DUCKS UNLIMITED NEW ZEALAND INC. For Wetlands and Waterfowl

# Flight

ISSUE 175 September 2018

## 2018 conference round-up
## Six go wild in Santa Fe
## Scholarship opportunities

## FROM THE PRESIDENT

**The 2018 AGM** in Hamilton is over for the year and a great success it was, with about 50 people attending the Saturday night dinner and auction. Just under $5000 was raised thanks to the persistence of auctioneer Dan Steele.

I am delighted to welcome two new members onto the Board with Adrienne Longuet-Bushell and Liz Brook allowing their names to be put forward. Liz has retired from her role as editor for *Flight* magazine but still felt she wanted to contribute to the organisation, so thank you to both of them.

Our new editor is Alison Murray and she is keen to hear from any members with material for the magazine – her email address is below.

As we have not been receiving the same level of inquiry as previously for funds for the construction of wetlands, the Board is looking into providing ongoing scholarship funding for university students working in the environment and wetland fields, so watch this space.

**Ross Cottle**

## Welcome to new board members

**The DUNZ Board** has two new members, elected at the AGM in July. Liz Brook, after giving up working for various newspapers, both as an editor and as a news photographer, mainly in the Wellington area, and then several stints as a stand-in editor, was the former editor of *Flight*.

"The chance to travel around the country and edit small country newspapers was enjoyable. Eventually I bought a small farm in the Manawatu, and worked for some time as an editor and photographer with the local newspapers," she says.

Liz finally took over editing *Flight* magazine, which she says she considered enjoyable though there were moments when she wondered where the next story and/or photos would be coming from.

Adrienne Bushell studied modern languages at Victoria University and has worked for the Royal Society of New Zealand, Royal New Zealand Ballet and Television New Zealand. She says she retired from her position as a director of *Country Calendar* to have a baby (not having Jacinda's eagerness to return to work, nor a husband willing to stay home to look after said baby).

While at TVNZ, Adrienne made two programmes about Ducks Unlimited, the first finished with Horrie Sinclair handing his magnificent wetland into the care of DU and the second showed a certain Wairarapa farmer introducing Canada geese to the North Island. A book followed which also featured DU. Adrienne is an honorary life member of DU. Adrienne now works for Nikau Foundation and is President of Alliance Francaise Wellington.

Liz Brook

Adrienne Bushell

## CONTENTS



## BOARD OF DIRECTORS



**Cover:** Pateke (brown teal) mother and duckling at Zealandia, Wellington. **Photo David Brooks**

**Back page:** Black swans at Lake Huritini, Levin. **Photo William Abel**


*Flight* magazine is published by Ducks Unlimited New Zealand Inc, PO Box 165, Featherston 5740, New Zealand. www.ducks.org.nz
ISSN 1173-2776

**Editor:** Alison Murray

alimurray@xtra.co.nz

021 124 8095

49 Nottingham Street, Karori, Wellington 6012

**Printer:** Lamb-Peters Print, 106A Main Street, Greytown

**Advertising:** Contact the Editor to enquire about rates.

**Editorial:**
Contributions, including photographs and letters to the editor, are welcomed. Please send these to the editor before the next deadline, Wednesday, 13 February 2019, in time for the March 2019 issue.

The editor reserves the right to edit articles for content, length, grammar, style, and readability.

# Decisive year ahead for Board

**Where to** from here will be the big question facing the DUNZ Board in the coming year. President Ross Cottle, in opening the formal business of the 44th AGM, said that, with an ageing membership and fewer members keen to do the work, the future direction of Ducks Unlimited would be on the Board's agenda this year.

Measures already in place or under consideration were making *Flight* a two-yearly publication and changing the conference to a biennial event rather than yearly. With fewer demands to create new wetlands and maintain the established ones, the Board would be looking at other ways, including research scholarships, to support DUNZ's goals.

Ross thanked John Cheyne, who resigned earlier in the year, for his four years as president and for raising the profile of bittern. Ross also paid tribute to those members who had passed away during the past year: Ian Pirani, Nancy Pain, Audrey Pritt, Alan Wilk and Robin Borthwick. Joyce Brooks also passed away after the AGM.

Treasurer John Bishop presented the accounts and updated members on the new rules for charitable trusts, which require entities to state their purpose. DUNZ had submitted the following mission statement: "We deliver and advocate for effective wetland restoration, development, research and education; and support the preservation of threatened waterfowl and the ethical and sustainable use of wetlands."

## CONFERENCE REPORTS

Neil Candy reported that Jim Law had replaced Ken Cook as a trustee on the Waterfowl and Wetland Trust, which was "ticking along really well" with more than $500,000 in the bank.

Reporting on the work of Wetland Care, Will Abel said $10,800 had been spent on three wetlands in the past year, creating about 10 acres of wetland.

### ROYAL SWAN

He said the successful breeding of royal swans had been declining but

**Continued next page**


From top: Cambridge-based Treasurer John Bishop welcomes everyone to his neck of the woods and the DUNZ Conference at Hamilton Airport Hotel; Graeme Berry, Ian Jensen and DU Patron Di Pritt; Prof Carolyn King and Emma Williams.

Clockwise from top: Ross Cottle opens the proceedings for the dinner and auction; Jan and Will Abel with auctioneer for the evening, Dan Steele; sorting out the silent auction results are Ross and Margaret Shaw to the amusement of 'scrutineer' Neil Candy; and Marilyn and Jim Law with Graham Gurr.

**Continued from page 3**

fortunately had coincided with a drop in inquiries for them. The reason for the lack of breeding success was unknown and the few lightweight birds available from Peacock Springs in Canterbury meant it was difficult to tell the boys from the girls to find a breeding pair. Compatibility was another problem, with one bird sometimes killing its intended mate.

### WHIO

Neil Candy reported, on behalf of Peter Russell, that whio had had their best breeding-for-release season.

Seven pairs in the North Island produced 75 eggs, with 46 surviving to be released. Of those birds, 15 went to Egmont National Park, 23 to Whanganui National Park and 8 to Tongariro National Park.

In the South Island, four pairs produced 45 eggs, with 30 released, all in rivers around Hokitika.

### PATEKE

Meanwhile, pateke in Northland have benefited from predator control introduced to protect kiwi in the area, and the ducks are now established from Mimiwhangata to Pataua North.

### BITTERN

Emma Williams reported that of one of four bitterns fitted with a transmitter at Lake Whatuma was missing, but it was hoped it would return for the breeding season. DU still has two transmitters to place.

Four other transmitters had been placed on chicks found starving in urban areas. They were rehabilitated and two were released in BOP and two in Canterbury. One has survived two years on and its transmitter had just died.

### WEBSITE

Paul Mason explained the layout of the new website which is now on a new platform and is more accessible to devices such as tablets and smartphones. Visitor numbers and search results for the website were healthy.

### WAIRIO WETLAND

Jim Law reported that restoration work at the Wairio wetland this year had cost $9500, bringing DU's total expenditure over the 13 years since the project began to more than $215,000.

A plan to divert water from Matthews Lagoon to the wetland on its way into Lake Wairarapa was still awaiting approval from the Greater Wellington Regional Council.

The council was continuing its predator control and its traps were serviced three or four times a year. Large numbers of mustelids and feral cats are still being caught, highlighting reinvasion as a serious problem. DOC was doing a good job of maintaining the bund wall walkways.

Wairarapa Moana, which encompasses Wairio, is included in a Treaty of Waitangi settlement, meaning ownership of the wetlands will be transferred to Ngati Kahungunu and Rangitane. Ngati Kahungunu, the principal iwi owner with 90 per cent, has indicated that it would like DU to carry on with its work and it will be business as usual. The iwi also wants to re-establish a Lake Wairarapa committee and it would like DU to be a part of that.

### NZ GAME BIRD HABITAT TRUST

John Cheyne reported that the trust has allocated $96,000 in 2018 for 24 projects throughout New Zealand. In 2018, the trust had received 21 applications for funding to assist with wetland restoration and creation.


Tony Roxburgh explains the origins of Alexandra Redoubt, a map showing the bus tour's three stops (blue dots), and below, arriving at the first stop, Lake Rotopiko.
Photos Ian Jensen

# Waipa wars – from muskets to mustelids

**Peat lakes** and battle sites were the main themes of this year's bus trip at conference courtesy of Ducks Unlimited's knowledgeable tour guide Tony Roxburgh.

Tony is the Waipa District Council's heritage and museum manager and he also wears another hat – as Wetland Trust of New Zealand Chair and Trustee. He took DU members on a nature, culture and history tour of the Waipa region.

The first point of interest was Lake Rotomanuka, one of about 16 lakes in the Waipa District. It was once one lake but is now two separate bodies of water. Around the lakes, public walkways, buffer margins and sediment traps are being developed by Living Waters, a partnership between the Department of Conservation and Fonterra.

Native eels and smelt can still be found in the lake but have been joined by introduced species: rudd, carp, koi carp and catfish.

First stop on the bus trip was the Lake Serpentine/Rotopiko sanctuary. It is enclosed by a predator-free fence, which was built with a $500,000 grant.

The 50-hectare sanctuary is thought to be mammal free after mouse incursions were curtailed by extending the fence netting down into a trench dug along the fenceline.

But the project hasn't been all smooth sailing. As well as having to put its planned $5 million-plus visitor centre on hold, the sanctuary had encountered an unforeseen problem – once news of the avian safe haven got out to the passerine community, thousands and thousands of starlings, sparrows and finches were swooping into the sanctuary at dusk to sleep overnight.

Thousands of starlings, sparrows and finches were swooping into the sanctuary at dusk to sleep overnight.

They leave behind mountains of guano, which, over time, would change the chemistry of the peat lake. Tony said deterrent measures such bangers and laser lights were being trialled.

Releases of kiwi and takahe are on the sanctuary's wish list but pateke (brown teal) will be the first species to be introduced.

Tony said the visitor centre project would be replaced with a more modest and modular alternative – beginning with a three-bedroom house for volunteers and school groups to stay in. With no electricity on the site, the house will have solar panels, and a composting toilet.

Following a hearty buffet lunch at the Five Stags restaurant in Pirongia, everyone boarded the bus for the nearby Alexandra Redoubt. This fortification was constructed by the constabulary after the land wars in case Maori tried to take back their confiscated land.

During the tour, Tony pointed out many other historical landmarks, including pa and battle sites, and natural features such as the volcanoes and kahikatea stands dotting the landscape.

# Predator Free New Zealand

**Counting every** rat, mouse or mustelid trapped may be satisfying, but it is irrelevant in the war against predators and may be lulling us into a false sense of security, guest speaker Professor Carolyn (Kim) King told DU members at the conference.

In her speech, Maximising the Duck Harvest, Prof King, from the School of Science at Waikato University, thanked Ducks Unlimited, which like many hunting clubs around the world, had turned itself into a conservation group, supportive of conservation research organisations and with members who were observant naturalists contributing to conservation efforts.

She said a good harvest operation:

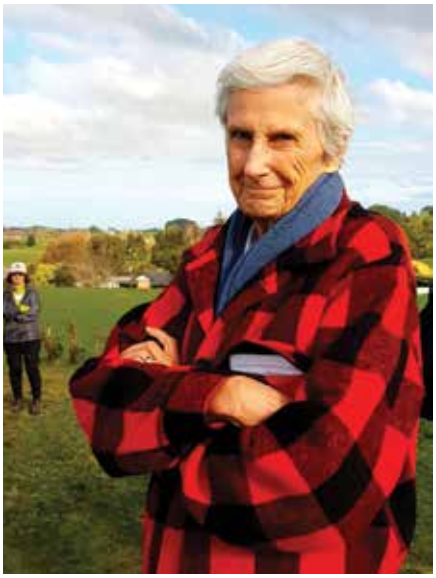
- aims for a sustainable yield
- never takes more individuals than the population can replace
- can be like the constant harvest by rabbit trappers, deer cullers, and predators
- a population can't be affected if the yield is not declining.

As an example, she said, the winning team in the Great Otago Bunny Hunt in 2012 bagged 1035 rabbits as its contribution to the 10,424 tally from the 24-hour event. During the 21 years of the event, 253,735 rabbits have been killed (mean: 12,082 a year) but it has made no difference to rabbit numbers.

Harvesting is a dynamic target-habitat-people system in which:

- protection of a valued resource can be ineffective unless broader ecological/sociological context is understood
- the interaction of resource/habitat/people defines the outcome
- solutions require strategic organisation, stakeholders agreement and effective methods
- the biology and strategic organisation determine effective policy (which DU does very well).

Using an example from Wiltshire in the UK she demonstrated how a predator control experiment produced a surprising result. In two areas of farmland, 1km apart and with similar



Prof King at Alexandra Redoubt

habitat, predators were controlled in one area for three years and then in the other area for three years.

The study had been based on the assumption that habitat on UK game estates was the only important factor but the results clearly showed a big increased harvestable yield of grey partridges in whichever area was subject to predator control. A computer model developed from the study predicted that the highest populations would be found where nesting cover for the partridges was increased and predators were removed, even if shooting was permitted as well. Key is the interaction of habitat (controls

A ferret fitted with a radio collar.
Photo CMK

productivity) and shooting mortality. If nests are protected, more young survive, so shooting can substitute for nest mortality caused by predators.

Using a NZ example to highlight the relationship between habitat and mortality, Prof King referred to wetlands in the Upper Waitaki area. In 1850, wetlands and swamps covered 71,000 hectares, but the effects of human activities has been devastating with 7300 ha swamps converted to pasture, more fragmented; 22,300 inundated by hydro electric schemes; 4200 ha braided riverbed dewatered (9% loss); 22,300 ha new open water habitat + 300 km more shoreline which doesn't suit riverbed birds; predation is heavy and breeding rate low on the remaining 41, 700 ha wetlands (40% loss).

Food supply has the greatest effect on bird populations. The braided riverbeds were dewatered or turned into open water habitat, which did not suit the birds adapted to feeding on the riverbed, exposing them to predation and a drop-off in breeding.

Prof King said the deadliest predators for ducks were egg-loving hedgehogs, ferrets, stoats, rats, mice and cats. An Upper Waitaki Basin study of predation on the nests of dotterels, terns and stilts showed that cats, ferrets and hedgehogs did the most harm to nesting birds in that area.

She said, "We know we can kill predators, so what's the problem?" Counting a pile of dead pests can be enormously satisfying but it does not tell us what we want to know, which is how many are still there, how to account for those that replace those dead ones, and how to know if we have taken out enough predators to benefit the birds we want to protect. That boils down to what actually determines the numbers of animals – both the predators and the birds.

Ferret numbers are controlled by rabbits (their main food source), not trappers. The rabbit yield is not declining: rabbits and ferrets are co-evolved prey.

A pilot trial in 2005 presented another serious problem – trap avoidance. Radio-collared ferrets in a study near

# – maybe, but not just yet

Floating traps used to trap American mink in the UK could perhaps be adapted as a control for Norway rats. Photo CMK

Tokoroa were tracked by an aircraft which flew over the area during the day. Nine of the 15 ferrets were located. Monitoring sites showed that six of the ferrets made 22 approaches to 2 experimental recording sites, which could have been traps, but only three entered the tunnels. On the final extensive trap-out, four of the 15 eluded capture, although their radio signals confirmed they were still there.

> 'One of the definitions of insanity is to keep on doing the same thing and expecting different outcomes.'

The following year collars were put on 30 ferrets west of Lake Taupo and a new toxic bait dispenser was used. Over five weeks, only 12 visited the bait stations and only eight took the bait. The monitoring regulations said every ferret had to be accounted for but of the 13 known survivors, only two could be caught.

In kiwi sanctuaries in Northland, stoats were refusing to go into the bait tunnels and it was only a brief 1080 operation that stopped the decline of kiwi chicks. Though it is awful stuff, we have to use the tools we have until we come up with something better, she said.

Predators are intelligent and quickly learn to avoid new devices presenting danger to them. In Britain, American mink, which escaped from fur farms in the 1950s, had become a serious threat to the native water vole (Ratty in *Wind in the Willows*). The mink, like rats, are good swimmers which means they can avoid land traps set on river banks. The problem was tackled by using traps placed on floating rafts, which might be appropriate to adapt as a control for Norway rats here, Prof King said.

New technologies are absolutely essential and can transform results. She said at a 1976 conference that she attended senior scientists said rat eradications on islands were impossible, but they were wrong. The invention of brodifacoum in the 1980s plus precise bait placement enabled Breaksea Island to be cleared of Norway rats in three weeks in 1988.

"That's what we need – some kind of new technology that will break the mould, something different... One of the definitions of insanity is to keep on doing the same thing and expecting different outcomes," Prof King said.

We can and must increase the intensity of predator control, but to be effective it must add to the natural mortality. Mustelids were introduced to control rabbits but rabbits were breeding at a faster rate and their numbers were unaffected. The mustelids were only substituting for natural mortality. Only when rabbit breeding is reduced for other reasons (drought, 1080), can mustelids and/or trappers add to their normal losses, and achieve a real effect.

Failures were usually due to some combination of:

**Human attitudes**

- Forgetting that nature is on the predators' side and ignoring the effects of natural selection
- Counting numbers removed, not numbers remaining,
- Lack of coordinated, agreed strategy
- Lack of flexibility in response to experience
- Insufficient stakeholder support.

**Inadequate technology**

- Inefficient tools
- Failing to deploy combination of methods
- Having no effect on fertility, immigration.

Prof King said, on the other hand, some of the common features of successful predator control were a combination of:

**Human attitudes**

- Operator confidence, meticulous preparation, sufficient funding
- Never repeating mistakes, never giving up, so accumulating improvements, combining/switching strategies when necessary
- Landscape scale coordination
- Strong community support.

**New technology**

- Adds to natural mortality
- Prevents immigration
- Targets fertility
- Confirms benefit to native species.

Prof King concluded by saying Predator Free NZ was still a long way away but "don't despair, history is encouraging!", and DUNZ would play an important role. In the meantime we must keep using whatever tools we have so we still have native species surviving by the time we develop something better, protecting duck nesting sites is possible and needed now. PFNZ is going to be much more difficult as it requires development of as-yet-unknown, 100 per cent acceptable methods to control predator replacement rates.

# Six go wild in Santa Fe

## Graham Gurr goes in search of a golden dorado.

**The Judge and I** have been hunting and fishing together for more than 30 years, but for some reason, the Judge had never managed to hunt in South America whenever I was going. This was our year.

As soon as word got out that we were going, a few other people joined the trip. In the end six of us went: the Judge, Ross Cottle, Neil Candy, Di Pritt, Alistair Garland and moi.

We flew with Air New Zealand to Buenos Aires and a couple of days later to Parana Airport, a 2½-hour drive from the lodge we had booked. I won't tell you about the fabulous meals we had in BA, or being targeted by pickpockets, nor will I tell you about the white-knuckle ride from Parana to the lodge.

But when we got to the lodge – wow – a waiter offering a glass of champagne greeted us, and all the staff turned out to welcome us. After finding our rooms and a quick scrub-up, we repaired to the lounge/dining room to be fed with a sumptuous three-course meal washed down with some of the region's finest wines (mostly malbec).

This gave us a chance to meet our fellow hunters for the week, two brothers from Texas and later that evening (when they arrived), a husband and wife team also from Texas. All, as it turned out, were marvellous company.

Graham Gurr

We had booked this particular lodge as it offered a mixed bag of hunting and fishing, ducks, doves, perdiz and fishing for the golden dorado, which inhabit the local waterways. Parana Sunrise Lodge is on the banks of the Parana river delta, the second largest river delta in South America – only the Amazon is bigger – and the sixth biggest river system in the world.

The delta itself is 1200km long by 40km wide where we were, so wide you could not see the other side. The countryside is flat and grows water-intensive crops like rice and cotton. The size of the fields is mind boggling as they can be several miles in each direction, with irrigation dykes running around the edges, and the same dykes provide a means to travel by 4x4 along the tops to reach the hunting areas.

Rice and water together can only mean one thing, ducks and lots of them. The first morning, Alistair, Neil and Ross elected to duck hunt. After a 5am breakfast and a short ride to a local field, they were amazed to find themselves back at the lodge by 8am, having each shot a morning limit of 25 ducks – that's 75 in under two hours!

The good news was they could do it again after lunch if they wanted, instead they went fishing. Yes, that's right 50 ducks per person per day!

The Judge and I along with Di had gone fishing that morning; we had landed piranha and catfish. The piranha are beautifully coloured, iridescent pink and were it not for the teeth that can take your finger off with one bite would be a fun fish to catch; they are aggressive and fight well on light gear. However, we were rigged for dorado, with a 40-pound wire trace, so they never stood much of a chance.

While we had been fishing, there was a drama playing out back at the lodge, the lodge manager Augustine who had greeted us the night before was sacked. Just like that, for some indiscretion that had been brought to the attention of the owner, who was coming down from another lodge he owned to look after

Our blind in the rice field; inset, the 'A' team – Di Pritt, the Judge and yours truly – with a morning's ducks.

us. Only problem was Augustine was the only person at the lodge who spoke English.

It pays when travelling in South America to relax and just enjoy what is happening rather than waste effort trying to make things happen. As it turned out, it was not so much of a problem, we knew the words for the essential food groups, cerveza (beer), vino (wine) and carne (meat).

We had a shooting manager by the name of David; he made an appearance after dinner to tell us that we were shooting ducks tomorrow. "Er no, the Judge and I would like to fish tomorrow afternoon," I said. "OK," he said, "tomorrow in the morning you hunt ducks, in the afternoon you fish, everybody else hunts ducks", and with that he was gone.

And that's what we did, in the morning, the Judge, Di and I shot a whole pile of ducks and in the afternoon, the Judge and I went fishing. This time after several piranha, I managed to hook and land a golden dorado. Celebrations all round that evening.

After dinner, our shoot manager David announced that tomorrow we would shoot doves all day.

The next morning, we left the lodge about 7am and drove for an hour and a half to the dove fields. It turned out to be a roost shoot so, standing behind a makeshift blind made from a couple of leafy tree branches, we faced the roost, an expanse of woodland, and shot the doves as they left the roost to go out to the fields to feed.

Doves are regarded as an agricultural pest, they can breed six times a year and can reduce a farmer to ruin in a couple of weeks. So there is a lot of encouragement to kill as many as you can or want to.

I had suggested to everyone that to shoot 250 cartridges was a good shoot, more if you wanted, but we were paying for our cartridges in US dollars and that can add up at the end of a trip. So most contented themselves with shooting 250 for the morning.

There is no great skill to shooting doves – it just takes more than one shot. They refuse to fly in straight lines and will jink and dive just as you pull the trigger. So the more lead you put in the air, the more doves you will potentially shoot.

After a couple of hours, the rush of doves slowed to a trickle, and all but Neil and Alistair stopped to compare notes. Both were in a neck-and-neck race to see either who could kill the most doves or use the most cartridges. Their tallies were in the hundreds of doves and more than 14 boxes each.

We each had what they call a "bird boy", delightful young men with little or no English but there to ensure you had a good time, they would replenish the cartridges in your jacket pocket as you shot, fetch you a drink if needed, and clear the jam in your shotgun which happened a lot with the guns we were using and the cheap ammunition. They also carried a clicker around their neck to record how many birds you shot. Conversation was limited to "drink"( do you want a drink?), "muerto"(dead) and "shooty shooty (you can work that one out).

We called a halt for lunch about 11. While we had been shooting, David and a couple of the boys had built a fire and were in the process of preparing lunch, an "asado", basically a barbecue and traditional in Argentina. It consisted of several cuts of meat, beef and pork as well as sausage, all cooked over the embers of the fire and served at a table, complete with a white table cloth, china plates, salad and the requisite wine glasses for the wine that helped digest the meal.

For those who needed it, they had also placed hammocks between the trees so you could have a nap before the doves returned. While we had been eating and sleeping, the hundreds of dead doves which littered the field, were devoured by a vast array of birds of prey which

**Continued next page**

# Six go wild in Santa Fe

**Continued from page 9**

flew to the feast as soon as we had walked away.

Return they (the doves) did, thousands of them, an almost continuous stream of birds as far as the eye could see coming directly to the roost, which was now behind us. If the morning shoot had been good, this was sensational. Having got "one's eye in" in the morning, everyone shot better and more successfully in the afternoon. What a day!

That evening, Ivan one of the lodge owners turned up; he took charge of the kitchen and cooked paella for dinner, a seafood one, a relief from the meat (steak) we had been eating for almost every meal. The staff and boys seemed genuinely pleased to see him and there was a noticeable change in the atmosphere. With him there, things went up a notch.

The next morning was again devoted to ducks, everyone shot well and when we all returned to the lodge. Before the bird boys could whisk the ducks away (I suspect they were feeding most of the local population), we asked for some group photographs so we could identify the ducks we had been shooting. We laid out them on the lawn; it was three groups' morning shoot and all had limited out (as usual).

We had Coscoroba swan (Coscoroba coscoroba), fulvous whistling duck(Dendrocygna bicolor), ringed teal (Callonetta leucophrys, Brazilian teal (Amazonetta brasiliensis), silver teal(Spatula versicolor), yellow-billed pintail (Anas georgica), yellow-billed teal (Anas flavirostris), rosy-billed pochard (Netta peposaca) and one the locals called pato grande, which we never managed to identify properly.

The swan was particularly interesting as it is believed to be the common ancestor of all the swans and geese, as it is really neither one nor the other, but a very interesting one to hunt.

That afternoon we drove (past the dove shoot) out to a new area to hunt perdiz. They are one of my favourite upland game birds, but this time I was to be disappointed. After a three-hour walk behind a pointer, Di and I, along with Carlos our bird boy for the afternoon, managed to flush seven birds, all but one either out of range or at extreme range.

The Judge and Ross on the other hand had a magnificent hunt, they had a local with them who had an exceptional dog, which found them bird after bird. They almost shot two limits (eight perdiz each) and returned to the meeting point with big grins and tales of a wonderful hunt. Neil and Alistair fared a little better than Di and I but had been plagued by an out-of-control dog that flushed birds out of range, but they had still managed 11 between them.

**The piranha are beautifully coloured, iridescent pink and were it not for the teeth would be a fun fish to catch.**

That evening Ivan's girlfriend, Florencia, turned up; it was her birthday. We had a party!!!!

Last morning, we drove about half an hour down the road to a boat launching place where we had hunted from the day before, this time, however, the boys took us to a new spot, out on an island. On the island, there was a wetland and here, they had erected one of the bamboo blinds they used. Nothing special, just a row of bamboo fronds placed in the ground.

This wetland was mostly mud covered by an inch or so of water, like all the places we hunted, it had been fed for weeks to get the ducks to concentrate in this particular area. The mud proved to be a problem, as once you stood still; you sank into the mud and were unable to turn to take a shot in any direction except in front. The boys solved that problem by using the rear of the blind and laid the bamboo down under our feet to give us a more stable platform.

Just as well as the ducks were trying to land in front of us as we sorted ourselves out. Di to the left, the Judge to the right and me in the middle. It proved to be one of those memorable hunts where everyone shot well and the ducks came into the decoys like kamikazes, all too soon the bird boy was saying "only three more" which took three more shots and we were done. One hour, 75 birds, three happy hunters.

Our final hunt was more restrained, this time we set up in a rice field, the rice had long been harvested, but Ivan paid the farmers to keep some fields flooded with a few inches of water until the end of the duck season. We had all driven out along the dykes miles from the road and set up almost within sight of each other. Out in the flooded fields, the boys erected the blind and we settled down to wait for the birds, they came on ones and twos, but without the intensity of the morning, it was just nice to be there, we had a magnificent sunset and for me the highlight was shooting one of the Coscorobo swans.

And that was it, a wonderful week with a group of friends, most of them experiencing South America for the first time. We were blessed with some excellent company with our new friends from Texas and at the lodge we were looked after by some of the best, friendliest and most accommodating people I have ever. We were truly sad to leave.

Now I won't tell you about our delayed flight back to BA and landing at the wrong airport, but I will tell you about the tango show we saw on our last evening. Tango and Buenos Aires go together like bread and jam. We went to an intimate restaurant and theatre, where we ate an excellent meal, followed by a 90 minute non-stop show of tango dancing and singing – the main female singer was superb and when she sang Buenos Aires from Evita, it just summed up the trip for me. (Go listen to it you'll see what I mean). Wonderful!

I can't wait to go back, anyone care to join me?

Wairio wetland

# Nurse trees give saplands a headstart

**Stevie Waring** has been looking into the benefits of nurse trees in wetlands restoration at Wairio.

**Wetlands are** ecologically important, biologically rich habitats that support a vast range of habitats for plants, animals and soil microbes. Swamps are a category of wetland that are dominated by flood-tolerant trees, which thrive in soils that are nutrient-rich, but occasionally boggy or flooded.

Postgraduate students Stevie Waring, left, and Natascha Lewe working at Wairio. Photo Dr Stephen Hartley

Historically, New Zealand's swamps were dominated by large podocarp trees, especially kahikatea and totara, but these were targeted as valuable timber throughout the 19th century. Thereafter, land conversions for urban expansion and agriculture continued to degrade swamps. A primary goal of wetland restoration is to revegetate sites with native trees. However, up to 70 per cent of sapling trees can die within the first year of planting.

The death of trees increases the financial costs of wetland restoration while reducing the benefits to nature and the morale of project participants. Put simply, dead trees reduce the feasibility of restoration of wetland swamps.

The survival and growth of sapling trees planted in wetland restoration projects depends on the interplay of many site factors including water levels, soil biology and fertility, wind exposure, herbivores and locations of nearby trees and plants.

Nearby plants can affect the earlier years of a sapling's life. For example, highly competitive perennial grasses can shade and outcompete the saplings for light and soil resources. On the other hand, having neighbours may benefit the sapling. Nurse effects are positive interactions between plant species whereby an older 'nurse' tree facilitates the establishment of a sapling. Nurse trees can help saplings in a variety of ways, for example by sheltering a sapling from wind, frost, extreme heat, or intense sun. The deep root systems of nurse trees can draw up nutrient-rich water from deeper soil, enhancing water availability to the shallow root systems of the saplings.

Nurse trees can also provide a source of beneficial fungal spores. Arbuscular mycorrhizal fungi (AMF) form mutually beneficial relationships with trees. In exchange for sugars made by the plant in photosynthesis, AMF provide the plant with soil nutrients. Because sapling establishment is influenced by nurse trees over such a wide range of site conditions, nurse effects may be particularly important for trees.

Little is known about how nurse trees affect establishing saplings in wetland restoration. Can strategically planting saplings near nurse trees increase their survival and growth rates? Or are other site factors such as soil moisture more important for sapling survival?

In my MSc thesis, in the Centre for Biodiversity and Restoration Ecology at Victoria University, I sought to identify how nurse trees improve establishment of two podocarp tree species planted as part of a wetland swamp forest restoration.

In collaboration with Ducks Unlimited and the Department of Conservation, I monitored the survival and growth of kahikatea (Dacrycarpus dacrydioides) and totara (Podocarpus totara) saplings planted with or without an established nurse trees at the Wairio wetland. The wetland connects a large, ecologically, culturally and recreationally important wetland complex that spans the Wairarapa valley. However, the increased nutrient inputs from livestock and chemical fertilisers and the introduction of pasture plant species have led to a weed-dominated environment. During restoration, highly competitive perennial grasses can shade and outcompete the newly planted, slow-growing podocarps. In addition, the complex hydrology of the site leads to species-specific spatial patterns of mortality and growth.

In my studies, I tested whether the presence of a woody nurse tree (manuka, pittosporum or coprosma) influenced the survival and growth of kahikatea and totara over the critical first year of establishment. I monitored soil moisture, the pH and oxygen status of soils, root-available nutrients, and soil carbon content under saplings planted with and without nurses. I also quantified the abundance of spores of AMF fungi under all saplings.

**Continued next page**

# A break from winter in BC

Ducks Unlimited Canada members Len and Pat Everett spent several months in New Zealand this year, partly to avoid winter at home in British Columbia. They visited the Whakamanu Wildlife Trust sanctuary at Manunui near Ruapehu and enjoyed helping out with a North Island brown kiwi's health check-up. The Canadian couple visited several of our members and wetlands, and spent time fishing and playing golf, and helping their son and partner move into a home they had just bought in Wellington.

On their return home to Canada, Len was honoured with a special award at a DUC 80-50 Anniversary Celebration (80 years in Canada and 50 years in BC) for 30 years of service to DUC and the wetlands of BC.

Ducks Unlimited Canada members Len and Pat Everett spent several months in New Zealand this year.

**Continued from page 11**

Overall, I found that kahikatea saplings survived better than totara saplings, especially in very wet areas, but they were slower growing. Kahikatea did not benefit from nurse effects, rather it was frequently the only tree species capable of tolerating the wettest environments. In contrast, totara survived better than kahikatea in the drier areas of the wetland and grew on average 24cm taller in the presence of a nurse tree. The positive effect of a nurse tree on totara growth occurred regardless of the nurse species. Nurse trees increased the availability of mineral nutrients to totara. This suggests that the enhanced pull of deeper soil water by the large root systems of nurse trees increases the availability of mineral nutrients to totara saplings.

Finally, I found that the abundance of AMF spores varied with soil moisture, with the wettest areas having fewer spores. Moreover, the growth of both kahikatea and totara were positively related to numbers of AMF spores. These results suggest plants and beneficial mycorrhizal fungi respond similarly to patterns of wetland hydrology, and the availability of AMF inoculum is unlikely to limit the establishment of kahikatea and totara.

From this we have learnt that respecting the hydrology is key to revegetation for slow-growing podocarps; kahikatea will tolerate wetter soils, while totara should be planted in drier areas. If you want to establish totara in a restoration project, we recommend planting fast-growing nurse trees three to five years in advance.

At Wairio, nurse plants were four years old when the podocarps were planted, and totara tended to grow best where the nurse trees were largest. Planting around existing native trees and the development of expanding 'tree islands' over time should enhance podocarp survival during ecological restoration.

• Stevie Waring and her supervisor, Dr Julie Deslippe, work at the Centre for Biodiversity and Restoration Ecology at Victoria University, Wellington. They wish to acknowledge the generous support of the Inshallah Trust.

**Are you interested in helping with more research like this?**

We are looking to collaborate with Wairarapa farmers with restored or unmanaged wetlands to better understand the benefits that wetlands provide. Please visit our website, Wetlands for People and Place, to learn more. Contact Julie Deslippe at Julie.Deslippe@vuw.ac.nz or Stephanie Tomscha at stephanie.tomscha@vuw.ac.nz to get involved.

## IN BRIEF

### Symposium in Napier

The National Wetland Restoration Symposium will be held in Napier on 26-28 September, with Conservation Minister Eugenie Sage delivering the opening keynote address. The theme for this year's symposium is Living Wetlands in the Living Landscape. Other speakers are Australian ecologist Matt Herring and the new CEO for Fish & Game, Martin Taylor.

### Forum seeks changes

The Land and Water Forum wants a new national body to oversee freshwater management to prevent the decline of wetlands and 'outstanding water bodies'. Forum chair Dr Hugh Logan said, "A motivated effort at a national level is required to improve water quality. It will require better coordination and deployment of resources, which we believe should be delivered through a new Land and Water Commission." In its report, commissioned by the Government, the forum said the Resource Management Act should be stronger to prevent decline of wetlands. Environment Minister David Parker said some, but not all, of the forum's recommendations would be adopted. Suggested changes to the RMA were not likely to be introduced to Parliament this year, he said.

# Hunt for the pūweto

**SKYE WISHART**

**The spotless crake** or pūweto is only half the size of a blackbird and extremely shy but Dr Emma Williams and DOC ranger Rose Graham are experts at getting them to reveal themselves.

Emma and Rose teamed up this year on a project to monitor spotless crakes in Waikato's peat lakes Rotomanuka, Ruatuna and Areare where restoration work is being carried out by DOC and Fonterra's partnership, Living Water.

DOC's Arawai kakariki restoration programme has been investigating whether the species is a suitable indicator species for wetland restoration. Spotless crakes are thought to be suitable because they have large clutch sizes of up to five eggs – sometimes producing two clutches per season. They're also very vulnerable, with nests and chicks being easy prey for a range of wetland predators.

The crakes need specific plants and good water quality for their habitat and food to survive. Theoretically, these specific requirements suggest crake numbers will increase quickly (within a few generations) at any sites that have good predator/weed control and have been restored with the right plantings. As long as wetland restoration efforts cover their home ranges adequately, more crakes should tell you that your restoration efforts have been a success.

Monitoring so far suggests this is true. To date, all three Waikato peat lakes have had three years of management and crake monitoring. During this time, the number of birds detected at listening stations (areas where pūweto calls are played) have increased from 11 per cent to 42 per cent of the time. Crakes also rely on habitat that is important for other endangered species, such as the nationally critical Australasian bittern (matuku), suggesting their presence can indicate conditions are good for these species too.

Spotless crakes are a challenge to work with though. Many crake and rail species are difficult to sex as males and females often look similar – pūweto are no exception. So little is known about the species, even attempts to sex them using their DNA is a challenge. This is because there is no baseline information to confirm which DNA testing methods are most appropriate to use. Unless you have a known male and female to test your DNA methods on, then you can't tell whether the results you get are true or not.

A spotless crake at Lake Ruatuna; Rose checks a fyke net trap; and a spotless crake chick caught at Lake Rotomanuka.
Photos Emma Williams

To help with this, Arawai kakariki and Massey University are taking DNA samples from dead crakes found in museums or DOC freezers. The sex of these samples is known because internally the reproductive organs of male and female birds are distinct, and this information is recorded during the autopsy. The DNA test results from these samples can then be used to interpret DNA results taken from the live crakes captured in 2017 and 2018.

To monitor crakes, observers sit out and listened for 10 minutes at each station, three times each summer, in the morning or early evening. Each observer plays local pūweto calls intermittently and records any sightings or sounds heard. They are shy so are rarely seen during surveys but are often heard calling back in response to calls.

To radio-track the crakes, Emma and Rose first had to catch them. To do this they trialled cage traps and a hinaki-type net (also known as a fyke net). The net is usually suspended in water to catch fish. It has a series of funnel-shaped openings, which makes it hard for fish or birds to escape. However, to catch pūweto on land, the net must be properly suspended above the water by using twisty ties, string, and stakes. Placed in naturally occurring tunnels among the raupo, and channelled with weed matting, this style of trap has proven the most successful to date, having caught four so far.

Once a bird has been caught, Emma bands it and attaches a transmitter to the bird's back. They are so small that only tiny transmitters (the size of a jelly-bean) can be used – each lasting been four to seven weeks, and weighing less than a gram. Once the transmitter is attached, the bird can be released.

After that, Rose and Mark Lammas use the signal from the transmitter to refind birds. They follow each bird carefully for three hours a day in all weather conditions every day until the battery life on the transmitter has expired. To refind birds, Rose and Mark listen to the signal produced by the transmitter using a hand-held radio antenna.

Often the tracker gets within 10 to 15 metres of the bird, which usually stays out of sight in the dense lakeside vegetation. "It would appear one of the survival techniques of crake is that you can be right next to them and never know they are there. They can sneak across small open spaces without you seeing them at all," says Rose.

• The project was funded by the Living Water partnership (DOC-Fonterra). Transmitters were purchased by DOC's Arawai kakariki restoration fund.

## OBITUARIES

### DUNZ farewells great supporter

**Robin Borthwick**, a long-time member of DUNZ of 30-plus years, passed away in July at 80 years of age.

Rob was a great supporter and always bid up well at our annual dinner and auctions, as well as donating Borthwick Wines. He farmed for most of his life at Wainuioru, east of Masterton, where he established several wetland areas.

He will be sorely missed. – **Ross Cottle**

### Top seller kept raffles in profit

**In August**, another one of our long-term members, Joyce Brooks, passed away.

Joyce was the secretary/treasurer for the Wairarapa Chapter for 17 years. I went and saw Joyce about two months ago to get the accounting books from her as she felt it was time for her to retire – the books were immaculate, I might add. She said how much she had enjoyed the job over the years but could not recall how she got the job. I reminded her – her husband, Roger, had volunteered her.

We used to have national raffles and Joyce always sold more raffle books than anyone else. Her record was 90 books and I can honestly say, without Joyce, the raffle would have struggled to make any money.

Rest in peace, Joyce, you will be sorely missed. – **Ross Cottle**

# Ramsar officials visit

The Ramsar delegation at Wairio. Photo Ramsar Convention on Wetlands.

**Ramsar officials** visited the Wairio wetland in March during their visit to Wellington, the host city for the Oceania preparatory meeting in the lead-up to the 13th Conference of the Parties (COP13) to be held in October 2018 in Dubai.

The meeting in March was attended by eight contracting parties in the Oceania Region, an observer from Vanuatu, which is in the process of accession, and observers from international and national organisations that work on wetland-related issues.

Ramsar officials said the Pre-COP meeting was an opportunity to discuss and give feedback on draft resolutions to be considered at the Ramsar COP13. It was also an opportunity to share experiences, information and knowledge on wetland issues common to the region and identify opportunities for cooperation, learning and improved implementation of the convention.

The delegation thanked Ngati Hinewaka and Kahungunu ki Wairarapa, Greater Wellington Regional Council, Ducks Unlimited and the Department of Conservation for hosting the visit.

The Convention on Wetlands of International Importance holds the unique distinction of being the first modern treaty between nations aimed at conserving natural resources. The signing of the convention, now known as the Ramsar Convention, took place in 1971 at the small Iranian town of Ramsar.

DU Board member Jim Law gives the guests a tour of the wetland.

## IN BRIEF

### Injured bittern found

A severely malnourished bittern (matuku) has been found with a damaged wing by SH16 in Helensville. A few weeks earlier in August, another bittern was caught on video at the Orangihina Wetlands in Te Atatu, West Auckland. Rescue Charitable Trust hospital operations manager Lyn McDonald said the injured bittern would not fly again because of its injury.

# Wetland research grants

*Interested in studying wetland birds or wetland restoration? – the Wetland Care scholarship could be for you!*

## Background/purpose

Wetland Care research scholarships are Ducks Unlimited-sponsored scholarships applicable to any student currently enrolled or affiliated with a New Zealand university. Funds are aimed at encouraging and supporting students who wish to push the boundaries of what is known about wetland restoration and conservation.

Starting in 2018, up to $20,000 a year will be available to cover one to four scholarships of $5000 each. Funds can be used to support student living costs or to cover the costs of equipment purchase, logistics and consumables.

## Criteria

Applications will be accepted from students/researchers affiliated with universities interested in making a difference through wetland conservation. Funding is aimed at student projects designed to facilitate better management of New Zealand wetlands or their environment. The student project must be based in New Zealand or be of direct benefit to New Zealand based on current wetland conservation issues.

Preference will be given to applications who demonstrate:

- innovative thinking that pushes the boundaries of what is known about New Zealand wetland conservation
- research on native threatened wetland bird species
- research with clear objectives and measurable outcomes
- research with a strong wetland management and conservation applications
- research covering any 'preferred research topics' listed on the Ducks Unlimited/Wetland Care website: www.ducks.org.nz.

## Value

Wetland Care will award up to four scholarships a year, during two biannual funding rounds for the next three years (2018 to 2021). The first funding round, consisting of one to two $5000 scholarships, will be advertised in September. The second funding rounds, consisting of a further one to two $5000 scholarships, will be advertised in February. Funds will be paid in one lump sum to successful candidates upon completion of the milestones agreed at the time the scholarship is accepted.

## How and when to apply

- Applications for the September 2018 funding round will open until November 1, 2018. Depending upon the quality of applications, we may award up to two $5000 scholarships.
- The next applications will be called for in February 2019. This round will consists of up to two more $5000 scholarships.

## Want to know more?

Please email swampbird.research@gmail.com with your questions or to request an application pack.

Terms and conditions will also be available on the Ducks Unlimited website.

**Applications close at 5pm on November 1.**

## DU MEMBERSHIP FORM

☐ YES, I wish to join Ducks Unlimited as a member OR ☐ I wish to renew my membership

☐ Please send me further information, I may join later.

Name.....

Address.....

Phone.....

E-mail .....

DUCKS UNLIMITED NEW ZEALAND INC.
For Wetlands and Waterfowl.

All subscriptions include GST.

☐ Junior (under 16) $10
☐ Contributor $60
☐ Family $70
☐ Business $110
☐ Life (one payment) $3000
☐ Bronze Sponsor $90
☐ Silver Sponsor $160
☐ Gold Sponsor $310

Note: Bronze, silver and gold sponsorships include the membership fee of $60 and the balance is received as a donation, which is tax deductible.

Please pay by cheque, credit card or online: www.ducks.org.nz/membership/membership-form

Credit card: ☐ Visa ☐ Mastercard Number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

**Ducks Unlimited, PO Box 165, Featherston, Wairarapa, 5740**

We deliver and advocate for effective wetland restoration, development, research and education; and support the preservation of threatened waterfowl and the ethical and sustainable use of wetlands.