DUCKS UNLIMITED NEW ZEALAND INC. For Wetlands and Waterfowl

Flight

ISSUE 184 JUNE/JULY 2022

GWRC faces big bill
Wetlands take shape
Deep dive for data

Insight

The Wairio Wetland Restoration Committee held its six-monthly meeting this week (mid-May).

The purpose was to map the planting programme for the coming winter.

We have ordered 1700 plants, including a large number of kahikatea, which are to be planted in the northeastern corner of the wetland.

In time, this will help create a much improved vista for those walking along the northern stopbank.

As this is regarded as part of the Biodiversity Corridor running from the Aorangi Range in the east across to the Remutaka Range in the west, the Aorangi Restoration Trust has granted DUNZ $7000 for the project.

The tentative date for the planting is July 7, and at the same time, we hope to have the official opening of the viewing hide, which was installed in January. Both of these events will be weather dependent, of course.

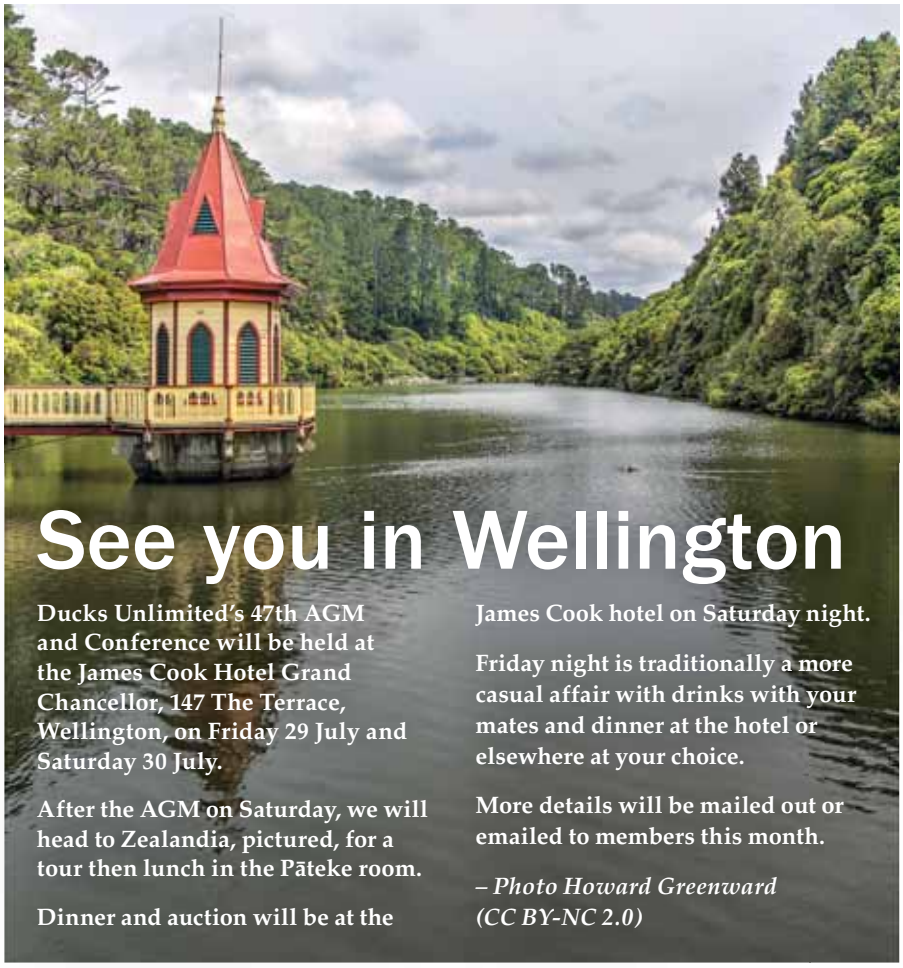
Jim Law presented the Wairio financials for the past year. We budgeted to spend $20,000 and overspent by $3000. The total that has been spent on Wairio Wetland in 17 years is $250,000.

It has been a wonderful project and you can all be very proud of being a part of it.

Ross Cottle, President DUNZ

Tūmanako, right, with her mate. *Photo: DOC*

ONE TOUGH WHIO: A Kahurangi National Park whio has proved a steadfast survivor, becoming one of the longest-lived of her species despite losing part of a wing and not being able to fly. Whio/blue duck are thought to live to about 12 years but Tūmanako has lived for about 14 years in the wilds of the Wangapeka River catchment.



See you in Wellington

Ducks Unlimited's 47th AGM and Conference will be held at the James Cook Hotel Grand Chancellor, 147 The Terrace, Wellington, on Friday 29 July and Saturday 30 July.

After the AGM on Saturday, we will head to Zealandia, pictured, for a tour then lunch in the Pāteke room.

Dinner and auction will be at the James Cook hotel on Saturday night.

Friday night is traditionally a more casual affair with drinks with your mates and dinner at the hotel or elsewhere at your choice.

More details will be mailed out or emailed to members this month.

– Photo Howard Greenward (CC BY-NC 2.0)

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Cover: Spring Valley Enterprises, near Masterton, has a new wetland, which DUNZ helped fund, see story p4–5.
Photo Lynley Wyeth

Back: A scaup and Australian coot at home in the cool waters of Lake Wakatipu, Queenstown. ***Photo Alison Murray***

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Editor: Alison Murray
flightdunz@gmail.com
021 124 8095
28 Ferry Road, Clive, Hastings 4102

Printer: Lamb-Peters Print,
2477 State Highway 2, Greytown 5794

Editorial:
Contributions, including photographs and letters to the editor, are welcomed. Please send these to the editor before the next deadline, 23 September 2022 in time for the October/November issue.

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

GWRC loses wetland v pasture fight

Greater Wellington Regional Council faces a $600,000 bill after the Environment Court dismissed its claim that a subdivision included 15 hectares of wetland that needed protection.

In an unusual move, the court ruled that the council should be liable for all legal costs, which include more than $482,000 for the three sets of respondents – the developer, landowners and Upper Hutt City Council – and $100,000 of the court's costs.

In March, the court said GWRC had failed to prove its case by a "massive margin" and described its application for an enforcement order to restore the land in question as "draconian".

As part of work on the subdivision, the developer had cut down some pine trees, which attracted the attention of GWRC, which then said there were wetlands on the land that needed to be protected.

The project had already been approved by the Upper Hutt council and some houses had already been built when GWRC issued a compliance notice ordering that work stop and the wetlands be restored.

The developer ordered a consultant's report that showed areas of wetland but said they were subject to a section of the Resource Management Act that excluded them as they were deemed to be pasture.

Whiteman's Valley has been farmed for more than 100 years, and a few isolated wetlands on the edges of the subdivision are already protected.

The court said: "The Regional Council has failed to satisfy us by a massive margin that the delineated natural wetland area in fact constituted natural wetlands…"

"We consider that the Regional Council has confused two separate matters, firstly identification of pasture for the purposes of application of the pasture/improved pasture exclusion provisions and secondly the tests for determining whether or not natural wetlands are present.

"It is not a question of the pasture/improved pasture exclusion provisions having 'primacy'. Rather, as we have noted on any number of occasions, even if an area under consideration constitutes natural wetlands, if that area comprises wetted pasture, pasture with rushes or 50% exotic pasture, it is excluded from the natural wetland identification."

Federated Farmers senior policy adviser Liz McGruddy, said in *FedsNews*, "The court decision runs to 100 odd pages, but perhaps the two best lines come from two of the independent experts called by the respondents.

"One talked about going down "rabbit holes"; and the other questioned why – if we need dozens of pernickety tests to figure out if that paddock we are looking at is pasture or wetland – why are we even going there."

She said GWRC had begun a review of its compliance monitoring and enforcement programme, last reviewed in 2018. "We congratulate them for that; it's timely and useful. The case … isn't the only one in which farmers have received intimidating letters.

"We have said it to GWRC before and we will say it again: prune the rules and beef up the partnerships. Practical policies and strong relationships will best serve agriculture and the council going forward."

In an email to staff, GWRC chief executive Nigel Corry said: "In essence, our wetland delineation and interpretation of the national guidance wasn't sufficient in the court's eyes, who were in fact highly critical of our case. We will now look to strengthen our processes around many aspects of wetland management."

He said the council accepted the judgment and would look at its systems, including seeking more guidance over identifying wetlands.

In response to a query from *Flight*, Al Cross, GWRC Environment Management Group manager, said, "Enforcement is not a default tool for Greater Wellington and court action is rare. Greater Wellington's priority is to work with developers and community members long before development activities start.

"We are always happy to advise on the rules and regulations that may apply so development can happen in the right place. Lessons from these cases will help inform our approach and advice in the future."

The 94-page court judgment can be found at environmentcourt.govt.nz/assets/Documents/Publications/2022-NZEnvC-025-Greater-Wellington-Regional-Council-v-Adams.pdf.

WORK IN PROGRESS: DUNZ members Paddy and Debbie Chambers' newly constructed wetland on their Raetihi property is a work in progress. Funding from DU helped pay for the pond, and now the Chambers are looking forward to some steady rainfall over winter to fill it up. Stay tuned for a further update in a later issue of *Flight*.

DU grant and expertise help create

The timing for planting the wetland proved fortuitous with visitors from the Silver Fern Farms Field Day conscripted to lend a hand. *Photos: Lucalia Photography*

When Matt and Lynley Wyeth, of Spring Valley Enterprises, northwest of Masterton, saw an opportunity to turn 2 hectares of unproductive land into a wetland and pond, they contacted the experts – DUNZ.

Not only did Jim Campbell and Ross Cottle's knowledge and expertise come to their aid, DU was happy to contribute towards the cost of the project on Matt and Lynley's 2400-hectare sheep and beef farm near Masterton.

Lynley says: "We approached Jim and Ross, firstly for their knowledge and expertise on enhancing the area, and then we also applied to DUNZ for funding".

It was one of two wetland projects in the Masterton area to which DU contributed last year. John Murray, of Kainga Mauru Trust, also received a grant to create a wetland and pond area.

Matt and Lynley chose the site for their wetland for two main reasons.

"Firstly, it would act as a sediment trap at the bottom of an intensively grazed catchment area of 80ha. We did a full study through Ballance Agri-Nutrients on what the 80ha area was leaching into the waterway," Lynley says.

"The findings were much higher than we anticipated, with 30,050kg of sediment per year, 75 units of phosphorus per year and 704kg nitrogen per year being the main contributing factors.

"Secondly, we wanted to enhance and protect the natural swamp area that was already there.

"It was 2.1ha of ugly, unproductive land that stock could easily become stuck in, so it was a no-brainer to fence off the whole area from stock and turn it into a protected area for birds, bees and aquatic life."

They used JT Earthworks to create the dam wall in the summer of 2021 while the area was at its driest. The fencing was completed during autumn and the area was spot sprayed, ready for planting 3000 native trees, grasses, shrubs and flaxes in July.

"It just so happened that we were hosting the Silver Fern Farms Annual Conference Field Day here at Spring Valley also in July, so we decided it would be a neat thing for the visitors on the farm tour to plant some of the seedlings," Lynley says.

"It was really cool because some people have never planted a wetland area before, so it turned into an education

thriving habitat for waterfowl

session as well as getting some enthusiastic labour to help with the planting job."

In September last year and February this year, the farm had to contend with unprecedented rainfall, and Matt and Lynley were worried about the walls of the newly established dam holding before it had a chance to set and establish a solid root source.

"But the earth moving and design proved faultless and it held well, with its strategically placed spillways built up with old wool carpet doing their job perfectly," Lynley says.

The wetland is now almost complete with just a hut/mai mai still to be delivered by helicopter.

"A specific area was built up in the landscaping process to ensure the perfect position for waterfowl viewing, sun and for taking in the spectacular scenery."

Mallards, black swans and paradise ducks moved into the wetland almost immediately, along with a white-faced heron.

"With the growth and establishment of the plantings over the next few years, we would expect to see it become a thriving habitat for more waterfowl species."

"For the 20 years we've been farming our approach has always been to protect and enhance all areas of our land and by having this environmental approach, we've also created an aesthetically pleasing business for our team, neighbours, visitors, contractors and ourselves for generations to come."

"Funding and support from DUNZ is vital to us as landowners in the establishment of wetlands. The funds for these sort of projects are often difficult to come by in your farm budget and we thank DUNZ for the support they have given us," Lynley says.

▪ *Spring Valley Enterprises is one of three finalists in the Market Leader category at 2021 Lamb & Beef Awards. The award dinner and ceremony, postponed from February 2, due to Covid restrictions, is now to be held on September 29 in Napier. Good luck from DUNZ.*

From top: The wetland in May – looking north with a spillway on the left and an inlet on the right; a family of scaup explore the pond; looking south with an island in the middle of the pond.

Photos: Lynley Wyeth

Citizen scientists' deep dive

EBRAHIM HUSSAIN

Lake Tomarata and the wetlands around it were considered low-value habitat with limited to no biodiversity until Aotearoa Lakes investigated in collaboration with local partners.

Lake Tomarata is surrounded by an extensive wetland—the only one of its kind in the Auckland region. Its ecological significance and rich native biodiversity, including several threatened and endangered species, make the lake and wetland complex unique and deserving of protection.

A small area is considered lacustrine wetland, making this ecosystem critically endangered, and only 1 per cent of the wetland's original extent remains. The lake is the only example of a peat lake system in the Auckland region.

These wetlands provide habitat for a variety of threatened species including fairy tern, bittern and black mudfish.

Both the lake and wetland have been independently studied before, but there has been no ecosystem scale assessment that examines both systems as one interconnected environment. The wetland values are well described in published literature.

However, the ongoing pressures and impacts from the surrounding catchment are not fully understood. The lake has been monitored over time, and the general consensus is that there is limited to no biodiversity values present and the water quality is deteriorating.

Our visits to the wetland and dives in the lake uncovered a misunderstood environment with complexities that led to the false assumption that the lake had low ecological value. This highlights the value of citizen science and, in particular, divers who are able to regularly document areas that most people don't frequent.

We wanted to legitimise our findings and debunk the false portrayal of this unique environment. To do this, we wanted to create an open access integrated ecosystem management tool that could be used for collaborative monitoring and restoration.

This tool would need to be based on accurate ecosystem scale assessments and integrated into a single geospatial platform where all data could be viewed and interpreted.

To create this tool, we needed to map the entire environment as one ecosystem, establish an in-lake biodiversity baseline and current state assessment for both systems, integrate all the data, and develop monitoring techniques that would inform management plans.

Drone imagery was used to create a 3D point cloud model of the lake and wetland. This high-resolution imagery creates a geospatial representation of the entire ecosystem.

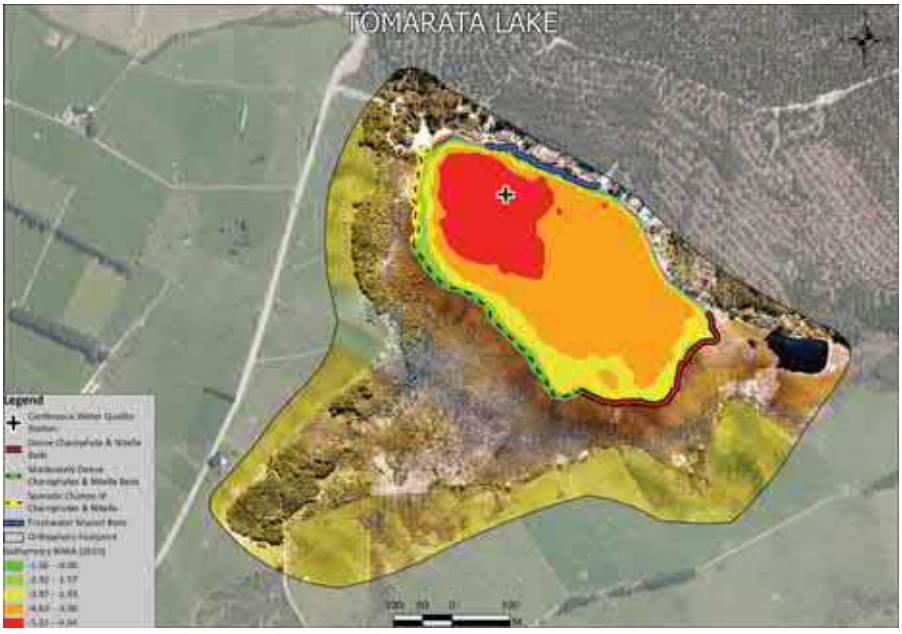
Photo: Javier Cañete Valdivia

This seemed completely unachievable for a group of volunteers, but we did not let the monumental task intimidate us. We drew up a plan, put together a team, and pushed on one step at a time.

Mapping

The first step in understanding an ecosystem is to map the environment and create a spatial platform to guide in-situ surveys and integrate multidisciplinary data. This project was the first time we mapped aquatic, terrestrial and transitional environments to create a single ecosystem model.

The challenge with this type of mapping was that we needed to work in three dimensions because the surface and subsurface environments are interlinked. The best way to do this is to use various survey techniques and data inputs for each environment to create an integrated, three-dimensional model of the entire ecosystem.



This compiled model is a combination of the lake bathymetry and wetland point cloud. It integrates various data sources and survey results into a single geospatial platform. It is used to display and analyse multidisciplinary data and is the backbone of the project.

Photo: Javier Cañete Valdivia

into Lake Tomarata

To map the lake, we used existing hydroacoustic data collected using a variety of methods including sonar, depth sounders and pressure transducers to create a bathymetric map of the lake bed. We used divers to ground-truth (ie, check the accuracy of) the bathymetry, and map the shallow transitional areas between the lake edge and the wetland.

The result was a high-resolution map of the lake bed and general lake bed characteristics.

High resolution 3D imagery is used to classify and delineate wetland vegetation without needing to enter the wetland. This rapid survey method allows us to continually monitor variations in wetland vegetation assemblage and health.

We mapped the wetland using drone imagery and existing data inputs. We flew a drone along a pre-programmed geo-referenced grid that spanned the entire sub-catchment to obtain high resolution imagery. This imagery, coupled with LiDAR data, was used to create a three-dimensional point cloud, ortho mosaic and digital elevation model of the entire sub-catchment.

We combined the surface and subsurface mapping to create a single three-dimensional model of the entire ecosystem. This gave us the ability to visualise both systems as an integrated environment and extract detailed spatial and environmental information. This model would also be used to display and integrate all the survey data.

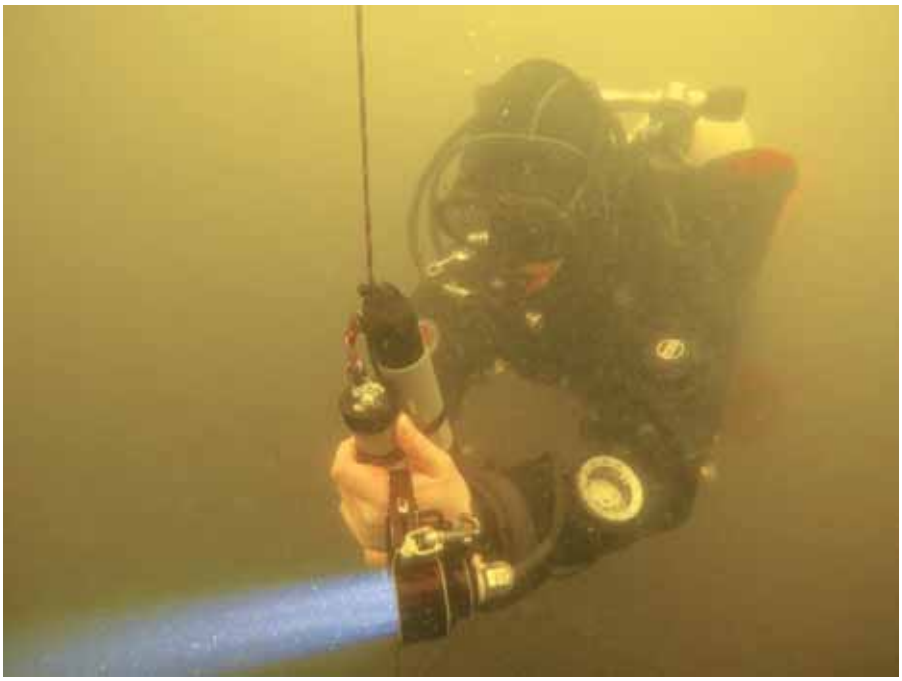
To frame this data into the context of the wider landscape, we overlaid the catchment land use split, overland flow paths, soil types, and ecosystem classification. This allowed for greater diagnostic power when assessing the potential impacts of changes in the wider catchment.

Drones were used to create a digital elevation model of the ecosystem. This model is used to define topographical features, delineate ecosystem extent and tack variations in terrain over time.

Assessing lake biodiversity

The biggest knowledge gap we faced was in-lake biodiversity. There have been several reports discussing the general health of the lake and discrete ecological surveys, but no conclusive lake-wide assessments.

One of the conclusions in most of the published literature was that the lake is completely devoid of plants and overrun by pest fish species.



Louise Greenshields installs water quality sensors that monitor pH, temperature, dissolved oxygen and light every 15 minutes. This data will be used to create an in-lake process-based model. *Photo: Ebrahim Hussain*

We used the bathymetry to design a lake-wide survey aimed at assessing habitat quality, macrophytes, key stone species, and benthic flora and fauna. The first survey was to map out specific habitat types throughout the lake; these areas were then plotted on the 3D model.

We used the habitat assessments to guide the other biodiversity surveys, since they gave us an idea of where various species may occur.

During the biodiversity surveys, we made some ground-breaking discoveries. Despite the lake being classified as non-vegetated, we have mapped nearly 1km of native macrophyte beds along the southern and western ends of the lake.

We also found freshwater mussel beds on the eastern side of the lake, which was an amazing discovery, as no one knew these endangered species existed there. Recently, we were lucky enough to find the first juvenile freshwater mussels ever recorded in an Auckland lake.

So far, our findings indicate that this lake is far from a barren water body. There are signs of natural regeneration and established populations of endangered species. It is critical we get this message out and raise the profile of this lake: the more we know about a place, the more we value its protection.

Establishing a baseline

A baseline state is essential to track changes over time. We wanted to take an integrated ecosystem approach to the baseline assessment rather than focusing on tracking single metrics and using them as a proxy for wider environmental health.

The first step was to use the 3D model we created to define the current extent of both the wetland and lake environments. Tracking changes in extent over time provides information on wetland succession/recession, water level, lake infilling, and habitat change.

We used the high-resolution drone imagery to delineate discrete vegetation types across the wetland, and we aim to calculate vegetation biomass in the future. This will allow us to track changes in vegetation assemblages in response to eutrophication, sedimentation, and climate change.

The in-lake biodiversity assessments were used to create a baseline for in-lake health. Ecological response metrics like macrophyte extent, mussel density, substrate/habitat change, and species diversity will be used as a biological sentinel network that integrates the effects of multiple impacts across the ecosystem.

Continued next page

Deep dive into Lake Tomarata

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Changes in water quality are pivotal to both the lake and wetland, so it is crucial that we fully understand the current state. To understand the diurnal and seasonal variation in water quality, we installed continuous water quality sensors (temperature, pH, dissolved oxygen, and light) at every meter through the water column; these sensors will log measurements every 15 minutes for a year.

This data, coupled with the monthly water quality samples and climate data from the Auckland Council, will be used to create an in-lake process-based model that can be used to understand and predict lake dynamics.

We will also integrate additional data such as bird counts, pest fish surveys and hydrological studies collected from other agencies into our assessment. This information, along with other geospatial data, can continually be added to the platform as they become available.

Tracking all these parameters creates an early warning system able to detect subtle changes in ecosystem health.

This integrated response-based approach is more sensitive than traditional monitoring methods. The in-lake, process-based modelling will continue to be calibrated as we collect more data, which will eventually allow for accurate scenario testing.

The end goal is to be able to detect changes early enough that we can test virtual restoration/management scenarios and implement the most effective solution before significant degradation occurs.

Management and monitoring

The key to successful ecosystem scale management is collaboration. We created an open access platform for everyone with a vested interest in this area to use and contribute too. We established the baseline ecosystem state which all future studies can be referenced against as well as the monitoring tools required to track environmental changes. The last step was to bring people together with our work and set up collaborative working groups focused on Lake Tomarata.

We are currently partnered with the Auckland Council which has regulatory authority over the area. The council and Aotearoa Lakes have a joint monitoring and data sharing agreement which allows both parties to benefit from pooled resources, expertise and data. We are working with the local communities and iwi from the area to raise the profile of this ecosystem and create an interest that will hopefully lead to proactive lobbying and restoration efforts.

These are the first recorded juvenile Echyridella menziesii (NZ freshwater mussel) in an Auckland lake. No one knew these threatened species existed in Tomarata.

Photo: Ebrahim Hussain

Our integrated ecosystem monitoring design, spatial representation of multidisciplinary data and ability to scenario test management options create a publicly accessible platform for informed collaborative ecosystem monitoring and management.

What makes this effort so special is that it was all done by passionate volunteers. This project proves citizen science can stand up to the rigour of commercial standards and in some cases surpass it.

I hope this article will inspire you to take action despite how herculean the task may be. There is nothing more powerful than a collective of like-minded people applying themselves to a single cause.

Please visit our website (http://nzlakes.org) and Facebook page (www.facebook.com/AotearoaLakes) for more information on all our projects.

▪ *Ebrahim (Ebi) Hussain is a water quality scientist who grew up in South Africa. He began diving when he was 12 years old and has never looked back. He studied aquatic ecotoxicology and zoology at university, and it was clear that Ebi wanted to spend his life studying these subsurface ecosystems and the anthropogenic stressors that impact them. Ebi is a co-founder of Aotearoa Lakes.*

Aotearoa Lakes

Aotearoa Lakes is a group of passionate volunteers and trained professionals who want to understand and improve New Zealand's lakes, wetlands and freshwater systems.

Our focus is to collaboratively gather environmental data to support government and research organisations.

We use community members, citizen science and emerging technologies to collect data for tangible ecological outcomes.

Education is a key value for us and we also provide training to empower local communities to restore their lakes.

Duck ancestor found

A new species of large, extinct duck has been discovered at St Bathans in Otago.

Dr Nic Rawlence from the University of Otago says researchers have found the ancestors of kiwi and tuatara and some more exotic species like relatives of flamingos and crocodiles. All once lived in or around a gigantic palaeo-lake named Lake Manuherikia.

Dr Rawlence discovered the species of duck from a large wing bone found in an eroding creek bank and named it after his late mother, Catriona.

Catriona's shelduck is about 15 million to 19 million years old. It was about 70cm tall and weighed up to 2kg.

Dual predator control keeps whio safe

TORI MCLENNON
PREDATOR FREE NZ

A seven-year Department of Conservation study into combined predator control methods has revealed great news for the survival of whio (blue ducks).

The findings show that 1080 used alongside trapping can keep introduced predators at bay – giving whio populations a chance to grow. The study comes after research showed trapping alone can struggle to keep whio populations stable.

A transmitter on a whio. *Photo: Kate Steffens*

Kate Steffens and her fellow researchers looked at whether combined predator control techniques could lead to population growth for whio in a seven-year study.

Whio nest on the ground and produce fewer offspring than other ducks, making their populations particularly vulnerable to predation, with stoats their biggest threat.

Kate says, "Previous studies by Amy Whitehead have shown that river-focused trapping alone can stop populations from rapidly declining, and shift them to slowly declining. But it often isn't enough to ensure long-term population persistence of whio.

"Part of this problem comes from the number of whio that live alongside rivers flowing through beech-dominated forests. Beech forests pose an additional challenge for predator control because every few years beech trees drop their seeds in vast, vast quantities, in what is called a mast event.

"This leads to a boom in food for rodents, ultimately leading to a spike in stoat numbers," Kate says.

"We wanted to see whether large-scale 1080 operations every few years on top of river-focused trapping could combat the effects of mast events.

"We looked at three phases of the duck life cycle: nesting success, duckling survival and adult survival. At each phase we assessed whether it was improved or impacted by 1080 use.

"We found that the nesting success phase benefited the most from 1080. Nesting attempts that resulted in eggs hatching for whio was greater when 1080 was used when compared with trapping only.

"It was so effective that we saw whio populations increasing with this combined approach.

"However, the effects of 1080 decreased over time. Greatest nesting success was seen in the year directly after a 1080 operation. Due to the gradual reinvasion of introduced predators, after this time, stoat numbers had climbed back up again," she says.

Another key finding of the study was that nesting success can depend on the size of the area that 1080 is distributed in. A larger area means it will take longer for stoats to reinfest the inner areas of that block.

Kate also thinks 1080 use across a large area could be sufficient to control introduced predators without trapping.

"One thing we have suggested is that in a really big area – for example if you looked at all of Kahurangi National Park – if just a 1080 operation was in place, you might actually find that is enough for long-term population persistence of whio on its own."

Conversely, Kate notes that there may be a minimum area for 1080 use to be effective.

"I don't know how effective 1080 and trapping would be in a much smaller catchment, given how quickly stoats could reinvade," she says.

Budget gives conservation a lift

Conservation was a winner in Budget 2022 with up to $400 million set aside for the Department of Conservation over the next four years, to be spent on biodiversity work, operational and wage costs, and its predator control programme.

"Outside of the Covid response and the Jobs for Nature programme, Budget 2022 represents the single largest baseline investment in conservation and biodiversity in years, demonstrating this Government's commitment to protecting nature now and for future generations," Conservation Minister Kiri Allan said.

Conservation spending for the next four years include:

- $64 million ($3 million in 2022-23) "to protect native bird and invertebrate populations from the urgent threat of possums, stoats and rats", some of which will be spent on research and innovation
- $30 million ($5.3 million in 2022-23) for "direct management" – including by recreational hunters – of deer and goats, "to reduce damage to vegetation and indigenous flora"
- $27 million for Tiakina Ngā Manu, DOC's national predator control programme.

The minister says New Zealand's Biodiversity Strategy is central to new spending.

Thousands of native plant and wildlife species are threatened or at risk of extinction, including 94 per cent of reptile species and 74 per cent of land bird species. Further declines are expected.

"All of that funding there is essentially targeted to protecting the 4000 species that are at the brink of extinction, particularly on land," Kiri Allan says. "I consider that to be a major investment."

According to the Budget notes, the predator control programme aims to deliver 600,000 hectares of predator control each year "but due to significant cost increases only 450,000 hectares of annual predator control have been achieved".

The funding will reinstate that target and increased the ability to respond to significant mast events.

Legal status of NZ waterfowl – past and present regulations

An early newspaper clipping dated November 24, 1927. The caption reads: "Mallard duck for New Zealand: consignment of 400 birds arrives at Auckland for the Acclimatisation Society. A snapshot on the Port Hardy, by which the birds were brought from England. They are to be used for breeding in the Waikato district, and it is hoped to liberate 3000 next season."

JOHN DYER

The regulations covering protections for waterfowl and other wildlife can sometimes defy reasoning.

For example, the Cape Barren goose is an Australian bird that has only a very small presence on New Zealand.

Although it is considered to have no local economic or ecological impact in New Zealand, I was surprised to learn it can be shot on sight year-round here, since 1973.

The logic seems to be, it might become a problem one day like the Canada goose, so get in now.

The government also had some quite odd ideas about stoats and weasels. Despite howls of protest by hunters and bird-lovers these were introduced by the thousands from the UK in the 1880s to control the also-introduced rabbit.

One farmer near Whangarei, for instance, released two pairs of rabbits and also planted out a small bag of gorse seed. He thought both would do well.

Stoats and weasels were fully protected by law until 1936 and even then, the government threatened to reinstate full protection when the Acclimatisation Society immediately offered a large bounty on them.

Godwits were protected in 1941 despite gamebird hunters' protests. One MP pushed for this, using emotion rather than science, as godwit numbers remained high. Her other claim to fame was that she waved her bloomers around in Parliament to make some long-forgotten point.

A photo from Hamilton Museum dated 1910, location unknown. The smaller birds on the right–hand side would have been brown teal, legally harvested at that time when they were common. The rest would be grey ducks.

The 1911 gamebird season was the last that our native wood pigeon was legally declared as game. Pūkeko were for a period fully protected from 1922.

However, they did so much damage to pasture, market gardens and even killing chicks of other birds, that this was eventually rescinded. From around 1938, there were regular seasons for them throughout New Zealand.

Shoveler ducks have always been gamebirds, as long as there have been gamebird seasons. Early accounts suggest they may have been much less common than today in many areas.

In contrast, the native paradise shelduck had historically been hunted almost to extinction in the North Island. Only by a slow process of relocating birds into areas they had disappeared from were they re-established by the Wildlife Service and Acclimatisation Societies working together.

Several older sportsmen have told me they saw the first of this species around Taumarunui just after World War 2. Today they are common enough to hold special seasons there.

Scaup, also known as black teal, were protected in 1934, and brown teal, once

a popular gamebird, earlier, in 1922. The news didn't seem to have reached Great Barrier Island where the local population of brown teal was still being hunted as late as 1949.

To be fair, pigeon post was still in use there long after the mainland had got the telephone. The Auckland Acclimatisation Society responded by banning all dabbling duck hunting on the island beginning in 1959 and this restriction continues to the present day.

There are no introduced mustelids (stoats and weasels) on the island and brown teal have done reasonably well there ever since.

Mallard ducks were also introduced, and it was something that split hunters into two camps – those for it and those against.

When one large consignment was landed in Auckland, the local Acclimatisation Society immediately put them on the licence in 1936. The impression I get is that this was done solely to eliminate them by those opposed.

However, the hunting methods used at that time for the native grey ducks didn't fool too many mallards and they slowly managed to establish.

Grey duck populations were already crashing as their wetland habitat was drained on an industrial scale. Today, small but respectable numbers of this native species are still captured at banding sites wherever the original large wetlands, their preferred habitat, survive.

Hawks have been dealt with elsewhere, but if you missed it, they used to be shot and bounties paid out to give newly acclimatised species like pheasants a chance. That changed in 1986 when they were given "partial protection".

This meant that, if someone's chooks or other poultry were being knocked off by hawks, they had a remedy.

That was reviewed in 2012 by the Wildlife (Australasian Harrier) Order and anyone with a hawk issue should go online and read this carefully.

It's claimed that guineafowl keep a close eye out for hawks and are the first to give alarm. I'm not sure I could stand having what my wife called "that squeaky bicycle wheel noise" in my backyard.

What you can't do by law is knock off hawks that are reducing wild gamebird chicks roaming free in your backyard, be they introduced mallards, or even "endangered" native grey ducks.

Canada geese can now be hunted year-round; since 2011 they ceased to be

Above: A brown teal duck at Pukaha, Mt Bruce.
Below: The price tag on a grey teal. Currently, the maximum fine for accidentally shooting a grey teal is $5000 plus $100 per head. ***Photos John Dyer***

gamebirds. They seem to be exploding locally and the wisdom of this decision, removing anyone's responsibility for managing them, has been called into question.

The chance to also make grey teal a "mistake bird" that year was missed and we can only wonder how many are wasted, pushed into the mud to avoid prosecution. It is one of the most common birds shot in Australia during the hunting season.

Feral geese have no protection, other than that afforded by the landowner in terms of access. My Dutch in-laws told me that a special squad was once set up by NATO to test boundary security on military bases. Twice they broke into the local base as the guard dogs slept. The Dutch responded by getting some tame geese. These never sleep.

On the third attempt at entry, all that honking woke the dogs, whose barking woke the guards. Problem solved.

Perhaps feral geese as "watchdogs" are more valuable than their humble New Zealand "unprotected" legal status suggests.

In Brief

Ecologist honoured

Wetlands expert and advocate Dr Beverley Clarkson has been awarded New Zealand's most prestigious conservation award, the Loder Cup.

Dr Clarkson is a plant ecologist specialising in wetland functioning and restoration for Manaaki Whenua Landcare Research in Hamilton.

She is recognised for her advocacy for the conservation of New Zealand's wetlands and has co-authored many publications on wetland care and restoration.

"Wetlands are special places. If you want to see things other than standard species in the forests, you need to visit these places," Dr Clarkson said.

The Loder Cup was first donated in 1926 to encourage and honour New Zealanders who work to investigate, promote, retain and cherish indigenous flora – an ethos resonating throughout Dr Clarkson's life and work.

Henley Lake – a haven for wildlife

Henley Lake is one of the jewels of Masterton, designed as a 'wilderness' park and made up of an 11-hectare man-made lake, eight hectares of wetlands, and 24 hectares of park land.

The lake is supplied with water from the Ruamahanga River through a consent with Greater Wellington Regional Council and is home to a range of birdlife, from swans to the Australian coot, dabchicks and numerous species of duck, including grey teal, scaup and Australasian shoveler.

Development of the park was mooted for several years before the Henley Trust began work in the mid-1980s, with help from a range of community groups, including Ducks Unlimited volunteers who brought their bulldozers along to develop the park land that is now Henley Lake. Jim Campbell was one of those volunteers, and today, he is one of the lake trustees.

Community planting days followed, and the park was officially opened in 1988.

In 1992, ownership of the lake passed from the Henley Trust to Masterton District Council, with a close relationship maintained to continue management of the park.

It is now a haven for birdlife and dog walkers alike, with the lake itself popular for waka ama activities alongside the feathered inhabitants.

For the past two years, Henley Lake has won a Community Award in the international Green Flag awards.

The community award reflects the ongoing partnership between Masterton District Council and the Henley Trust in managing the park.

The park is home to an estimated 57 of the 95 land-based bird species found in Wairarapa.

Fish species found in the lake include grass carp, perch, trout and tuna (eel). The carp was introduced as a biological method of controlling aquatic weed.

Interconnected recreational trails make the park a key attraction for walkers, runners and cyclists, and the park now includes a disc golf course.

Large areas of the lake allow off-leash dog activities, with seasonal restrictions to protect nesting birdlife.

UK zeroes in on lead ammunition

The UK Government has begun a six-month consultation into proposed restrictions for the use of lead ammunition outdoors. Consultations close on November 6.

The British Association for Shooting & Conservation's Steve Bloomfield said last month: "The proposed restrictions would see a ban on the sale and use of many forms of lead ammunition outdoors in England, Scotland and Wales."

The proposed restrictions, which closely reflect EU proposals, would apply to shotgun, rifle and airgun ammunition.

BASC will challenge proposed restrictions where there are no viable alternatives to lead, where socio-economic factors mean a transition isn't appropriate, and where lead can continue to be used in settings that present negligible or no risk, Steve Bloomfield says.

"We have significant concerns about the short timeframes outlined in the dossier for transition away from the use of lead ammunition, which could be as short as 18 months. This is particularly alarming in light of current global supply chain issues.

"We will fight for timelines that are realistic and guided by the sector to ensure that the range of lead-free products and their supply can meet market demands," he says.

Last year, BASC CEO Ian Bell said: "The UK's leading shooting organisations are already engaged in a voluntary five-year transition away from lead shot for live quarry shooting. Encouraging progress has already been made, with manufacturers working hard to bring new products to market to ensure shooting is sustainable.

"The UK already has legislation in place banning the use of lead shot over wetlands and for the shooting of wildfowl."

Letter from Wales

Memories of Sinclair Wetlands

I recently read [in Flight *magazine] about the Sinclair Wetlands in Otago. I wondered if this would be the same wetlands set out by Mr Horrie Sinclair back in the 1980s?*

I attended the New Zealand Open Championship in Olympic Clay Target Shooting at the Christchurch Gun Club.

During the trip, which lasted a couple of weeks, I visited Otago, staying with Alan Brown and his family and we called at Horrie Sinclair's site.

While there, I drove a digger for a day or two, digging out a pond.

I didn't finish the job but at least I left my mark on the site! In fact, it was Horrie who suggested I become a member of Ducks Unlimited New Zealand.

I always enjoy reading the Flight magazine and it brings back so many memories of the numerous times I have spent in New Zealand, and the many friends I have made there.

Sadly, some of them have left and gone to that Ducks Unlimited in the sky.

Regards to you all, and keep up the good work.

Basil George
Ivy Cottage, Ogmore Village
Vale of Glamorgan
Wales, UK CF32 0QP

Basil George, aged 90, in 2019.

Horrie Sinclair, right, and John Beggs at Sinclair Wetlands in February 1988.

Obituary

DU pays tribute to founding member

Neil Hayes, of Carterton, a founding member and past president of DUNZ, has died. Although he had not been active in DU activities in recent years, he played an important role in the early days.

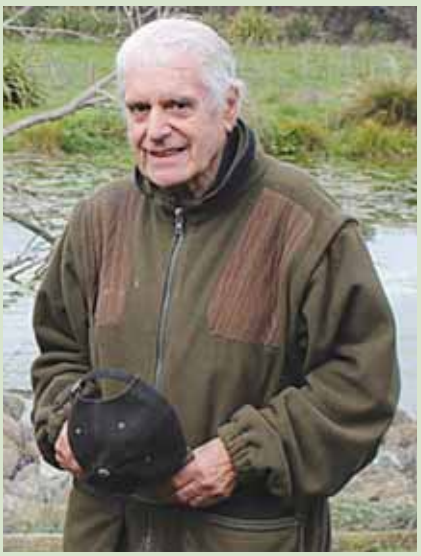
In 1976 Neil was appointed Director of DU's Operation Pateke, a breed and release programme for the endangered brown teal. Its aims were to establish 50 breeding pairs of brown teal in captivity, and to breed more than 1000 to release into the wild.

Neil had begun his breeding programme in 1973 with a wild pair caught on Great Barrier Island by the NZ Wildlife Service. Over the years, Neil and his wife Sylvia raised almost 200 pāteke chicks in their Wainuiomata garden for release into the wild.

He was a life member of DUNZ and was instrumental in sending endangered waterfowl species to the Wildfowl Trust in the UK in the 1970s and 80s. These included shoveler, pāteke, grey duck (pārera) and blue duck (whio) to help establish new populations outside New Zealand.

He was awarded a Queen's Service Medal in the 2005 New Year Honours for his conservation work.

In 1990 the Hayes bought land near Carterton, which included part of Taumata Lagoon, and carried out extensive plantings of more than 8000 totara, kahikatea and swamp flax.



Neil Hayes QSM

Taumata Lagoon is designated a wetland of national importance and a classic oxbox lagoon, with almost half protected by a QEII National Trust Open Space Covenant.

The Hayes were foundation members of the NZ Pistol Association and at the first ever National Pistol Championship in 1969, Neil won all three national titles and Sylvia finished 14th out of 40 competitors. Neil went on to become a national champion in 13 of the 15 national pistol events.

He died in August 2021 and is survived by Sylvia, and his sons Chris and Julian.

Bon voyage to an ancient mariner

I am the albatross that awaits you
At the end of the world.
I am the forgotten souls of dead mariners
Who passed Cape Horn
From all the oceans of the world.
But they did not die
In the furious waves.
Today they sail on my wings
Toward eternity,
In the last crack
Of the Antarctic winds.

– Sara Vial (original in Spanish)

This poem is inscribed on a plaque for a monument dedicated to mariners lost at sea off Cape Horn. For Christopher David Bradbury Thomas, a well-loved member of Ducks Unlimited NZ, visiting this remote monument at Cape Horn in an inflatable boat was one of the many highlights of his adventurous life.

Chris died in Wellington in March, aged 87. At his funeral service, DUNZ members and others described a multi-talented man who embraced life; he was punctual, irreverent and a lot of fun.

DU President Ross Cottle described Chris as a mariner, conservationist, photographer, filmmaker and hunter, and a close friend.

He had many nicknames including the "Ancient Mariner", "Lovely Jubbly" and the "Long-Tailed Bastard".

The latter came about after Chris, as a young sailor home on leave, reluctantly joined his father on a fox hunt. After spotting the fox nearby, Chris waited till the hounds had dashed by before yelling: "There goes the long-tailed bastard".

The fox escaped and at a debrief later that night, the master of the hunt took Chris to task, saying the correct call was: "Tally ho, the fox".

Chris was born in Derbyshire, England, and after attending boarding school during World War II, went to Swansea Grammar, and when his schooling was completed, he joined the Royal Navy.

DU director Adrienne Bushell, a dear friend and regular travelling companion of Chris on trips to Europe and elsewhere, spoke of his "amazing career" after the navy.

He worked at the Marine Biological Association of the UK in Plymouth, where he studied, among other things, the browsing habits of sea urchins.

Chris on a successful fishing trip.

He moved to the National Institute of Oceanography where he worked on the research ship, Discovery II, before becoming a general hand on a commercial trawler working out of Plymouth.

He joined Outward Bound as a senior seamanship instructor and moved to Australia to set up Outward Bound there.

He then took a job with CSIRO, the Australian Government's scientific research organisation, where, alongside his work as a researcher, he became involved in photography and filmmaking, and made his first film, shot underwater on Australia's Great Barrier Reef.

After that, he accepted a three-year contract studying the southern elephant seal for the Antarctic Division of the Department of External Affairs.

This included spending 13 months on the sub-Antarctic Macquarie Island where Chris had a close encounter with an elephant seal and suffered face and scalp cuts, requiring 15 stitches. On the island, he did some still photography for a film, *Margin of Life*.

He came to New Zealand in the mid-1960s and worked for the Fisheries Research Division of the Ministry of Agriculture and Fisheries, now NIWA, as a technical research officer. He ran an early catch sampling programme visiting fish factories all around New Zealand.

He ran all the division's diving activities, and had many trips at sea helping out on exploratory orange roughy trawl surveys south of New Zealand on the Chatham Rise and later on the NIWA research vessel, Tangaroa. He did sea lion pup counts on the Auckland Islands and loved being out in the field.

But it was his passion for filmmaking and photography that made him stand out, a former colleague Di Tracey said. He made many documentaries in the course of his work at Fisheries, and these are part of his enduring legacy.

He produced and filmed, an award-winning documentary, *River in Question*, about the Manganui a te Ao, a tributary of the Whanganui River. Chris and co-producer Grant Foster made the movie to highlight the plight of the Manganui a te Ao, which was about to be drained for the Tongariro hydro scheme.

The movie, which won the Conservation Award at the Wildscreen Film Festival in Bristol, UK, brought the public's attention to the endangered whio, and helped save the river for future generations of New Zealand's native blue duck. A copy is available to view online at vimeo.com/338489380.

While filming *River in Question*, Chris met Di Pritt, now DU's Co-Patron. Like Di, Chris was a keen hunter and they soon became good friends, with Chris a regular visitor to Di's Ohakune property, often for a day out shooting and he was always delighted to spend time with Di's Labradors.

He was a great supporter of DU, donating DVDs and videos of his films to DU for its annual auctions. He also gave some of the income from a personal project, *Waterfowl and Wetlands: A NZ Odyssey*, to DU.

Chris was the producer, director, writer and cinematographer of this documentary, which was seven years in the making.

DU member and close friend Ken Barnes said Chris had crammed so much into his life that it would take most people several lifetimes to achieve.

Chris raced yachts and sailed around the world; he was a seaman, scientist, navigator, glider pilot, skier, filmmaker, photographer, ecologist, naturalist, traveller, and humorist, and one of life's true gentlemen.

wetland care NEWZEALAND

Wetland Care Scholarship

DUCKS UNLIMITED

Interested in studying wetland birds or wetland restoration?
A 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.

Up to $20,000 is available annually to cover up to four separate scholarships of $5000 each.

Funds can be used to support student living costs or 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 that demonstrate some of the following criteria:

- projects of direct benefit to New Zealand based on current wetland conservation issues
- 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.

VALUE

Wetland Care will award up to four scholarships of $5000 each in two funding rounds a year, with applications closing on March 31 and September 30.

Funds will be paid in one lump sum to successful candidates upon commencement or completion of milestones agreed at the time the scholarship is awarded.

INTERESTED? WANT TO KNOW MORE?

Please email scholarships@wetlandcare.org.nz with your questions.

Terms and conditions, plus an online application form, are on the Ducks Unlimited NZ website, www.ducks.org.nz.

DU Membership form

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

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 internet banking, credit card or online at ducks.org.nz under 'Supporter Options'.

Internet banking: Ducks Unlimited NZ, account 02-0312-0038729-00. Use the code DUNZAPP and your initial and surname as the reference.

Credit card: ☐ Visa ☐ Mastercard Number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Expiry date ☐☐☐☐

Scan this form and email to info@ducks.org.nz or post to Ducks Unlimited, PO Box 165, Featherston 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.