest navigable freshwater lake (3810m), shared between Bolivia



Caño Negro Wildlife Refuge in Costa Rica



Tharu women fishing, Chitwan area, Nepal (Photo: Peter Jackson, WWF)



# Ramsar status

**By Gordon Stephenson**

Miranda/Thames mudflats, Kopuatai Peat Dome, and the Whangamarino wetland complex, all in Waikato, Farewell Spit and associated mudflats in the NW corner of South Island, and Waituna Wetland (lagoon) in Southland. These are the sum total of our wetlands registered as of international importance under the Ramsar Agreement.

Basically we are a fairly wet country, apart from low rainfall in specific places like Central Otago. Two hundred years ago there were probably about 1 million ha of wetland. We are now down to roughly 100 000 ha maximum. Those remaining become doubly valuable, and deserve every protection we can give them..

The Ramsar status does not afford any extra legal protection under NZ statutes, but it does afford any wetland so registered a considerable status and recognition. Even so one does not see signs up identifying a Ramsar wetland as one drives past, and certainly no easily available information about their values. This latter point is being currently addressed by the National Wetland Trust with a booklet on each of the five wetlands now in the last stages of production. This was funded by a grant from DOC.

However, there are many other sites around the country that would qualify as Internationally Important. The Ramsar criteria are now far wider in scope than they were when they were first proposed in 1971. They now include (abbreviated):-

- Sites containing representative, rare or unique wetland types
- Contain vulnerable or endangered species or threatened ecological communities
- Contain plant and/or animal species important for biodiversity
- Support species at a critical stage in life cycles, or provide refuge for them.
- Regularly support 20 000 or more waterbirds
- Support 1% of individuals of one species or sub-species of waterbird
- Support significant proportion of indigenous fish
- Are an important source of food for fish, or spawning ground, nursery, or migration path.

The Trust has been concerned for some time at the very limited number of Ramsar wetlands in NZ, compared with many other countries, yet we have many eligible sites. Two wetlands are currently being suggested for registration, the Manawatu Estuary and the Mangarakau wetland in the northwest of Golden Bay, south of the Whanganui Inlet.

The Trust would like to put together a list of potential sites around the country in time for the 2005 AGM. DOC has responsibilities for their registration, and we would like to help them by promoting the most important or easiest sites. There are at least a dozen, if not twenty such wetlands that would meet the criteria. I therefore invite you to cast your eyes around and identify eligible sites, list their values as best you can, and then send the information to the Trust.

Full criteria can be found on [http://www.ramsar.org/key\\_criteria.htm](http://www.ramsar.org/key_criteria.htm)

# The Ramsar Convention

**by Philippe Gerbeaux**

***This is the first of several articles on the Ramsar Convention that will appear in the next few issues of "Wet and Wild". The Trust would like to raise the profile of this International Convention in New Zealand and we will therefore explain some of the key aspects related to this Treaty and its application in New Zealand.***

***For this first article I have chosen some Trivia questions that will hopefully help you fill any knowledge gaps you would have on the Ramsar Convention. In the next article I will explain in more detail how the Convention functions. If you are really curious and impatient to know more about it you can already look at the Convention's website ([www.ramsar.org](http://www.ramsar.org)). More questions/answers on the site!***

***Continues over page***

## Historical

### Where does the name “Ramsar Convention” come from?

The Convention on Wetlands -- formally entitled “The Convention on Wetlands of International Importance, especially as Waterfowl Habitat” -- was signed at an international conference in Caspian seaside town of Ramsar, Iran, in 1971, and the treaty has been known informally by that name ever since. The name should be written Ramsar Convention, not RAMSAR.

### Which nations signed the Final Act in Ramsar, 2 February 1971, recommending the Ramsar treaty to their governments?

Signatory nations: Belgium, Denmark, Finland, France, Germany (Federal Republic), India, Iran, Ireland, Jordan, Netherlands, Pakistan, South Africa, Spain, Sweden, Switzerland, Turkey, USSR, and the UK

### Who are now considered the “Founding Fathers of the Convention”?

- Luc Hoffmann (who was recently honoured by IUCN – see their website)
- G. V. T. Matthews
- Eric Carp
- Eskander Firouz

### Which international non-governmental organizations played an instrumental role in the evolution of the Ramsar Convention on Wetlands?

- IWRB (International Waterfowl and Wetlands Research Bureau), now Wetlands International, and
  - IUCN--The World Conservation Union, with major support from
  - WWF, the World Wide Fund for Nature
- (All are now recognised as “International Organization Partners” along with Birdlife International)

### Who became the first country to sign the Convention agreement and which year did New Zealand become a Member of the Convention?

- Australia (1975)
- 1976

### What was the first Ramsar Wetland of International Importance?

Cobourg Peninsula, Northern Territory, Australia, 220,700 ha (designated 08/05/74, before the Convention came into force in 1975).

***To be continued in the next Wet & Wild newsletter***



# WETLANDS, THE RESOURCE MANAGEMENT ACT AND MANAGEMENT-BY-POLICY

By Keith Thompson & Dianne Stockdale

'Wetlands: a Diminishing Resource', a report of the Environmental Council in 1983, profiled a number of wetlands around the country with management problems. 20 years down the track, why then, since wetlands ecologists have most of the required management knowledge, are so many of the problems identified then still around? We're not talking here about purely cosmetic problems like fencing and boardwalks and planting programmes - this is about addressing the two most important ecological factors in wetland management: hydrology and nutrients.

The type, structure, functioning and condition of a wetland are controlled primarily by water quantity, duration, periodicity and depth; secondarily by water quality (nutrient and sediment loading). Changes, involving species replacement (processes of 'ecological succession') are progressive and may extend over decades. In wetland management, cadastral boundaries are ecologically irrelevant and a mere distraction. Neither the RMA nor most local government regulations demonstrate much understanding of wetland ecosystems or of ecological time-scales involved in their functioning.

So although warm-fuzzy, feel-good wetland conservation and enhancement activities, like fencing to keep out stock, planting programmes, pest-fish removal, possum control, etc, abound, these are usually cosmetic improvements only, compared with the more fundamental deficiencies in wetland management plans - viz. the lack of serious consideration of the long-term hydrological and nutrient dynamics of the system and whether the wetland is going to survive at all!



For instance, every single lowland wetland (except two - and both of these are fed by coalmine wastewaters!) in the Greater Waikato region has been seriously impacted by agricultural activities or urban development - usually affecting both water supply and nutrient runoff from the catchment. In fact, agriculture is by far the greatest national threat to our natural wetlands - even high country wetlands (such as in the Waitaki) are impacted heavily by pastoral development. In an agricultural landscape, a fence is useless for fully protecting a conservation wetland unless it encompasses the entire water catchment, because the water table is contiguous on both sides of the fence. One landowner wants the water table up and the other needs it down. And conservation is always the loser, as at Lake Poukawa in Hawkes Bay, and the peat lakes of the Waikato.

## FIGURE 1 BELOW LEFT

Moanatuatua Peatland Scientific Reserve is the only remaining remnant (120ha) of the once vast (over 40 000ha) restiad peat bogs surrounding Hamilton which still retains the very rare *Sporadanthus/Empodisma* vegetation type. The peat depth is over 7metres and it is surrounded by intensive pastoral development. Healthy bogs in the Waikato climate need a water table within 200-300mm of the surface for 9-10months in the year but, being ringed by agricultural drains, this is not possible.



### FIGURE BELOW RIGHT

This drain is shared by the Moanatuatua Reserve and a private landowner. Note the extent of peat shrinkage on the pastoral side. Although this landowner was reprimanded for such aggressive deepening, the drain is still there. No esplanade is contemplated because Moanatuatua is not legally a water body - it is 'land'.

The Reserve has now lost all its small plant species (orchids, bladderworts, clubmosses, sphagnum, etc) shaded out by the enhanced growth rates of the tall restiad rushes responding to lowered water levels and fertiliser drift. Landcare Research has been monitoring the decline of the water levels in the Reserve for several years. Many District Councils have restrictions on tree-planting and spray use along cadastral boundaries, so why are boundary drains permitted when they seriously impact on the legitimate neighbouring landuse?

Lowland peatlands are the most susceptible wetlands to agriculture, because peat will only accumulate if the substrate is waterlogged. If it isn't, the peat oxidises.

Because most of the Waikato's peatlands have now been converted by drainage to pasture, their production of carbon dioxide by on-going oxidation could be as much as 15% of New Zealand's total fossil fuel use. Hopefully, this is factored into our Kyoto protocol agreement!

So much for conservation and agriculture: what happens if there are two farmers on a peat substrate? One grows maize and fuelwood and the other grows organic blueberries? Well the blueberry grower will lose their crop, because the RMA doesn't handle this sort of conflict well and neither do District and Regional Councils: resource consents for land use are granted by the territorial authority, and for water use by the regional council. Wetlands need both Councils to talk to each other over wetland management issues, but they often don't.

There should also be prescriptions for the 'wise use' of land resources, with owners not necessarily having the last say on their preferred land uses.

The problem is that the RMA provides no accountability - it is non-prescriptive - there is nothing to measure things against - no base levels. This leads to inconsistencies because of the number of Councils around the country who independently interpret the RMA. And decisions are taken more at a political and planning level, with very short time perspectives. There is too much reliance on planning-based, rather than science-based, solutions and on self-justifying local government regulations.

Moreover, preoccupation with 'mitigation' (as in the RMA's 'mitigation of adverse effects') has led to a culture dedicated only to corrective management, rather than getting to the root cause of the problem. In fact mitigation doesn't work for wetlands, because it means 'compromise', not 'avoid' or 'eliminate'. If you have a high-value conservation wetland, the very last thing you want to do is to reach a 'compromise' with an adjacent landowner. Compromise usually means less water and then you no longer have a high-value wetland. The RMA only works well administratively and politically; 'ecology' is not in its functional vocabulary, although the word 'wetland' is there to 'deceive' - to make readers think that some thought has gone into the management of them!

So it is a pity that the RMA does not make adequate statutory provision for mediation, because adversarial resolution in a very expensive Environment Court is a most unsatisfactory and inadequate means of managing wetlands. After all, if there are insufficient data available to scientists and managers for conflict resolution, does it make any sense at all the take the matter to Court so that lawyers can then waste thousands of dollars arguing over the same inadequate information?

### Peat lakes: a case example

There are about 40 lowland peat lakes (small water bodies impounded by peat deposits - usually of the bog type) in the Waikato. They have a physical uniqueness which is international as well as national, but all have been seriously impacted by agricultural development over the decades - dairyshed effluents and lake levels lowered by several metres as the surrounding peat shrinks and oxidises under agricultural development. Most have very little riparian protection and, although a few still retain high conservation and ecological values (although many no longer do), all are still in a state of decline.

**FIGURE 4 BELOW** Lake Rotokawau, a classic peat lake near Ohinewai (Lake Waikare beyond). Bog peats in the foreground are 8metres deep, and surface levels have fallen considerably under agricultural drainage (note ponding water at the left). No natural vegetation remains, because the lake receives two large farm drains and has been ultra-eutrophic for many years. It is still a very attractive wetland, although the vegetation types are 'derived'. The conservation problems at Rotokawau are recur in most of the Waikato's peat lakes.

Since the introduction of the Resource Management



Act 1991, various agencies within the Waikato Region have formulated policies, and/or initiated scientific research, specific to the conservation/preservation of the region's unique peat lakes. To discuss the evolution of the policies since the inception of RMA, we have decided therefore to follow the policy trail along the two key themes of hydrology and nutrients, to see where it leads us in terms of resolution and practical management activities. Each of these themes is fundamental to the survival of the peat lakes.

The following table summarises the chronology of the policy formulation and research projects over the past 15 years - a long time to be still waiting for various policies, plans, guidelines and statements to be translated into real, sensible, on-the-ground management action. Whilst we have been waiting, the peat lakes and their associated wetlands have further deteriorated in both extent and quality. The plethora of paper policies prepared pursuant to RMA have failed to protect or enhance the peat lake ecosystems, because they have no teeth, many do not have ecological bases, and practically none have been enacted with any degree of effectiveness. How often has this depressing scenario been developed around the country in other regions?

So, by 1993, all the main plattitudes had been incorporated into key Sections of the RMA, and local government had responded with it's own in various Policy Statements, Visions and Plans (Strategic and otherwise), and the Department of Conservation also promised much support for wetlands in its 1993 CMS. In addition, during the 1990s, several of the peat lakes got their own Management Plans and the Waipa District Council pledged \$12million over 10 years for its peat lakes. And there have been several detailed studies by research students and consultants, with many practical management recommendations.

Note that the Ministry for the Environment (MfE) does not feature in the above table. There are no National Guidelines for wetlands management. There has no, in fact, been a national statement on wetland conservation and management since 1985. Local and regional government authorities - and DOC for that matter - just make their own guidelines and regulations up - and they differ from region to region, territorial authority to territorial authority. Consistency is not an appropriate word in wetland management around the country.

**FIGURE 4 BELOW** Henderson's Pond, although privately owned, is a listed peat lake wetland with a 'set' lake level, subject to the 1992 District Council development restrictions and the 2003/4 Regional Plan restrictions. Nevertheless, in 2004 de-stumping of the peat and subsequent burning of the wood by the landowner resulted in a peat fire which went a long way towards destroying the peat lake character. Council monitoring personnel cannot be everywhere at once, but this example illustrates well that many wetlands are very delicate and it only takes one mistake (intentional or accidental) to destroy or seriously damage them. This fact needs to be more clearly highlighted in relevant policy and legislation and in the penalties imposed for transgression.



**FIGURE 5 BELOW:** Lake Ngaroto is a peat lake Reserve between Hamilton and Te Awamutu extensively used for recreation. It has boardwalks and extensive interpretive signage and, from one of the many culverts and bridges facilitating drains entering or leaving the lake, visitors can see this excellent example of riparian protection - how retirement and planting of the margins of our waterways can greatly assist in containing agricultural nutrients and soil erosion!



So, after all this activity, what has been actually achieved in wetland conservation after almost 15 years of policymakers policyming, planners planning and managers managing?

Frankly, not very much. In 1993, DOC talks about maintaining 'natural' water levels, but doesn't say what 'natural' actually means. Councils talk about buffer strips and drainage restrictions in 1992 and 2004, but nothing much happened in between. In 1991 the Regional Policy Statement talked about 'Council needing to make the hard decisions...', but we're still waiting for these.

And yes, statutory minimal levels have now been established for most of the lakes, but since a lot of them are now too shallow to have long-term viability this calls into question whether the policymakers have bothered to read, or have just failed to understand, the scientific background and the need for an ecological approach to management if conservation is going to stand a chance of working. Setting levels doesn't address the on-going shrinkage of the peat either. It's a temporary cop-out.

The sensible approach would have been to work out a sustainable, ecologically-viable lake depth, calculate the width of the buffer strip necessary to guarantee that, buy the land needed to establish that buffer, then set the lake level. And there can never be a 'generic' width for buffer strips/esplanades. The width must be calculated as part of the long-term management plans for each lake - and the answers will all be different - buffer zones are site-specific if you're serious about conservation.

By the same token, what's the point of installing nutrient traps in drains, or even irrigating dairys shed wastewaters on pasture, when the number of stock in the lake catchment is equivalent to a human population of several thousand? Intensive dairying can release over a tonne of nitrogen per hectare each year as faeces and urine alone. And why is superphosphate still permitted in the catchments of the best peat lakes instead of insisting on slow-release rock phosphate (as recommended in 'For Peat's Sake, above)? Why is money being spent on planting schemes before addressing the more basic issue of there being maybe enough phosphorus in a lake's sediments to support decades of cyanobacterial blooms?

These are practical issues, and policies are supposed to be designed to lead to them - but it isn't happening. Instead, policies seem to lead to re-statements of policies, rather than practical applications of them. Scientific studies tend to lead to more studies, on the same topic. Forgive us for being cynical, but policymakers appear to be fiddling and repeating themselves (see table above) whilst Rome burns.

The 'policy culture' in Councils is not being translated into practical solutions and conservation progress for our peat lakes. Councils are not 'prioritising'. They're saying 'no more loss of wetlands' (which is good), but they seem to be unclear about which ones are worth saving, or how to go about it. They rarely seem to be able to get their policies properly into practice. They're hung up on 'compromise' - the death knell for most wetlands. Compromise may be politically, diplomatically and legally correct, but it is no basis for conserving a high-value wetland.

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It seems almost incomprehensible that thousands of hectares of prime agricultural land can be so readily released for extending urban sprawls throughout the country and for the epidemic in rural land subdivisions, and yet 'marginal land', once subject to development and drainage subsidies, is still being farmed intensively and to the detriment of important conservation wetlands.

There's a lot of money being made in development: surely there has to be a way of 'balancing the books' a little - compensating conservation interests for serious damage to their property. What does the RMA say about 'mitigation of adverse effects'?

Where does the legislation say that this only applies to commercial interests? Wetlands and wetland soils, whether designated for conservation or for utilisation, are suffering from inadequate legislation, short-term management planning and a lack of ecological understanding and prioritisation of management tasks. The Waipa District Council has allocated \$1.2million to enhancing Lake Ngaroto; it's not a very good example of a peat lake - ecologically there are much better ones - but it has high recreational value. Money is easier to get for recreation. In the Hauraki Basin, \$1.2million is needed to bring one of New Zealand's most exciting wetland restoration projects to fruition. Unfortunately, it's only a bog - it lacks the 'charisma' to attract funding ..... but that's another story!

## Restoring Wetlands Forum

The first national gathering of science, agencies and communities restoring wetlands was held in Wellington at the end of Feb 2004.

The Forum was held at Tapu Te Ranga Marae (pictured) in Wellington on Friday 27 and Saturday 28 February.

### **Presentations included:**

Seven ways to maximise biodiversity in your wetland by Brian Sorrell NIWA, Christchurch  
Wetland Restoration through Advocacy - A case study in Tasman District by John Preece  
Mudfish by Rachel Kelleher  
Smart ways to deal with weeds by Paul Champion

The gathering was organised by ABC along with Greater Wellington and the National Wetland Trust. It was an amazing opportunity for a very wide range of people to talk together on where they are at and how to develop good information sharing. Participants included councils, landowners, scientists, Fish and Game, DoC, community groups and others. Together they shared information on what is working and where the challenges lie.

The group agreed that the gathering was incredibly useful and should be repeated every two years.



# RESOURCE MANAGEMENT ACT AND MANAGEMENT-BY-POLICY

Time Scale	Origin of Policy/Research	Policy/Research Recommendations
1991	<p>Introduction of RMA “An Act to restate and reform the law relating to the use of land, air and water”</p> <p>Preparation of a Regional Policy Statement for Waikato Regional Council. Waikato Resources Assessment: Vision 2000 Draft – Waikato Regional Council</p>	<p>S5 – to promote the sustainable management of natural and physical resources...</p> <p>S6 – shall recognise and provide for ...matters of national importance ...the preservation of the natural character of ... wetlands, and lakes and rivers and their margins, and protect them from inappropriate ...use and development</p> <p>“Remnants of native bush and wetlands should be protected.... The development of peat is in direct conflict with the use of peat for wildlife habitat, flood control, scientific and aesthetic values. To protect these values water tables need to be maintained to keep the living peat viable.... In some cases, Council will have to make the hard decisions and impose conditions which will severely limit the use of certain resources...”</p>
1992	Draft District Plan (Objectives and Policies) Waipa District Council	<p>2.4.3 Rule – Protection of Peat Lakes and their margins...No activity shall be allowed which...modifies the natural vegetation within 50m of the edge of the lake...modifies the soil surface within 500m of the edge of any peat lake...involves land drainage which will alter the hydrologic regime of any peat lake...involves the distribution or discharge of any nutrient rich substances within the catchment of any peat lake.</p>
1993	<p>Draft Strategic Plan Waipa District Council</p> <p>Champion, P., K Thompson. Esplanade Reserve Recommendations for Lakes Serpentine, Mangahia, Rotomanuka, Ruatuna and Cameron (Waipa District)</p> <p>Waikato Regional Conservation Management Strategy – DOC Waikato Conservancy</p>	<p>To establish and secure esplanade reserves around the 13 remaining peat lakes without existing reserves by the year 2010.</p> <p>There is no point in establishing esplanades unless they have long term viability...</p> <p>Maintain natural water levels....reduce agricultural non-point source pollution...</p>
1994	Thompson, M., Substrate Coring Around the Waipa Peat Lakes to Aid in the Establishment of Esplanade Reserving.	<p>Conclusions:</p> <p>...there can be no compromise between the Council who are trying to preserve the lakes and the local farmers who seek to develop the surrounding land. Either the lakes will disappear altogether or the farmers will lose a considerable amount of prime pasture land to esplanade reserving...</p>

# RESOURCE MANAGEMENT ACT AND MANAGEMENT-BY-POLICY

<p>1995</p>	<p>Hamill, K.D., Nutrient Transformation in the Lacustrine Groundwater of a Waipa Peat Lake: Lake Serpentine.</p> <p>Stockdale, D., Sustainable Peat Lake Management: The Critical Role of Hydrological Modelling. A Study of the Rotomanuka and Serpentine Complexes, Ohaupo.</p>	<p>Management Recommendations:</p> <p>Lake protection depends on reducing phosphorus inputs...Phosphorus loads can alter the composition of algal communities and stimulate algal growth and blooms...</p> <p>Drift from lime should be minimised...pH is increased by lime, which detracts from the character of peat lakes and makes conditions more favourable for troublesome algae...</p> <p>Application of fertiliser in winter should be avoided....</p> <p>Sediment-bound nutrients are best removed by swards of dense ground cover...</p> <p>Drainage lines should be stopped before the lake margin....</p> <p>The water table should be kept high... Maintain a fluctuating water table....</p> <p>Lake monitoring should be rationalised and focus on understanding processes...</p> <p>Conclusions: The environmental water needs of the lakes defined as:</p> <ul style="list-style-type: none"> <li>· Retention of precipitation</li> <li>· Exclusion of direct inflow by drainage</li> <li>· Maintaining a high phreatic water level with limited fluctuations...to encourage peat regeneration</li> <li>· Shielding the lakes and their peat margins against undesirable ground water removal..... by use of 'hydrological conservation zones'...</li> </ul> <p>These environmental needs are clearly incompatible with the needs of the developers...</p> <p>Resource managers have to look toward the end use of the lakes and establish their individual 'conservation worth'...There needs to be an ultimatum – "conservation or conversion".</p>
<p>1996</p>		



1997	Greenwood, J., Thompson, K., Waipa Peat Lake Restoration	<p>Management priorities:          Peat lakes and their wetland margins are very delicate.....a strict management protocol must be followed for peat lake systems: either it is to be conserved or it is to be developed and the management plan must follow one or the other option. Compromises will not work in the long term...There is no such thing as a 'generic buffer strip' for peat lakes. Criteria to consider are: peat depths, types and extents, hydrology and drainage, relief, importance of wetland communities....Peat lakes must be managed through full collaboration between the relevant agencies...</p>
1998	Environment Waikato's Proposed Regional Plan	<p>Controls land drainage in areas adjacent to identified wetlands and within wetlands...to avoid further degradation of these rare and valuable ecosystems.</p>
1999	For Peat's Sake' – Good Management Practices for Waikato Peat Farmers. Prepared by Environment Waikato in association with the Waikato Peat Management Advisory Group	<p>Shrinkage will continue until eventually there is no peat left – a unique and valuable resource will be lost forever.</p>
2000 2001	Waikato Regional Policy Statement	<p>3.4.8 Wetlands          1. Unique botanical, aquatic and wildlife habitat of wetlands protected.          2. Wetland areas protected and enhanced.          3. No net loss of total wetland characteristics.</p>
2002	Waipa Peat Lakes and Wetlands Accord	<p>Purpose: To align the activities of management agencies when working with landowners.....towards the restoration and enhancement of Lakes and Wetlands in the Waipa District.          Objectives: Promote the sustainable use and conservation of lake and wetland resources....          Encourage restoration of degraded lakes and wetlands...          Maintain an overview of the status of lake and wetland resources...</p>
2003		





2004	Proposed Waikato Regional Plan: - Water Module  Long-term Community Conservation Plans (LTCCPs).	3.7 Wetlands 3.7.5 Environmental Results Anticipated 1. No further loss or degradation of areas of significant wetlands. 2. Wetland areas protected and enhanced. 3. Minimum levels set for peat lakes. 4. Resource consent required for any drainage within 200m of a listed wetland.
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### MEET THE NWT TRUSTEES

There is an enormous amount of knowledge, experience and credibility in our group of trustees. Several are leading wetland practitioners, with Gordon Stephenson one of the first advocates for wetlands in New Zealand. Read on for a brief summary of their talents, experience and skills.

#### ***Gordon Stephenson CNZM***

Gordon is a semi-retired farmer from Waotu (near Putaruru). Gordon has a long history of involvement in farming and environmental issues. From 1964 until recently he owned and ran a dairy farm in the South Waikato, and was national chairman of the Dairy section of Federated Farmers from 1973 to 1977. He is a Trustee and judge for the Waikato Farm Environment Award. He is also a trustee of the Maungatautari Ecological Island Trust and the New Zealand Landcare Trust and was on the Forest and Bird national executive from 1987-1990. He helped develop the concept of the QEII Trust, which was enacted in 1977, and was on the QEII board as deputy chairman until 1988. He also served on the council of Lincoln University from 1979-1988 and on the Environmental Council from 1976-1988, where he was also deputy chairman. He is currently chair of Waikato Catchment Ecological Enhancement Trust and Member of South Island High Country Review Committee. Gordon was the Convenor of Wetland Task Force which prepared Wetlands: A Diminishing Resource' and is also the author of the book 'Wetlands: exploring New Zealand's Shy Places. Gordon together with David Lawrie set up the National Wetland Trust in 1999.

#### ***Keith Thompson***

Keith is a senior lecturer in Ecology at the University of Waikato in Hamilton. Keith specialises in ecology and management of wetland, peatlands and the land-water interface. He is also a committed conservationist. He received the 1990 NZ commemorative medal for services to conservation and a recipient of a DOC conservation award for his role in wetland protection and research. Keith has also served time as a RAMSAR Australasian representative on the International Union for the Conservation of Nature (IUCN) Scientific and Technical Committee.

***We will introduce you to more NWT Trustees in subsequent newsletters.***

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