### DUCIKS UNILIMITTED NEW ZIEALAND INC.

### For Wetlands and Waterfowl



**ISSUE 162** 



January 2015

Wetlands under scrutiny Dan Steele Nuffield Scholar Heaps of photos

## **From the President**

Well spring has past with good numbers of ducklings observed on local wetlands in Central Hawke's Bay. The problem now is will the weather gods give us enough rain to top the wetlands up before a projected dry summer. Fingers crossed.

DU NZ has supported a number of wetland enhancement projects over many years but we have also been sponsoring a number of students carrying out research on wetlands and birds. This issue of Flight features updates on research being carried out by students from Victoria University on Wairio wetland and a student from Massey University working on bittern at Lake Whatuma. I look forward to reading their reports. (see pages 6-7 and pages 10-11).

The DU Directors are meeting later this month and the location for our 2015 annual conference will be confirmed.

I trust you all had an enjoyable Christmas and New Year.

John Cheyne

### New members

A very warm welcome to DUNZ Inc to: Marc Jurlina of Masterton Bryce Hazlitt of Levin And welcome back to Paul Pirani of Katikati

We were very sad to learn of the death of Brian Maunsell of Masterton recently. Brian and Pam have been long term supporters of DUNZ. The Board offers their sincere condolences to the family.

## 2015 AGM

The AGM is to be held in the Manawatu this year -2015.

Dates and venue to be confirmed but is expected to be around the same time as last year. Early August.

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#### Deadline for copy for Flight 163 is March 6, 2015.

(Please make an effort to send photos & stories)

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### **Board of Directors**

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**Cover photo:** The 'Ghost' whio at Tongariro National Park. See story page 5.

Photo: Adam Clarke



**Bittern** 

release

10/11

Emma Williams releasing the

first male bittern trapped at Lake

Whatuma after attaching the first

DU sponsored transmitter. See pages

### Photo shoot

Swans were the focus of attention at Mike Bourke's wetlands. See the results on page 8.

## Birds in peril world over



Bird species the world over are victims of human activities and thoughtlessness.

Who would have thought our local New Zealand sea birds (red beaked gulls in particular), could ever reach a point when their numbers would dwindle and the possibility of their extinction could be just a matter of years away?

In Britain too, there is a dramatic decline in farmland birds – a decline of 55 percent since 1970. And humans are the cause. There are more and more of us and therefore, more and more land is required to grow our food.

Water and wetland birds in Britain have fallen by 12 percent in five years, seabirds have declined by nine percent and although woodland birds seem to have remained stable in recent years, they are down by 28 percent since 1975.

Co-patron Diane Pritt interview Country Life, National Radio Radio New Zealand's Country Life presenter Susan Murray took the time to travel to Ohakune and meet Ducks Unlimited CoPatron Diane Pritt at her home farm Mitredale.

**Spoonbills** 

There were several spoonbills

taking advantage of the pickings

at Huritini recently. See more on

check in

pages 8/9.

So if any of you are listeners to National Radio's Country Life programme on Friday nights or Saturday mornings, you might be lucky enough to catch that interview.

Susan was not able to give us an exact date that it would be on air, but it will be early this year. Keep your ears tuned.

# wetland care



Our business is to harness community, business and government resources to restore and develop lost wetland areas within New Zealand.

Wetland Care members recognise that wetlands are vital to the wellbeing of the environment, acting as huge ecological sponges by soaking up pollutants and filtering water before it reaches streams, rivers, lakes, aquifers and the sea.

Our initiatives focus on matters as far-reaching as groundwater replenishment, flood control, nutrient and contaminant management and climate change – all critical factors for the conservation of freshwater and saltwater wetlands and marshes.

We want to preserve and conserve the flora and fauna of our most endangered ecosystem so that vibrant wetlands are our legacy to future generations.

Funding for projects comes from the Waterfowl and Wetlands Trust established by Ducks Unlimited New Zealand Inc in 1991, as well as from membership, donations and corporate memberships.

Central to Wetland Care New Zealand's mission is forming partnerships with people and organisations with similar aims. Money from our partnership with Banrock Station Wines has been given to wetland conservation projects done by, among others:

**Tutukaka Landcare Coalition** Tawharanui Open Sanctuary Society Inc. **Ducks Unlimited Operation Pateke** Port Charles release 2005 at Coromandel Henley Trust, Masterton Karori Wildlife Sanctuary, Wellington **Kitchener Park, Feilding** Manawatu Estuary Trust, Foxton Mangaone Wetland, Raetihi **Masterton Intermediate School** Steyning Trust, Hawke's Bay Travis Wetland Trust, Christchurch Wairo Wetland, South Wairarapa Wetland Trust New Zealand, Rangiriri Waitakere Branch Forest and Bird Yellow-eyed Penguin Trust, Dunedin Cape kidnappers pateke release, 2008 and 2009

Fiordland pateke release, 2009.

For further information, please contact: William Abel - Director, Wetland Care New Zealand, phone 06-362 6675 PO Box 281 Levin.



## Takahē take to new home

In October last year we released 10 takahē into Tāwharanui Open Sanctuary, North Auckland. This nationally critical species has come to Tāwharanui as a secure site that may enable breeding to improve the population and its conservation status.

Despite being released 2km in a straight line from the Mangatawhiri wetland and further as the takahē trundles, six of the 10 birds have chosen to take up residence here for several weeks and now appear very stable and settled.

As the young birds age and set up pairings and territories this may reduce but for now they're enjoying their new home and are easily viewable by visitors to the park.

Banrock Station Wines and Wetland Care New Zealand funded the restoration of this wetland in 2007-2008 in preparation for pateke reintroduction. Since then pateke have done very well. Pleasingly, a number of other birds have taken up residence, notable inclusions being spotless crake, banded rail, Northland Brown Kiwi and Australasian bittern.

Tāwharanui Open Sanctuary is a pest free regional park integrating conservation with recreation and farming. It is managed as a community partnership between Auckland Council and Tāwharanui Open Sanctuary Society Inc (TOSSI). See www.tossi.org.nz

Just as we thank those who helped with restoration of the wetland, we'd like to acknowledge the support of our takahē reintroduction partners: Mitre 10 Takahē Rescue, Mitre 10 MEGA Warkworth, the Tindall Foundation, JS Watson Trust, Flight Centre Foundation, Department of Conservation and the generous support of TOSSI members.



All in: A group of Takahē at a feeder used to help them settle and to enable future management requiring capture.

Photo: TOSSI.

Matt Maitland, Senior Ranger Open Sanctuaries. Northern Regional Parks, Auckland Council.

## Dan (the Blue Duck man) Steele

Ducks Unlimited director Dan Steele, is one of this year's five Nuffield New Zealand Scholarship winners.

In the past 60 years this award has provided the opportunity for a select group of young rural New Zealanders to have a life changing experience. Overseas travel, study the latest developments in agricultural countries, along with the opportunity to meet leaders and decision makers.

Dan, a farmer and conservationist, said he intends to focus on Brand New Zealand. He wants the chance to promote NZ products because they are the best. Strengthening rural towns and involving communities in conservation to build the belief there is value in looking after our own environment is one of his aims.

Dan already has overseas experiences, but for many years now has been running his property Blue Duck Station. The 1460ha sheep and beef station and the conservation projects also involved there, include working with his parents on their neighbouring Retruke Station, building his Blue Duck Lodge in 2005 and founding Wild Journeys commercial jet boats partnership.

Preserving native bird species, particularly blue duck and kiwi, retiring or planting steep and marginal land, improving water quality and trees for bees, increasing manuka/bush honey production and creating a place for guests to stay and be involved with the land.

A most important partnership is with his wife, Sandy Waters and their two children. And if all that was not enough Dan is also involved with Ruapehu Regional Tourism, Ducks Unlimited, Wetland Care and Whanganui National Park Conservation and Historic Preservation Trust.

Other Nuffield winners this year are: Bede O'Connor, a West Coast dairy farmer. Ben Allomes, Woodville dairy farmer. Satwant Singh who is part of the Fonterra Commodity Risk and Trading team and also works on her family dairy farm near Morrinsville. And finally Sharon Morrell a regional leader with Dairy NZ based in Rotorua.

Lord Nuffield was William Morris, founder of Morris Motors. He was a philanthropist and initiated a travelling scholarship scheme for British and Empire farmers.

Nuffield wanted to recognise their contribution to feeding the nation during the war and the scholarship was a way of promoting agricultural best practice around the world.

Seven countries are part of the scheme, and award between 50 to 60 scholarships to young agriculturalists each year.



## 'Ghost' whio returns to Whakapapanui Stream



Paired up: No colour bar here. Photo: Adam Clark.

A 'ghost' whio that hatched on the Whakapapanui Stream in Tongariro National Park two seasons ago appears to have returned to the stream near Whakapapa Village - with a mate this time.

Nicknamed the ghost whio due to its very pale light blue grey colouring the duck was part of a clutch that hatched on the stream close to Whakapapa Village two years ago. Captured in family photos at that time the unusual coloured duck has not been seen close to the village since.

However, Hastings resident Adam Clarke was excited to report the sighting and to get photographs of the unique ghost blue duck while in the area during school holidays whio spotting.

"I was excited when I spotted the duck just below the Whakapapanui Stream bridge. I had already spent a couple of days looking in the Turangi and Tongariro area and after an afternoon scouring streams around Whakapapa Village without any luck I was happy to finally see a pair by the Major Jones Bridge in Turangi," said Adam.

"But I was just blown away when I took a chance and stopped at the Whakapapanui Bridge just above the village. I looked over the side of bridge to see this amazing specimen! "I feel very lucky to have been in the right place at the right time," said Adam who believes the ghost whio is male as he heard the signature whistle.

Tongariro Senior Ranger Alison Beath said staff were also excited to hear the ghost whio was back in the area.

"This duck hatched below the Whakapapa Intake a couple of seasons ago, and we've had sporadic reports of him from the lower Whakapapanui Stream. It's great he's shown up again, as we weren't sure if he had survived or not," said Alison.

"His light colouring obviously hasn't been a



Ghost whio: Due to is pale colouring. Photo: Adam Clark.

disadvantage yet - in fact he seems to be quite well camouflaged when he is in the white water."

Alison said the distinctive duck had not been tagged as it was preferred to leave them alone as much as possible however it was encouraging to see he was with another duck which could mean he has found a mate and may remain in the area.

It appears the whio season started early with the first ducklings reported hatched in the Tongariro Forest site earlier in October and in other areas at the start of the month.

Genesis Energy and the Department of

Conservation have partnered together in a five year programme to secure the future of this unique vulnerable native bird. Operating under the name of Whio Forever this partnership is fast tracking implementation of the national Whio Recovery Plan to protect whio and increase public awareness.

The support of Genesis Energy is enabling DOC to double the number of fully secure whio breeding sites throughout the country, boost pest control efforts and enhance productivity and survival for these rare native ducks.

Stephen Moorhouse and Robyn Orchard



# **Wairio under scrutiny** Ecological restoration of Wairio Wetland, Lake Wairarapa

The response of native wetland vegetation to eutrophication and revegitation management strategies.

#### Abstract: Aprille Gillon.

Wetlands are highly productive ecosystems that support abundant native fauna and flora and provide many essential functions and services, for example, water purification, erosion stabilisation, floodwater storage, groundwater recharge, peat accumulation and biogeochemical cycling.

Despite the vast benefits wetlands provide worldwide loss and degradation still continues, mainly due to agriculture, urban development, population growth and exploitation.

Wetland disturbance can cause altered hydrological regimes, invasive species introduction, soil and water eutrophication, habitat fragmentation and reductions in native fauna and flora leading to an overall reduced functionality.

Ecological restoration is an active practice commonly undertaken in degraded wetlands to re-establish ecosystem functioning, and most commonly includes revegetation, reconstruction of hydrology, weed control, pest management, and native species reintroductions.

Wairio Wetland on the eastern shores of Lake Wairarapa forms a part of Wairarapa-Moana, the largest wetland complex in the lower North Island. Historically Wairio was an abundant kahikatea swamp forest, with a diverse range of waterfowl, waders and freshwater fish. However, the wetland was adversely affected by a draining scheme during the 1960s and 1970s, the construction of Parera Road, and the invasion of willow trees planted for erosion control.

Draining of the wetland, division from nearby lagoons and ponds, nitrogen and phosphorus build-up in waterways and exotic weed invasion all contributed to the poor state of the wetland. In 2005, Ducks Unlimited (DU) in conjunction with the Department of Conservation (DOC) and members of the local community formed the Wairio Wetland Restoration Committee to manage and restore the wetland to its presettlement state. Restoration undertaken at the site have included native tree planting, earthworks, weed control, pest management and fencing sections of the site to exclude cattle, have met with mixed success.

This thesis reports on two studies

undertaken at Wairio Wetland with aims to inform future restoration efforts.

There had been a proposal to divert nutrient rich water from Matthews lagoon into Wairio Wetland to increase filtration and improve

The study involved monitoring 2368 planted trees of eight native wetland tree/shrub species, including: Cordyline australis, Dacrycarpus dacridioides, Olearia virgata, Podocarpus totara, Coprosma robusta, Coprosma propinqua, Leptospermum scoparium, and Pittosporum tenuifolium. The trees were subjected to various planting treatments, including the excavation or retention of topsoil, presence or absence of weed mats and presence or absence of nurse trees with spacing of 0.75m or 1.5m. Survival and growth of each tree was measured every six months over the 30 month experimental period.

Results showed that interspecific competition and hydrology appeared to be the main processes influencing the establishment of native plantings at Wairio Wetland, with plant mortality greatest in the first year after planting. Water logging, in particular, was detrimental to establishment of all species at the site except D. dacridioides. Topsoil excavation and the planting of nurse trees at 1.5m spacing was the most effective management treatment combination promoting survival of plantings at Wairio.

However, the success of management treatments varied greatly between species at the site and had different impacts on plant growth. Topsoil excavation was beneficial to survival of D. dacridioides and C. robusta but detrimental to growth of C. australis, O. virgata, C. propinqua, P. tenuifolium and L. scoparium.

The concurrent planting of nurse trees with focal trees was beneficial to the survival of D. dacridioides, growth of P. totara, and survival and growth of C. australis. The planting of nurse trees further apart at 1.5m compared to 0.75m had a positive effect on the survival of C. propinqua and P. tenuifolium, and survival and growth of L. scoparium. Weed mats were beneficial to survival of O. virgata and growth of L. scoparium but detrimental to growth of D. dacridioides. These management treatments can be used in future revegetation efforts at Wairio Wetland and potentially in other wetland restoration projects throughout New Zealand. the water quality of Lake Wairarapa. The outcomes of the effects of nutrient loading on established plant communities remain unknown. Therefore, the first study conducted between December 2012 and May 2013 in

Stage 2 of the wetland, examined the effects of fertiliser addition on biomass, structure and diversity of a wetland plant community.

Different levels of phosphate and nitrate fertiliser were applied to 50 plots (4m2) of vegetation at the site with percent cover and the average height of respective species recorded every four to five weeks. Results showed the addition of phosphorous and/or nitrogen had neither a positive nor negative effect on the plant community at Wairio with no significant changes in the 15 species recorded at the site. These results contrast other studies that have reported increases in biomass, reductions in biodiversity and common/ introduced species out competing rare/ native species.

The short duration of the experiment and summer drought conditions may have obscured the above-ground visual responses of the plant community to nutrient addition: therefore, further continuation of this experiment is advised. Variable survival rates of previous plantings, and uncertainty about the most cost-effective practice under current site conditions, provided the impetus for this study.

Therefore the second study, conducted between July 2011 and January 2014 in Stage 3 of the wetland, further investigates the effects of various management treatments on establishment of native woody vegetation.

**Note:** Both the experiments described in the above thesis are on-going. Stephen Hartley who is Deputy Director for the Victoria University Centre for Biodiversity and Restoration Ecology and is a Senior Lecturer in Conservation and Ecology, will continue to monitor the growth of trees in Stage 3, and a Belgian intern student will re-survey the nutrient enrichment plots in Stage 2.

To view Aprille Gillon's full thesis go to:-

http://researcharchive.vuw.ac dle/10063/3648





**Research students:** Aprille Gillon and Cheng Shi find there is more to wetland research than just checking vegetation. **Photo:** Stephen Hartley.

## Hydrological and chemical characteristics of Matthews Lagoon and Boggy Pond, Wairarapa

### Essential information for the decision making process of wetland restoration.

#### Abstract: Cheng Shi.

Wetlands are areas where lands transition to water bodies. Because of this special geomorphological setting, wetlands play important roles in flood control, nutrient retention, and water storage. In New Zealand, less than 10 percent of the original wetlands have survived since human settlement. Many of the remaining wetlands are still under threat from water quality degradation, invasive species, and changes in hydrological regime.

Wetland restoration is the process of bringing the structure and function of a wetland back to its original state. Although specific objectives may vary between projects, three major objectives of wetland restoration are restoration of wetland function, restoration of wetland structure, and restoration of traditional landscape and land-use practices.

In order to ensure the success of a wetland restoration project, a good understanding of the hydrological process in the wetland is the first step.

Boggy Pond and Matthews Lagoon on the eastern edge of Lake Wairarapa in the Wellington Region were formed as a result of the deposition of sand dunes on the eastern shore and changes in river courses between floods. They were modified by a series of engineering works under the lower Wairarapa valley development scheme in the 1980s. As a result, Matthews Lagoon now receives agricultural outputs from surrounding farms; it is affected by water pollution and invasive plant species.

Boggy Pond is cut off from Lake Wairarapa and surrounding wetlands by a road and stopbank, leaving a more stable water level compared to its original state. To analyse the water and nutrient balance in these two wetlands, factors such as surface flows, surface water levels, groundwater levels, rainfall, climate data, and water quality were assessed at various monitoring stations in this study. It is believed that Matthews Lagoon and Boggy Pond have completely different water regimes. Matthews Lagoon receives surface inflow from the Te Hopai drainage scheme and discharges to Oporua floodway, but Boggy Pond only has rainfall as the water input.

The results from the water balance analysis seem to support this assumption. An unexpected finding in Matthews Lagoon suggests that water might bypass the main wetland, creating a shortcut between the inlet and outlet. As a result, the nutrient removal ability was considerably weakened by this bypass because of the short water retention time.

In Boggy Pond, there may be an unknown water input which could adversely affect the

water quality and natural water regime. Boggy Pond is expected to have better water quality than Matthews Lagoon as the latter receives agricultural drainage from surrounding farms. The results from water quality monitoring also support this hypothesis. The nutrient balance in Matthews Lagoon showed very limited removal ability for phosphate but much higher removal rate for nitrate. The removal rate in summer for phosphate was less than 5 percent while in winter more phosphate was discharged from Matthews Lagoon than it received from Te Hopai drainage scheme. For nitrate pollutants, the removal rate was as high as 17 percent even in winter.

Some recommendations are given on the restoration of these two wetlands. First, set proper objectives according to their different functions. Second, enhance the nutrient removal ability of Matthews Lagoon by harvesting plants, removing old sediments, and creating a more evenly distributed flow across the wetland throughout the year. Third, restore the natural water level fluctuations and improve water quality in Boggy Pond by identifying any unknown water inputs first.

To view Cheng Shi's full thesis go to:-

http://researcharchive.vuw.ac.nz/ handle/10063/3481



## **Breeding season**

## Beauty of mute swans

Mike Bourke used the photographic skills of his friends Mary and Steve Bielski to capture some great photos of his swans with this seasons cygnets.

There are 12 white swan cygnets from three pairs of mute swans. These photos are of one mother swan and her five cygnets taken on the Mike's smaller wetland.

Mary also included a photo (below) of a pair of Carolina Wood Ducks on the same wetland.



Happy on the small lake.



Cygnets in shade.



Five cygnets stay close.



Breakfast for the ducks .

Happening at Huritini



Male mute swan looking fine.



## along with other things



Pukeko with young.

Pohangina Wetlands



Young shoveler.



Dabchick catching a ride.



Tui in for a feed. Photos: Gordon Pilone.



Kereru views the Huritini wetlands.



Male scaup at Huritini. Photos: William Abel



# Special secret in our wetlands



Water skills required: Large cage traps for bittern and other equipment are all transported around Lake Whatuma near Waipukurau, by kayak.

## Australasian bitterns in serious trouble

#### Emma Williams

Wetlands in New Zealand are underrepresented and sadly under-appreciated by the vast majority of New Zealanders. Yet, most duck hunters and farmers will know these secret, fertile refuges are important habitats for many species and are packed full of life. Indeed, only those who have made the effort to access and spend time in such challenging wetland environments will know some wetlands are home to a special secretive and cryptic bird!

A bird so evasive and shy that little is understood about them, and what we do know is based on a few opportunistic observations, or the studies of closely related species overseas.

In spring the males seduce their females with deep-booming calls that can be heard up to 4kms away. Yet, often these calls are mistaken for the distant bellow of a cow and even those lucky enough to live on the fringes of wetlands do not know that this species exists!

Have you heard this bellowing call? Often likened to blowing air across the top of an empty bottle, or a low Whoomp noise. If so, did you know that what you have on your doorstep is the rarest bittern species in the world? The Australasian bittern (Botaurus poiciloptilus)!

If you are one of the few people who regularly sights a bittern, or has been serenaded to sleep by the deep-baritone booming call, then you are fortunate. For who knows how much longer these crooners will persist. Australasian bitterns are in serious trouble. There is no doubt about it. Ranked as Endangered by the IUCN (International Union for Conservation of Nature), Australasian bitterns are only found in New Zealand, New Caledonia and Australia. These bitterns are so rare they have a higher threat ranking than the blue duck (Whio, nationally vulnerable), kokako (at risk) or the North island brown kiwi (nationally vulnerable). Yet the bitterns' wetland habitat does not receive anything near the protection of these three species.

A decade ago there were thought to be less than 1000 adult bitterns each in New Zealand and Australia, and fewer than 50 in New Caledonia. However, recently Australia has lost large numbers of its population, and the New Caledonian population is thought to have vanished. New Zealand is therefore an important place for bitterns and the survival of the species will depend upon how we manage our wetlands.

There are several factors limiting bittern populations in New Zealand. For starters, bitterns rely upon freshwater wetlands to breed and feed and as we know, 90 percent of these habitats are gone. Worryingly the wetlands that remain are still under threat. Additionally bitterns are ground nesters, making them highly susceptible to predation by introduced mammals. Female bitterns are smart and sneaky. In order to give their chicks the best chance of survival they build their nests on floating platforms that are well hidden in the thick vegetation. Unfortunately, chicks are less savvy and have a tendency to be noisy and smelly. Once detected, these Kentucky-Fried-Chicken-sized morsels will be easy prey for any resident cat, ferret, stoat, weasel, or rat. Even adult bitterns are not safe, as these can be on the menu for cats as well.

So what about their food? Surely with so few bitterns around these days there will be plenty of tucker to share? But alas, no! Bitterns feed predominately on eels which are also considered to be under threat. Luckily as opportunistic feeders, bitterns can take a range of alternative prey items including small fish, insects, and frogs. However they need to see through the water to be able to spot their prey – something that becomes difficult in degraded wetlands where water clarity is low.

Water depth is also a problem for bitterns, mostly because humans have a tendency to want to control and manipulate wetlands to suit their own purposes. For example, wetlands are often used as holding tanks to keep flood-water off farmland and other nearby property. This causes sudden fluctuations in water depth that can wash away bittern nests or completely dry out areas so that predators have easier access. Landowners often dig deep drains so they can conveniently channel the water away from their land. Sadly in these deep channels, bitterns have the same chance of catching their prey that a drunk man has of catching a teddy bear in the pub with a crane claw machine.

In particular, messing with water levels can affect the survival of young bitterns that are inexperienced and rely upon having access to easy prey. For example, naturally, most wetlands would dry out over summer, often creating small, shallow pools where fish become trapped. The timing of this coincides with when young bitterns have left the nest and are starting to learn to find food themselves. And what could be better for these gangly, clumsy feeders that an easy to access all-youcan-eat-watery-buffet? When we artificially flood wetlands or channel water into drains we interfere with these natural processes, affecting the survival of bitterns and their prey species.

For us to be able to save the bittern in New Zealand, we need to know which wetlands are important to them, what their greatest threats



are and how different wetland management methods affect the survival of bitterns. Unfortunately, as bitterns are so cryptic, we first need to be able to find them!

This year we are working on this problem by testing several bittern monitoring methods on Lake Whatumā, near Waipukurau, Hawke's Bay. We intend to test different methods that have already been used successfully on bitterns and/or other cryptic species internationally. What we need to know is how well these methods detect our bitterns and whether the number of birds detected by each method actually relates to how many bitterns are on the lake. To know this we need to catch as many bitterns as possible and mark them in a way that will tell us if each individual bird was present or not during monitoring and then if it was present, was it detected?

To mark birds we attach a radio transmitter to each captured bittern using a harness that looks like a backpack. Each transmitter emits a radio signal on a unique channel that can be heard as a beeping noise on aTR-4 receiver. Harnesses are designed to have a special 'weak-link', which allows them to break and fall off should the bird become entangled in a life threatening situation. Putting radio transmitters on bitterns is the only way we can locate and identify individuals when they are hidden in thick Raupō. This means when we run each monitoring method we can check where our marked bitterns are and see if they have been detected.

The batteries on our transmitters will last for about a year and a half. In that time we are also hoping to learn more about bittern behaviour and answer questions like: Where do bitterns go after the breeding season? What habitat types are important to bitterns for feeding and breeding? How big are home range sizes? And do bitterns come back to the same sites every year to breed? These are basic but important questions that at the moment nobody has answers for...

Further updates on our progress with this research project will appear in future issues of Flight.

#### **Emma facts:**

Emma Williams is a PhD student at Massey University where her work specialises in developing monitoring methods for cryptic species (species that are rare and difficult to detect). Originally from Stoke-on-Trent in England, Emma came to New Zealand in 2007 and started work for the Department of Conservation as a research assistant in Fiordland. Now a New Zealand resident, Emma began her bittern work in 2009 as part of a Department of Conservation contract, and very quickly became smitten with the species and the challenges experienced while working with them. In 2010 she took the bittern project on as a Masters of Science which quickly ballooned into what is now her PhD. She currently lives in a camper van at her study site with her field assistant, a black Labrador called Kimi.

#### DU's contribution...

This year, Ducks Unlimited supported Emma's research with a substantial grant of \$3200 which allowed her to purchase 10 transmitters. These are to be attached to individual bitterns at one of her study sites (Lake Whatumā), allowing her to identify and re-find these birds even when they are hidden in the thick Raupō.

In order to attach these transmitters, Emma must first find out how to catch these birds. To do this she has been working closely with DU president John Cheyne, to develop a successful capture method. This is no mean feat as the only method that's been successful in the past involved a helicopter, a resource that few students have access to, and is obviously somewhat stressful to the birds. Emma and John have been working closely with bittern researchers overseas to develop alternative capture methods that are successful, cheap, easy to use and most importantly less terrifying for the birds.

If the project goes ahead as planned it will be the first time such a large number of Australasian bitterns have been captured and studied intensively. It's hoped results will be useful for wetland and bittern conservation nationally. Emma is very grateful for the support provided by Ducks Unlimited and looks forward to presenting DU with some results early next year.

#### **Australasian Bittern facts:**

Breeding season = Aug - May Number broods per season = 1 Mean clutch size = 4 Min clutch size = 3 Max clutch size = 6 Egg colour = Olive-brown/Light green-blue Egg laying = Aug – Dec Incubation = females only Incubation length = 23 days Age at fledging (mean) = 49 days Adult weight (males) = 1400 g Adult weight (females) = 900 g



**Trap setting:** Emma setting two bittern cage traps which incorporate a treadle/door release and mirror to attract male bittern inside the trap. A recorder playing the booming call of the male is placed on top of the traps to initially attract the male to the site. **Photos:** John Cheyne



# **Right place – right time**

### Sharp eyes for photo

I was spraying sharp rush, a nasty rush with very sharp spears that grow faster than our native rushes. The seeds are carried by water so it grows around water margins. It is a tedious job because we cut off all the seed heads.

Imagine how my spirits were lifted when I saw a flock of 12 pateke, 11 juveniles with one adult. The one with the paler head out front is an adult. This was near the lagoon at Tawharanui Open Sanctuary, in a stream which is difficult to access so no one goes there accept volunteers seeking out sharp rush!

**Alison Stanes** 

## A pleasant pheasant in the garden

A pheasant lives in my garden. She arrived in 2006. When I was gardening she would sit near me, not too close. She also ate my flowers, and veges.

A pheasant breeder suggested I should feed her to stop the plants being eaten. He also suggested she had probably been hand reared and was therefore not shy of humans.

About that time I had an enclosure built over my vegetable garden to stop rabbits, possums, dogs and birds from popping in for a free feed.

Morning bird feeding has since become a ritual for the pheasant. So here we are about seven years later and she still turns up for breakfast along with a cohort of sparrows and the occasional chaffinch.

An interesting thing is that she has never bred. Possibly she is sterile, and I am told she is probably a cross of two different types of pheasant. From time to time a male pheasant turns up and struts around for a few days, but she ignores them.

As a young bird she was pale in colour, with brown specks. As time passed her colouring changed, and now she is a deep rust colour. As humans get older we go grey. She, on the other hand has gone rusty.

The dogs and cats ignore her - they seem to know she is part of the garden family. However she is still wary and does not allow them to get too close. She will eat out of my hand, although that is usually just a show off trick. Visiting children love to have her eat from their hands. And of course the cameras always come out.



As a young bird.



Older and darker.



With her sparrows.





Will eat from hands - but not too close.



Not sure about kids.



## Happy result from auction splurge

At last year's DU AGM Audrey Pritt bid enthusiastically for a stay at Knapdale Eco Lodge in Gisborne. And she got it.

#### Diane Pritt takes up the story:

We spend two nights at Knapdale, had two lovely dinners saw their Highland cattle, and poultry, and Knapdale's own lake. Plus they grow their own vegetables.

They have an open plantation of oak trees, now three-years-old, and all over 10 feet tall.

Hosts Kees and Kay Weytmans arranged for us to go onto Young Nick's Head Station (607ha) that belongs to American John Griffin. Much of the area is protected by a QEII covenant and includes 58ha of wetlands and salt marsh. We saw black oyster catcher and NZ dotterel. Plus we then drove round the cape. We would recommend stay at Knapdale to anyone.



Happy travellers: from right, Diane Pritt, Audrey Pritt, Kay and Kees Weytmans Photo: Lesley Hosking.



**Protected:** Some of the 58ha at YNH station protected by QEII covenant.

Photo: Diane Pritt.

## **Predator free – pipe dream or possibility?**

### Ambitious and achievable

Forest & Bird and Federated Farmers jointly welcomed the Predator Free New Zealand initiative as an ambitious but achievable project that will have real benefits for conservation and the economy.

The Predator Free New Zealand Trust was launched last November at the 'A Place to Live' conference in Whanganui. Both Federated Farmers and Forest & Bird are actively supporting the Predator Free mission of clearing New Zealand of all rats, stoats, ferrets, possums and feral cats. Both organisations have many members who are already actively controlling introduced predators. Federatred Farmers spokesperson on biosecurity, Kathy Milne said "The Predator Free New Zealand project will greatly improve New Zealand's productivity, by eliminating bovine tuberculosis and the public health threat posed by rats.

"Achieving the Predator Free goal will require more of the innovative thinking that has got us this far in terms of predator management. It is likely to require some new technologies, some which don't yet exist. But the advice from the scientists is that the Predator Free goal, while it is ambitious and long term, technically it can – and certainly should be – achieved," Katie Milne said.

Forest & Bird Group Manager Campaigns and Advocacy Kevin Hackwell said New Zealand's introduced predators have the potential to eventually cause the extinction of many native animals.

"For this reason alone, the Predator Free goal is one that all New Zealanders should support. Our forests, birds, bats, lizards and insects, as well as New Zealand's farmers, and a host of other businesses, will only gain from this initiative," Kevin Hackwell said.

A range of government and non-government organisations have been working successfully for decades to eradicate introduced predators from our offshore islands and to control them in many parts of the mainland. Eliminating these predators from all of New Zealand over the next few decades is the next logical step.

## Expansion of the lead shot ban dropped

At its meeting in July last year the New Zealand Fish & Game Council vetoed the proposal to ban the use of lead shot for waterfowl hunting in 16, 20, 28 and 410 gauges shotguns, but the subject will be re-visited again in 2017. Currently, only users of 12 gauge shotguns for waterfowl hunting must use alternatives to lead shot.

There seems to be little doubt that a majority of waterfowl hunters believe the use of steel

shot as an alternative to lead is one of the main reasons why there are now very few mallards in the North Island and the mallard population is declining in the South Island.



## Letters

## Pateke and Mainland Islands such as Cape Sanctuary

In the April 2012 issue of Flight I discussed the use of mainland islands for the release of Pateke, with my comments being well supported by three prominent researchers – Paul Scofield, Ross Cullen and Maggie Wang – in their paper entitled "Are Predator Proof Fences the Answer to New Zealand's Terrestrial Fauna Diversity Crisis?" This can be readily found on the Internet.

In 2012 I wrote that Pateke releases at mainland island sites, such as Travis Wetland, Warrenheip, Tawharunui, Kidnappers and Karori have made no contribution towards saving Pateke from extinction and that over 1000 Pateke had been 'poured down the drain' at such sites.

Between 1974 and 1999 Pateke were released at close to 40 different sites, none of which slowed the decline of Pateke, or made any significant contribution towards saving Pateke from extinction, apart from clearly showing that there was far more to the recovery programme than we thought!

The result being that between 1987 and 1999 the national Pateke population plummeted from c2800 to just c850 simply because the reasons for Pateke's race towards extinction had not been addressed!

The reasons being the unrelenting expansion

of alien predators (cats, mustelids, rats, hedgehogs, harrier hawks and pukeko) in all areas of the country. Even though many releases were made along eastern areas of Northland during the 1980s and 1990s, using carefully selected areas where Pateke habitat was still the same as it had been for centuries, all releases eventually failed because of high numbers of predators.

After a major audit of the Pateke Recovery Plan in 2000, which resulted in the recovery programme being concentrated in the three and most important historic Pateke areas – the Coromandel Peninsula, Great Barrier Island and Northland – and with major predator control programmes at each site, together with many other essential management facets including habitat improvement, aerial protection from harriers, etc, with much of this management being carried out by private individuals - the recovery programme was turned around from total disaster into one of considerable success.

The fantastic success in these areas has resulted in the national Pateke population rising from 850 in 1987 to close to 3000 in 2014.

When these three regions become 'saturated' with Pateke there are still huge areas of

excellent historic Pateke habitat available, particularly in Northland, which with predator control and a lack of hunting pressure could help secure a future for Pateke, but Hawke's Bay is certainly not one of these regions that can ever make any meaningful contribution.

Whilst Pateke have reared offspring at a number of 'mainland islands' none of these have any association with wild Pateke populations and over short period of time Pateke disappear, just as they have in Fiordland.

The only contribution mainland islands can possibly make towards saving Pateke is in public education about this incredibly unique bird. But in saying that when we visited Zealandia a couple of years ago (six of our birds were released there in 2000), when I asked the receptionist how brown teal were doing he had no idea what I was talking about, but we did see four of them!

In respect of Trevor Worthy's (now Dr Worthy, University of Adelaide), outstanding Pateke fossil research this was well covered in the Brown Teal Conservation Trust's "Brown Teal Management Manual", published in 2002. (This manual is available by email and it also documents DU's high profile involvement).

#### Neil Hayes QSM CEnv

## Thoughtful letter prompts reply

I would like to thank Kevin Campbell for his well thought letter (page 5, Flight October 2014) about Pateke at Cape Kidnappers. I have no doubt about the success of Pateke there.

The Kidnappers site is just another example of the adaptability of Pateke to a great diversity of environments.

Over time there has been much written about what is wrong with the Recovery Groups efforts to bring Pateke back to a thriving population. The fact is that their focus on juvenile survival through effective predator control has been and is a resounding success.

**Ossie Latham** 

## Welcome boost for Wairio wetland

Wairio wetland restoration project's funding application to the Nikau Foundation has been successful having been granted \$3000 in the 2014 funding round from Richard and Doreen Evans charitable Trust. This will go towards developments in stage 4 of the wetland.

An awards function and cheque handing-over was held in Wellington last December.

#### Conditions of the grant are:

It must be used for the purpose applied for.

The Foundation must receive a feedback form within a year of the grant being made (form available on their website) www.nikaufoundation.org. nz

They require an update of the project as it progresses towards completion. Forward 2 or 3 photos and an update to the Foundation, which they can use on their website / annual report / newsletters. Before and after photos are especially welcome. These need to include photo captions. Release permissions are the responsibility of Ducks Unlimited.

DU should acknowledge Nikau Foundation's contribution to DU

in any publications produced or any other means of publicity as the Nikau Foundation would like to become better known throughout the Wellington Region.

#### Brian Burge

Administration Manager, Nikau Foundation.





## More than folklore needed to save these birds

Black-necked Cranes (*Grus nigricollis*), are not a bird we hear much about in New Zealand, but on a recent trip to Bhutan I learned of these elegant and treasured creatures. Although I did visit their overwintering territory, it was about two days too early for their arrival.

The Cranes, estimated to only be about 11,000 and are endangered. They spend summer at their breeding grounds in Tibet and Kashmir. In winter they migrate south to slightly warmer climes. Many over winter in Bhutan, others go to China, Pakistan and Vietnam. Three of their winter homes are in Bhutan. The one I visited in the Phobjikha Valley is open farmland and wetland where they roost and feed. At approximately 3000 metres the area is under snow for most of the winter.

Records show that in recent times each year fewer birds return to the valley. The roosting area is now a protected site and a special hide provides shelter for a guard to keep watch over the birds. A recent decree has ensured their winter home is a safe haven.

These birds have been part of the life and folklore of the Bhutanese people for centuries. There are special dances and songs associated with their arrival and with their leaving. They are known as "heavenly birds" because of their elegance and beauty.



**Endangered:** Elegant and a part of local folklore. **Photo:** Tourism Council of Bhutan.

#### Liz Brook

### Change of Address - are you moving? Please send us your new details.

| Name  |   |                                  |  |  |
|---|---|----------------------------------|--|--|
| Old address   | New address                               |                                  |  |  |
|   |   | Postcode                         |  |  |
| Phone   | Email                                     |                                  |  |  |
| For membership and general inquiries, I   | Ducks Unlimited, PO Box 281, Levin, 5540, |                                  |  |  |
| or email: info@ducks.org.nz   |   |                                  |  |  |
| DU Membership form  |   |                                  |  |  |
| □ YES, I wish to join Ducks Unlimite  | d as a member                             | ¥ ***                            |  |  |
| □ Please send me further information  | I may join later.                         | A LEX                            |  |  |
| Title First Name Surname  |   |                                  |  |  |
| Address   |   |                                  |  |  |
| POSTCODE  |   |                                  |  |  |
| Phone   | Fax                                       | DUCKS UNLIMITED NEW ZEALAND INC. |  |  |
| E-mail  |   | For Wetlands and Waterfowl.      |  |  |
| All subscriptions include GST. Membership is available in eight categories:   Junior (under 16) □\$10 Contributor □\$60 Family □\$70 Business □\$110 Life (one payment) □\$3000   Note: Bronze, silver and gold sponsorships, which can be changed annually, include the membership fee of \$60, For the balance, sponsors will receive a receipt as proof of a tax deductible donation.   Bronze Sponsor □\$90 Silver Sponsor □\$160 Gold Sponsor □\$310   My Donation of \$ |   |                                  |  |  |
| Please renew my membership each year and charge my credit card  |   |                                  |  |  |



