

# Flight

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2000

ISSUE 102



**DUCKS UNLIMITED NEW ZEALAND INC.**

For Wetlands and Waterfowl.



# THE SANCTUARY PONDS



Andre and Louise Terpstra farm 71 ha at Galatea and they have created 5 ha of wetlands and eight ponds. What they call the Oak Pond (above) is a one hectare pond completed seven years ago at a cost of \$3,700 and planted with oak trees plus some cabbage, kowhai and banksia trees.

The River Flat Pond, half a hectare, was constructed in 1994, costing \$3,500 and has been planted with flax and willow. Recently the Terpstas built The Pothole. This half hectare pond (below) was subsidised by DU and will be planted with clover and maize to provide cover.

## The Mitredale Duck Club Cookbook

By Di Pritt

**A selection of many fine duck and goose recipes, tried and tested over the years on the hundreds of members and guests of the Mitredale Duck Club.**

**The cookbook is a must for any cook keen to venture into game or looking for a fresh twist. An excellent present for duck hunters to give their partners.**

**Available from Paper Plus and independent book stores,  
or from  
Halcyon Press,  
P.O. Box 360, Auckland.  
\$15.95**



The Sanctuary Ponds support some 140 grey teal, 40 scaup, half a dozen shoveller, 20 black swan, 100 grey duck and 400 mallards from February to July.

*(Photos supplied by Andre Terpstra.)*

## Mallard to Feature on New Duck Stamp Issue

Release of a new "duck stamp" featuring the ubiquitous mallard will coincide with World Wetlands Day on 2 February this year.

The stamp to be produced by Fish and Game New Zealand and New Zealand Post will be the seventh issue in the New Zealand Game Bird Habitat Series. Designed by Pukerua Bay artist Pauline Morse, the setting for the stamp is the Redcliff Wetland Reserve in the South Island. The reserve has benefited from funding generated by the annual New Zealand Game Bird Habitat stamp programme. The 2000 New Zealand Game Bird Habitat Programme will provide stamp collectors and those wishing to contribute to the development of game bird habitat with an attractive addition to their collections.

The 2000 issue will feature a miniature sheet and a first day cover with miniature sheet. A presentation pack will also be available including one each of the seven stamps produced since 1994. Each stamp will be hand signed by the artist who designed it. The pack will also include a limited edition numbered miniature sheet with the artist's signature gold foiled and a limited edition first day cover with miniature sheet. Only 1,000 of the presentation packs will be available (at \$99 each). As well as the first day cover with stamps, a limited edition (500) of artist's prints will be available, numbered and signed by the artist, and including two loose 2000 New Zealand Game Bird Habitat stamps, at \$55 each.

The products will be available from 2 February 2000. For further information or to reserve your choice of the above products, write to Melanie Sallaway, Game Bird Habitat Programme, New Zealand Post Limited, Private Bag 39990, Wellington.

# INSIGHT

*Graham Gurr*  
*President*

A recent phone conversation left me wondering just how much some of our members understand the nature and organisation of Ducks Unlimited in New Zealand.

As an incorporated society we have to conform to the relevant legislation for charitable groups. We have a constitution that has to be approved before we can operate. Our accounts are subject to audit every year and we have to operate within a framework prescribed by law and, more importantly, in accordance with the wishes of our members.

The members of the Board have all been elected by the members, at some point, or, in the case of one member this year, have been seconded to the Board and have to stand for appointment by the members for a further term at the next AGM. All of the Board members are there because they want to be. They are not paid and in fact, at the end of the day, it probably costs most Board members a lot of money out of their own pocket to serve. They are all volunteers. As a group they have a wide variety of different backgrounds, experience and skills.

Being volunteers, the time that Board members are able to apply to the responsibilities that they accept is often limited and has to be found among business, family and other commitments. This also applies to all Chapter organisers who give so freely of their time to organise dinners, tours and shoots.

DU no longer employs any staff and any resources that we may require are hired to fulfil the task and are contracted only for that purpose. That way we can put more dollars back into the field and fulfil our objectives.

So next time you might feel the need to complain about slow response times or lack of action, just take a moment to think about how you could help rather than who you can blame.

And having got that off my chest it remains only to express my wish that you enjoyed a safe and happy Christmas.

My best wishes to all our members for the New Year.



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### OUR MISSION

*We are a voluntary membership-based society dedicated to the conservation of New Zealand wetlands through:*

- wetland restoration and development;
- conservation programmes for threatened waterfowl;
- advocacy and education of wetland values.

*By these means we seek to ensure the ethical and sustainable use of wetland resources by all existing and future users.*

*Cover Photo: Black Swan, Sanctuary Ponds, Galatea.*  
*Photo: Andre Terpstra.*

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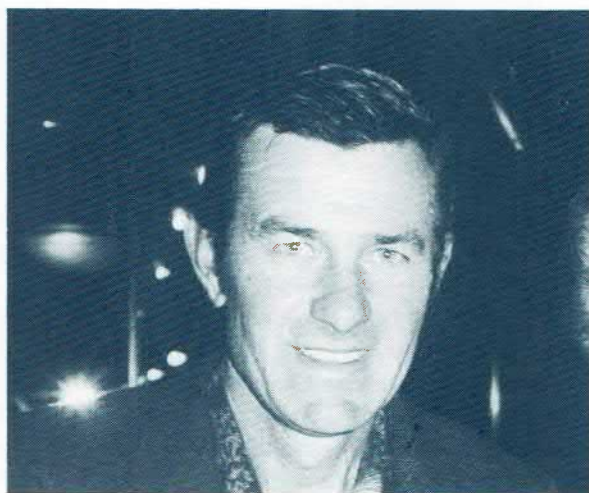
# OUR People



**Ross Cottle**

A member of DU since 1984, Ross Cottle was Eketahuna Chapter Chairman for three years and has just joined the Board. Born in Upper Hutt and educated at Wairarapa College, Ross became involved with the family dairy herd when he left school and then established an agricultural contracting company with his brother which they ran for 25 years.

Married to Sharon, they have two children and Ross is back milking cows on town supply near Masterton. His interests include hunting and fishing and a lifelong involvement with wetlands and waterfowl. On his pond close to the house he is enjoying the development of five mandarin ducklings.



**Murray Shaw**

Although now living near Hamilton where he is deeply involved with his wife Margaret in the development of their wetland (see page 8), Murray was born in Gisborne. He was educated at Hamilton Technical College and later farmed at Te Kuiti. He has been a member of DU for five years.

Murray's interests include scuba diving and gardening and the establishment of waterfowl on his wetland.

Murray and Margaret have three daughters.

## EKETAHUNA WETLAND

Bud Jones bought a 50 ha sheep and beef farm near Eketahuna nearly 10 years ago. His main aim was to carry out similar work he had done on his home block and on another 50 ha five kilometres away where he had created a magnificent series of wetlands. All of these are fenced and planted with some 15,000 trees.

The earthmoving machinery arrived at Bud's new farm and began work on creating three hectares of water, to which was added nearly seven hectares of fully fenced prime wildlife habitat planted with over 10,000 trees. The magnificent wildlife oasis pictured was created in what was a desert of grass before Bud Jones bought the block. His efforts have resulted in an abundance of important bird species being recorded. These include tui, New Zealand dabchick, shoveller, black swan, Canada goose, mallard, grey teal, New Zealand scaup and morepork. Interestingly, Bud is an ardent



*Bud Jones' magnificent Eketahuna wetlands.*

waterfowl hunter, trout fisher, wildlife photographer and deer hunter. He is also well known in the music world, having been a senior percussionist with the New Zealand Symphony Orchestra for over 30 years.

The wildlife habitats created on each of Bud's farms are protected by QEII National Trust Open Space covenants which protect these valuable habitats in perpetuity. This year Bud was busy creating more

wildlife habitat on both properties and he planted a further 2,000 trees during the winter of 1999.

Besides good support from the QEII National Trust, financial contributions towards Bud Jones' work have come from the New Zealand Fish and Game Council Wellington Regional Office and from DU.

*- Story and photo: Neil Hayes.*



## MANAWATU CHAPTER

On 16 October the Chapter held its annual dinner and auction at The Coachman in Palmerston North. Attended by 98 members and friends, including six nonmembers who responded as a result of publicity in the local media, it was a very successful and enjoyable evening.

The Coachman is an excellent venue, the food superb, and enhanced by game dishes of pheasant, peacock, duck, goose, trout and venison provided by members.

Auctioneer Bob Wood was in wonderful form and had the gathering in stitches from start to finish of the auction which in total with the silent auction cleared over \$6,000. DU wishes to acknowledge Bob's effort and the generosity of members and local businesses, including The Coachman, who donated auction items.

Congratulations to Chairman Neil Candy and his hardworking committee and particular thanks to Bunny and Marlene Paddy who provided orchid sprays for the women.

## WAIRARAPA CHAPTER

A sporting clay shoot was held on 3 October in fine weather at the Eketahuna Gun Club. A challenging and different field of 100 targets was enjoyed by 47 shooters.

Top guns were: Andrew Mitchell (88); Rodney Bryant (84); Jim Campbell (80); Tom Carn (75).

DU congratulates the winners and acknowledges the involvement of all participants and the efforts of the organisers who made a profit of \$600 for the day.

The Chapter, in association with the local branch of Forest & Bird, has established a trap loan scheme for Wairarapa (see page 6).

## NEW DIRECTOR

Longtime Wairarapa member Ross Cottle (see Our People) has been seconded to the Board as a non-permanent director. The Board wishes to welcome him and values his considerable experience and enthusiasm.

## INJURED NATIVE BIRDS

DU has received a request from the Masterton Field Office of DOC for assistance with the care of injured native birds that are brought in occasionally. Anyone throughout New Zealand with spare aviary space who could help can contact their local DOC office.

## PREDATOR CONTROL

Members John and Trish Flowers, who have retired from Wellington to a lifestyle block at Gladstone in Wairarapa and have developed a wetland on their property, report that in two years they have trapped 18 ferrets. This proves that predator control is a must if bird life is to be protected.

## CANADA GOOSE RETURNS

The DOC Banding Officer has advised that three birds banded by DU in 91/92 and 93 were recovered in the Ohakune area last season.

## ANDREW DIXON MacMASTER TROPHY

It was intended to award the trophy and grant for 1999 to a Wairarapa school which intended to use the \$1000 grant to build a viewing hide on its wetland. In the event, the school was unable to meet the conditions of the award and in late October an excellent proposal was received from Pukepoto School near Kaitaia. It was decided to make the award to this school.

With the help of the Northland Regional Council, the Northland Fish and Game Council, the Trees Company and the Bushland Trust, the students and their teachers have turned a swamp area adjacent to the school rugby field into a living classroom.

The swamp was excavated leaving an island and the students have planted native species as finances have allowed. They were rewarded for their efforts with a Northland Regional Council Environmental Curriculum Project Award. The MacMaster grant will be used to finance further wetland planting on this worthwhile project.

## MANAWATU RAINMAKERS TOUR

Following the outstanding interest in and success of the bus tour on 18 July last year, the Manawatu Chapter arranged to visit Wairarapa on Sunday 28 November and invited local members to join them to view the Bud Jones wetlands at Eketahuna, a barbecue lunch with Jim Campbell and a look over his wetlands and then to Howard Egan's Canada Flats out of Carterton.

Wairarapa, renowned for its weather, really turned it on. Something in excess of 60mm of rain fell on the night before and on the day it was hard to distinguish dryland from wetland. The trip was, unfortunately, cancelled. Can all this be blamed on the change of government of the night before? Next time Wairarapa experiences a drought, the Manawatu Chapter have offered to organise a bus trip.

### *In Memoriam*

The death of "Mother Duck", aged 24, is announced with regret. She survived two husbands and raised over 40 brown teal for release, the last clutch when she was 16.

Neil Hayes acquired her in 1976 as a one year old when he lived in Wainuiomata and brought her to Wairarapa when he moved.

The passing of a great lady, who ought to have received a Royal telegram for her 21st, is mourned.

Neil also has a 17 year old brown teal hen who is enjoying her retirement on his house pond.

Neil's recipe for long life, which spouses might note: a good home, love and affection and constant tucker.



## Ducks Unlimited 26th Annual Conference Lakeland Hotel, Taupo, 21 - 23 July 2000

Following last year's successful conference at Tokaanu and the feedback from that conference, the Board has decided to hold the next conference in the central North Island.

The Lakeland Hotel has been booked. It has sufficient rooms to accommodate everybody in the same hotel. Units are able to sleep up to three people. There is one double and one single bed in each unit. The room rate will be \$85 plus GST for two people with an extra \$15 plus GST for a third person.

Conference registration, including the Saturday wetland tour with BBQ lunch and conference dinner, will be \$70 per person. Dinner only will be \$35 per person. The official registration card will be included with the next issue of Flight. All inquiries in the interim should be made to Graham Gurr, c/- P.O. Box 9795, Newmarket, Auckland.



### Brown Teal on Great Barrier

Two years of study of the brown teal population on Great Barrier Island by DOC staff suggest that the brown teal population is under threat from several sources, including grazing by stock and the attentions of dogs. Grazing of the wetlands habitat is to be placed on a regime more attuned to the requirements of the birds. Although controlled grazing can improve the feeding and breeding areas of brown teal, this has to be aimed at providing appropriate feeding areas at specific times in the year.

Predation has also been found to be putting pressure on the brown teal population on the island. Pukeko have emerged as one of the chief threats to the teal ducklings. Free running dogs have been identified as having a significant impact on the adult birds. However, although managing dogs will boost population growth rates of brown teal on GBI, managing dog owners remains a challenge.

Work is continuing on refining a population model for brown teal, involving observation of females with radio transmitters, and evaluating adult survival rates from the database of banded birds established in 1994 when the first adults were banded.

[Adapted from *Rare Bits*, No. 34, September 1999. Department of Conservation Newsletter about Threatened Species Work.]



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### PREDATOR FILE

#### DU Joins War on Mustelids in Wairarapa

Mustelids (ferrets, stoats and weasels) pose a threat not only to waterfowl in their natural habitat and on the properties of breeders but also to dairy herds. In the 1990s it was discovered that ferrets were carriers of bovine tuberculosis. Clearly, eradicating mustelids is a common cause between those interested in preserving wetland fauna and farmers.

In Wairarapa a pest eradication assistance programme is being promoted by Forest & Bird and the Wairarapa Chapter of DU, with the assistance of a Lottery Grants Board grant. DU has contributed \$500 towards the first year's operating costs. The Wairarapa area office of DOC has given the use of a shed for

storage of traps and volunteers are administering the programme.

A trap bonding system has been set up to supply a variety of traps suitable for trapping mustelids. A bond of \$10 per trap is being levied on traps supplied which will be refunded on return of the traps, less 10% of total cost.

Funds raised from the bonds will be used to maintain and replace traps. A pamphlet has been published containing details of the scheme and providing basic information about mustelids and trapping techniques.

For further information: Ph. (06)378 7120 or (06)377 0958

# - CHATHAM BROWN TEAL NEWS -

*A new dawn in the new millennium for Brown Teal*

*First Edition*

*December 1999*

## Welcome To The First Edition

This is the first edition of "Chatham Brown Teal News", a newsletter carrying project updates and information about the conservation initiative to re-establish brown teal on the Chatham Islands.

The newsletter will appear periodically over the next two years, as the project gathers momentum, and will be circulated to everyone connected with the project. This includes project sponsors and project supporters, along with other interested and related groups. Already its circulation includes individuals, organisations and companies in many parts of New Zealand, and it is going to overseas destinations including England, the Channel Islands, the United States and Spain.

There are no copyright restrictions being applied to the material in the newsletter so recipients are free to, and indeed are encouraged, circulate it to others within their organisations. "Chatham Brown Teal News" is being produced by Applied Ecology as part of the project delivery contract with Ducks Unlimited New Zealand Inc, the project principals.

*For further information about the project please contact Dr Grant Dumbell at Applied Ecology. The postal address is P.O. Box 24-522, Royal Oak, Auckland and the E-mail address is mail@applied-ecology.co.nz.*

## An Introduction To Brown Teal

Brown teal are small waterfowl which are endemic to New Zealand and occur nowhere else in the world. They are members of the waterfowl subfamily which includes dabbling ducks and are related to many duck species familiar to everyone. Their closest relatives include the flightless Auckland Island teal and Campbell Island teal which live in the subantarctic.

Historically, brown teal were found in suitable wetland habitat throughout the North and South Islands, and on many offshore islands including Stewart Island and the Chatham Islands. Today there are only around 1000 birds left and they are the most endangered species of waterfowl on the New Zealand mainland.

Most birds live on Great Barrier Island with a few remnant populations still persisting on the east coast of Northland. Beyond this, only small numbers of wild birds are known from a few locations such as Little Barrier Island and Fiordland. However, captive bred brown teal have been successfully established on Kapiti Island near Wellington, and Tiritiri Matangi Island near Auckland.

Brown teal are recognised internationally as an endangered species and are classified by the Department of Conservation as a threatened species.

## The Story So Far

The idea to attempt the re-establishment of brown teal on the Chatham Islands had its genesis in the Brown Teal Recovery Plan. This plan is the national strategy guiding brown teal conservation and its implementation is overseen by the Department of Conservation. As brown teal are a protected species DOC have responsibility for brown teal management and have given their approval to the plan.

Brown teal became extinct on the Chatham Islands early in the 20th Century and very little is known about the birds which used to be there. Now the islands present an opportunity to establish a second large population of birds as an insurance against any decline which may endanger the all important Great Barrier Island population.

As a first step in the project, Ducks Unlimited New Zealand Inc. successfully sought funding from the Lottery Grants Board to undertake an assessment of habitat on Chatham Island, and a study of the feasibility and logistics of the project.

Applied Ecology undertook this work in 1998 during an 11 day visit to the islands. Many wetlands, lakes and streams were visited with help from Chatham Island residents and landowners, and DOC staff on the islands. From this study, Ducks Unlimited sought community support for the re-establishment of brown teal on the Chathams and has outlined and budgeted the project for implementation over two years beginning in 2000.

This led to a successful application for funding from the Lottery Grants Board, and recognition of it as one of the country's millennium projects. Additional project sponsorship has also been forthcoming from several companies and all these contributions are recognised below.

It is planned to launch this new dawn for brown teal in the first place to see each new day at the start of the new millennium.

## Thanks To Project Sponsors

Almost \$48,000 has been committed to the project. This support has allowed the project to begin as there are sufficient funds to cover the necessary planning and liaison work, the Year One field programme, and the beginning of the Year Two programme.

**The help and assistance of the following project sponsors is gratefully acknowledged:**

Overall project management, sponsorship co-ordination and fundraising, and project logistics and transport in New Zealand.



Project support including communications, computing facilities, specialist field equipment, and predator traps.



Donated and discounted building materials for pre-release pens in the field.



Two sets of electric fencing equipment to protect pre-release pens in the field.



Discounted equipment and supplies for pre-release pens on the Chatham Islands.



A financial grant of \$39,375.

**Project Supporters:** Te Runanga O Wharekauri Rekohu; Department of Conservation; Brown Teal Recovery Group; Chatham Islands Conservation Board.

**Special Thanks:** Chatham Islands: Geordie Murman; Alfred Preece; Tom Lanauze; New Zealand: John Beachman; Murray Williams; Andy Grant.



# An Oasis on a Landfill

**Six years ago the Shaws bought a property near Hamilton, on a no exit road on the city boundary 2km from the Glenview Hotel, as a lifestyle block with a view to later subdividing the area into lifestyle blocks which will back on to a park. With this in mind, they decided to build a house where no one else would: on the site of a former dump. Murray Shaw writes of what has been created through their labour of love....**

Our 32 acres has a gully running through the middle of it. The gully was covered in gorse and blackberry to the extent that we weren't sure which was fill and which was grassable land. There had been more gullies but these had been used as a landfill by contractors for some 10 years. Towards the end, grey soot from the Te Rapa dairy factory was dumped here and started leaching into the stream. Residents on the road complained to the council and Environment Waikato which closed the dump some 10 years ago. Thank goodness the locals did complain as the tip head, which was some 20 metres high, was spilling into the stream and should have been closed down earlier.

I used to work for a local contractor and can remember dumping anything from concrete to any organic materials that could be carted on a truck. Little did I know that we would own the land one day.

After we had dug the footings for our new house and had a pre-footing inspection, the inspector thought (and he turned out to be right) that we were building on fill. So we had to move the house 6 metres back. We wouldn't have been able to see the pond we planned to develop so we had to dig out some of the section to be able to see it. There was concrete, car bodies, timber and the annoying ash from the dairy factory. Tonnes of it. The house was built and the dam put in. Then came the task of clearing the gorse and blackberry with chain saws and scrub cutters and planting trees ranging from oaks to liquidambar, weeping willows and swamp cypress. Pines were planted to fill the gaps and try to stop gorse seedlings from growing. This didn't really work, so we had to spray.

The existing pond on the property was infested with a grass-like couch with long runners that started from the bank and covered half the pond. After asking people who knew (and who in the end didn't know), and numerous attempts with various sprays, we found that Roundup would brown the couch. But after three weeks, it seemed to grow back faster and in winter it

would lie down in a grey mat. In the spring and summer it would stand 20cm high. As the couch was too thick to wade through I had to wade to the middle of the pond with a knapsack and spray from there. The pond was up to two metres deep and when the knapsack was half full it would act as a float.

After two years I made a breakthrough: a mixture of Roundup and Escort. A wetting agent was also necessary so the spray wouldn't run off the waxy surface of the grass. With no plans we now had three acres



*The magical transformation of a former landfill.*

of gardens and three ponds supporting over 100 mallards which were breeding well with families of some six to eight young.

After hearing comments at DU meetings about the poor breeding in the last couple of years I have realised we also have only 30 mallards on the ponds with only a dozen breeding pairs. This year I discovered that although the females start with large numbers of young, after a week they are left with only one or two. I have observed large numbers of hawks dive-bombing the

young. I also suspect eels are grabbing some as well, although I have never actually seen them disappearing below the water. But we sure have some big eels there.

I hardly ever used to give ducks a second thought, apart from the enjoyment of seeing the young ducklings following mum through the grass or little balls of fluff swimming in the ponds. With some concern, now, I wonder what is happening to the large numbers we once had. I guess maize growers and farmers who have just planted new seed wish there were no ducks at all. This year I allowed some duck shooters on to the new ponds, but with the lower numbers of birds we might reconsider closing next duck shooting season.

Four years ago a DU member gave us a pair of Canada geese. They spent more time on the back doorstep than in the ponds. Margaret threatened divorce and there were plenty of broken broom handles. She

actually laid the female out one day, and was disappointed when she came to. The geese now live on a pond some 20 km away. But when they were with us the tame geese attracted wild ones to our ponds. Last year one pair bred three young ones. They have returned this year but have met with opposition from the black swan. There have been some real battles, with the swans having a pair on each pond to stop the geese from invading their territory. Usually only



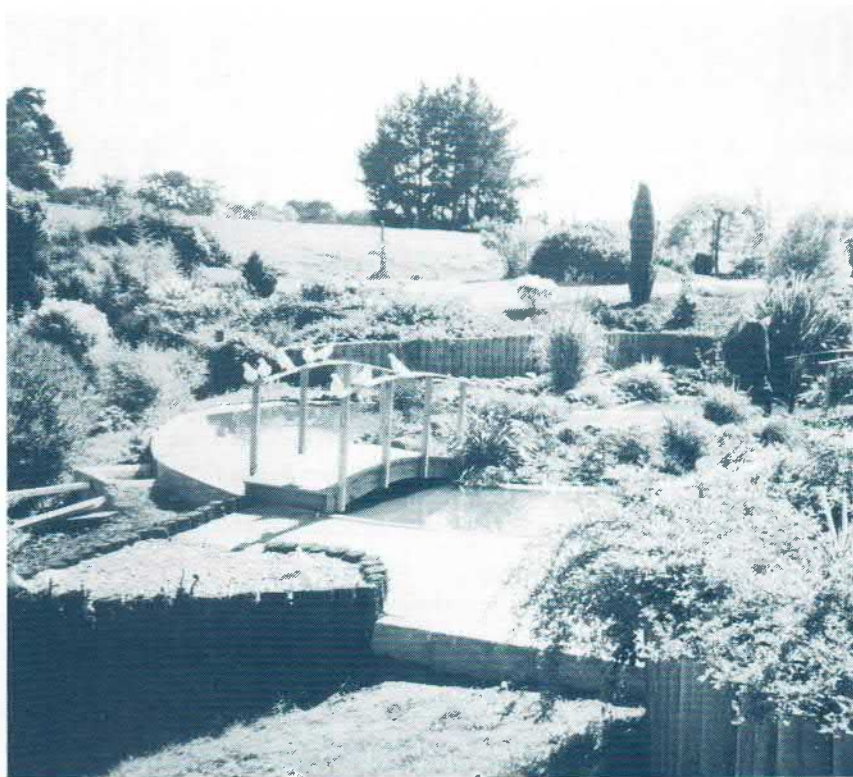
two pairs of geese fly in every morning but one morning there was a real commotion as nine geese arrived. How the swan held their territory, I don't know. I guess the invaders must have lost. One pair of swan has three young from five eggs which they protect well. The hawks don't have a chance to swipe a feed. Must have something to do with the swans' longer necks. They are certainly protective parents.

There is always activity of one kind or another on the ponds. The kingfishers pinch our goldfish. They sit on the bridge over the pond with their tails flicking up and down, one eye watching the water, and then dive. Sometimes they appear with a beakful but usually they return to their place on the bridge for another try. The goldfish are fed bread every day and manage to maintain their numbers.

Thirty doves live in two houses across the gully opposite our house. Their numbers are such that they have to sleep in the kanuka next to their houses. Blue heron roost with them and can be seen flying late at night and leaving early in the mornings, now the trees are getting some size to them. Pheasant and quail can be heard and sometimes seen scurrying in the open.

Last year we bought seven acres of swamp. With the help of a hired 20 tonne digger, we have excavated two ponds, extending the number of ponds to five and giving us about a hectare of water and 1.5 ha of gardens. The new ponds have three islands and have been fenced on both sides and planted with over 120 trees - mainly rhododendrons, oak and liquidambars (my favourites - I love the different shades of red in their leaves in the autumn). The excavations gave about a metre of organic material in which to grow the trees and shrubs. In three to five years time it should look very colourful. I'm hoping the rhododendrons, which were all four years old, survive better in the wetter soil, unlike the rest of the garden. We have lost about 20% in the hotter summers of the Waikato, even though we do water them. We have edged the paths with timber and laid hot mix to save spraying the weeds and for easy access. We have also built three steel waterwheels, one being two metres tall which pumps water up into the goldfish pond which flows back down to run another water wheel.

Through my visits to other gardens I have seen where an electrical pumping system has been installed. But the waterwheels just keep turning 24 hours a day at no cost apart from some leather valves in the bulldozer pumps.



*Gardens, walkways and bridge on the Shaw wetlands.*

Our water is supplied from a catchment area as well as numerous springs. In the winter the water supply overflows the 500mm pipes on the dams so we have really good spillways, made of hot mix, over the dams. In the summer we hardly have enough water to supply the 90mm pipe to the main waterwheel. Sometimes the flow stops altogether. The water contains iron so the ponds are not very clear. But we are happy with what we have.

With all this in mind we will just keep working around the gardens and wait for the trees to grow to keep the grass and weeds down.

*(Photos courtesy Murray Shaw).*



*Pines and other planted species reflected in the developing habitat.*



# Updating . . . THE BOOTH WETLAND

by Graeme Marshall

In the January 1996 issue of *Flight* I reported on the establishment of a modest pond on Bill and Jeanette Booth's property in the Wangapeka Valley, an hour or so's drive from Nelson. With the assistance of a \$5000 grant from DU, earmarked for digger time, we removed a line of ugly old man willows clogging a substantial spring-fed watercourse. DU adviser Ken Cook checked out the site and made some invaluable suggestions. Many hours of sheer hard work later from a band of enthusiastic Marshall and Booth family



*Willow clearing begins in 1995.*

members, plus the use of the Booth farm machinery, and we have something to be proud of.

A comparison of before and after photos is surely vindication of the time and effort involved. Despite a few problems with stock invasion before the fencing was secure we now have a very natural looking environment. The cordylines, flaxes, oaks of various species, wild cherries and shrubs such as cotoneaster are now becoming well established though yet to become dominant features. In the next few years, though, some will provide a valuable source

of food. A few days each year are required to keep the cursed gorse and blackberry under control but otherwise maintenance is not a major issue. Despite our very meticulous dam and spillway construction effort, I noted on a recent visit that a fairly substantial breach had occurred at the base of the spillway. As yet this is not a problem as the sheer volume of water running into the pond is more than adequate to maintain optimum water height year-round, and this despite one of the driest summers in living memory.

The birds are thriving, with the two islands and other areas at the top of the pond especially providing ideal nesting conditions. Last spring appears to have been a successful breeding season, even if the massive October floods spoiled things in other parts of the district. Being spring-fed the pond is not subject to the extremes of flood events such as the nearby Wangapeka River which suffered very badly in this area with one flood after another last spring.

We have noted a definite buildup in the grey duck population in the area over the past two or three years, and would like to think that we have been at least partly responsible for this. Also pleasing to note is the odd sighting of grey teal, not a common bird in our area. Of course, the mallards love it and it is not uncommon to see up to a hundred greys and mallards loafing there before the shooting season. Pukeko are common, and a few pairs of paradise duck regard the place as theirs. We are unsure of how much predation of ducklings by wild cats and mustelids occurs but there does seem to be fewer cats around since the demise of rabbits on the property through RCD. However, we have obtained some kill traps from DU and will be setting them on a regular basis now in an attempt to keep predator numbers down.

All in all, we are delighted with the results of our efforts and thank DU for helping to make it happen. Some years ago we earmarked another spring-fed area not far from the main pond for development as soon as the over-dominant pine plantation was removed. The pines have just gone, and the old enthusiasm is being rekindled. At present the site looks like a typhoon has hit it but, interestingly, could be an even better proposition than the first one by virtue of the fact that a considerably larger area could be flooded. Ironically this area, too, was once a natural wetland before it was drained. Once again we will attempt to reverse that process and create more valuable waterfowl habitat.

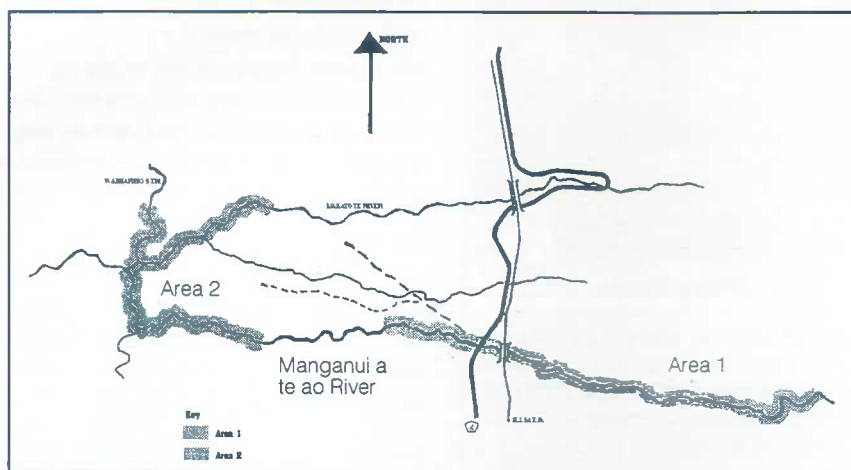


*The Booth wetland in 1999.*



# BLUE DUCK OF THE MANGANUI A TE AO

Ornithologist Kerry Oates made a 13 year study comparing an alpine blue duck population (above 700m above sea level) with that of a mid to lowland population (below 400m above sea level) on the central North Island Manganui a te ao River. His research had several aims, including counting blue duck within the area and recording changes in population density. Also studied were the ducks' territories and their annual productivity. The following outlines something of what was involved in the study and some results for the Upper Manganui a te ao River...



The endemic blue duck, or whio (*Hymenolaimus malacorhynchos*), lives on fast flowing streams and rivers, predominantly in mountainous bush areas in both the North and South islands. Pairs occupy and defend territories annually and on a longterm residential basis. They mate for life, unless the pair is broken by death or by challenging individuals, and breed between August and November. Although only one clutch is usually produced, early failure may result in a second nesting attempt. Fledglings usually establish territories in the river catchment in which they were born.

Male and female are similar in appearance, however males are slightly larger than females and have darker markings overall. Their calls are distinctive. The male gives a shrill piercing whistle "Wee oo," which led to the Maori naming them "whio". Females make a low grating growl sound.

This study was conducted in two main areas of the Upper Manganui a te ao River (see map above) over 13 years. The Manganui a te ao River rises on the western slopes of Mount Ruapehu, flowing southwest for some 80km before joining the Whanganui River. The narrow and deeply incised river is flanked predominantly by beech forest, with mixed podocarp species, on the western fringe of Tongariro National Park. The bed of mostly rounded volcanic rock, interspersed with finer gravels and cobbles, remains fairly stable even during peak flows. Water clarity is high, and a mean annual temperature of 7.7°C was recorded,

being highest in January (14°C) and lowest in August (2°C).

Research into territory definition was conducted from September 1986 until December 1989 in Area 1. Annual productivity was recorded from 1986 until 1999 in areas 1 and 2. The study areas were 21km north of Raetihi on State Highway 4, and extended downstream for 3km to the confluence of the Makatote River, and upstream of Highway 4 approximately 4km. Area 1 was visited 40 times from September 1986 to December 1989, normally for 36 hours once a month. The dense vegetation and steep riverbanks meant walks through the area were conducted in midstream. Pools and riffles were labelled and numbered and the study area encompassing 63 pool/riffle

systems could be easily walked in about three hours during average water flows. A map was made including each pool and riffle and sightings of blue duck were plotted on this. This showed where birds were most frequently seen and the seasonal changes in where they were to be found, showing preferred areas and territory boundaries. All birds were individually colour banded with one numbered metal band, and two coloured plastic bands to indicate locality and identify the pair or individual. Pairs were identified by repetitive sightings of a male and female together on the same stretch of river, and by observing adults with broods. All three pairs retained the same partner throughout the study, and population density showed little fluctuation. Territory boundaries were detected by recording the highest and lowest points at which pairs were seen. These points were then tested by walking along the river behind pairs, coaxing them beyond the point. The ducks usually became agitated as the limits of their territory were reached, flying back into their territory. Although the study found some overlap in territories, this overlap is not common. It may have been tolerated here because the narrow winding incised nature of the river means neighbouring pairs cannot see each other, minimising territorial conflict. The study suggests that blue duck pairs defend a territory larger than their individual requirements and that they defend some of



Blue duck.

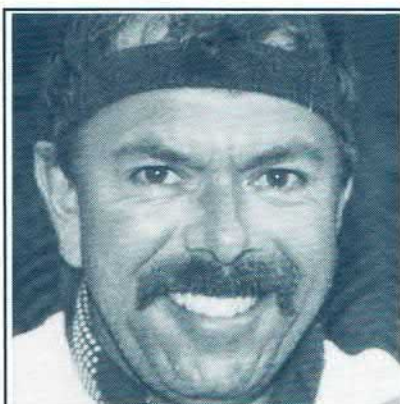
their territory as a food source only. Blue duck are most active between dawn to 10.00am and 4.00pm to nightfall. In the middle of the day (10.00am to 4.00pm) they were frequently found sleeping or roosting on rocks in midstream. They often chose small caves or holes in the stream banks in which to sleep or roost, and during their annual moult of late January to mid March they were seldom seen at all. Often the resident pairs could not be found at all. They hide at certain times of the day, certain times of the year, and in the presence of approaching intruders like humans. Occasionally they were seen walking up into the bush-clad river terraces suggesting that when they were absent from their territories they were hiding in the surrounding forest some considerable distance from the water's edge. Annual productivity was recorded throughout the 13 year period by counting the number of ducklings seen as a brood with parents and by recording the number of ducklings which fledged and reached independence.

No productivity has occurred in Area 1 since 1991 and there was a steady decline in overall numbers between 1992 and 1996. In the last two years a slight recovery in numbers was recorded. Annual productivity per pair was extremely low in all years except 1991. In the first four years (1986–1989) the average output per pair was only .57 chicks per year for three resident pairs. Therefore it would take 10.5 years to replace the original population of three pairs. Given that the average breeding life span of blue duck is eight years, this population was not renewing itself quickly enough to be self supporting. Over the 13 year period 10 fledglings reached independence, 0.77 per year.

All but one dispersed from the study area and were never relocated. In years that breeding occurred (1986 - 1991) only one pair produced young reaching independence in any given year, further reducing the rate of recruitment per pair within the population. Four pairs were recorded in the study area. Only two of these pairs produced young. One pair produced seven young in four years, 1.75 per year. The other pair produced three young in two years, 1.5 per year.

If all pairs had maintained a similar output rate then the population would have replaced itself every second year, giving a surplus of 15.2 birds after eight years of average breeding life span. During the years that breeding occurred, on average 0.8

young per pair per year reached independence. It would therefore take only 6.25 years to replace the mean population size of 2.5 pairs. However, if calculated over all 13 years that pairs were present, then the rates alter dramatically. Only 0.37 young



**Kerry Oates**

A DU member since 1991, Kerry has been involved in many bird projects throughout New Zealand and has worked overseas on island predator eradication projects.

Born in Putaruru, he was educated at Tawa College. When his hopes of joining the Wildlife Service as a school leaver were disappointed, he pursued a career in art and design, first with the former New Zealand Railways and later with an art and design firm in Lower Hutt.

Kerry joined the Ornithological Society in 1986 and was elected chairman of the Wellington branch in 1988. During his time in Wellington he did voluntary work for DOC and visited many remote offshore islands, including the Chathams and Stewart Island. In 1986 he began his study of blue duck on the Manganui a te ao River.

In 1996 he took leave to pursue his passion for blue duck research and secured private sponsorship (to which DU contributed) for a 12 month predator trapping programme and moved to Ohakune. As opportunities arose of an environmental consultancy nature, in 1997 he resigned from the advertising industry to form his own consultancy/contracting business, Whakamanu Wildlife Management, specialising in endangered species protection.

Although currently working with kiwi in an exotic forest, Kerry's favourite aspect of ornithology has always been waterfowl. This year he and his partner Clarice Brown, who he met while working on Pitcairn Island, were married. They live in Ohakune.

per pair per year reached independence, giving a total of 8.6 years required to replace the mean population size of 1.6 pairs, and 16.2 years to replace the original three pairs of ducks.

Productivity was also very low in Area 2. In most years only one pair produced young. However, productivity did occur in all years and only a slight decline in total numbers occurred overall.

On average, only .43 young per pair per year reached independence. It would therefore take 22 years to replace the mean population size of 4.8 pairs, giving a recovery rate 72% lower in Area 2 than that which was recorded in Area 1, but an annual output rate 16% higher than that of Area 1.

The study suggested that the young tended not to remain in the study area and that few actually pair up and breed in the area where they were born. Evidence from studies of banded birds suggests that most move some distance from their place of birth.

Alpine populations of blue duck like the one studied seem to have a lower annual productivity than populations in lower areas. Such low productivity in the upper reaches of the Manganui a te ao River may be due to a combination of factors influencing breeding success. These factors may include the deep incised river channel being more susceptible to disturbance during floods in late spring as winter snows melt on the mountain. Overall colder air and water temperatures at higher altitudes may affect the energy expenditure of blue duck, leaving insufficient reserve for the breeding effort. The depletion of invertebrate food supplies by floods may also contribute to low energy reserves at crucial times of the year.

Little evidence of predation was found during the study period, however a trapping regime conducted throughout 1996 showed that mustelids, particularly stoats and rats, were numerous throughout areas 1 and 2.

The high dispersal rate of juveniles and a male bias in the populations may have affected mate selection opportunities, and an aging adult population reaching the end of its natural life expectancy had little or no opportunity for replacement.

*Photos, map, and research paper on which this article is based, courtesy Kerry Oates.*





## BLUE DUCK REPORT

The season up to mid-November 1999 started off with a bang with 11 ducklings on the ground at the time of writing.

Although I have not yet heard from some of the breeders involved in the programme, Palmerston North have five ducklings from six hatched, and more eggs. Hamilton Zoo has four ducklings, with two at Staglands. Auckland Zoo, C. Allison and J. Campbell have eggs. Peacock Springs has had two lots of infertile eggs from their pair.

Release of the young blue duck, involving between six and eight birds, will most probably be in late January. This will depend on what other ducklings are born before then.

Talks are being held with members of the Recovery Group on how the release will be done. They were to hold a meeting in early December.

All in all, a good start for the season.

- Peter Russell



### Blue Duck at WWT Arundel, UK

Glenys Hansen visited the blue duck aviary at the Wildfowl and Wetlands Trust Arundel centre in UK recently. Pictured above are two of the blue duck (photo: Glenys Hansen).

The breeding programme at WWT Arundel was enjoying success last year, with one pair of blue duck incubating an autumn clutch and with three ducklings raised from their first. (Reported in *Wildfowl & Wetlands*, No. 129, Autumn 1999.)

## BILL BARRETT TROPHY

This is presented annually to a person who, in the opinion of the Board, has done an outstanding job of promoting the aims and objectives of the organisation in New Zealand. Feedback from members has been received suggesting that the presentation to Peter Russell at the 25th

AGM last July was not explained sufficiently.

The Board wished to acknowledge the effort and expertise that Peter had contributed to blue duck recovery since he took over in the latter part of 1997 as Captive Breeding Co-ordinator.

At that time the breeding scheme was in the

doldrums, with few birds being produced. Since then, Peter has run a breeders' workshop in April 1998 in Palmerston North, visited every breeder throughout the country, and undertaken a major re-pairing programme. The result is apparent in his report (opposite). DU congratulates Peter Russell - a worthy recipient of the award.



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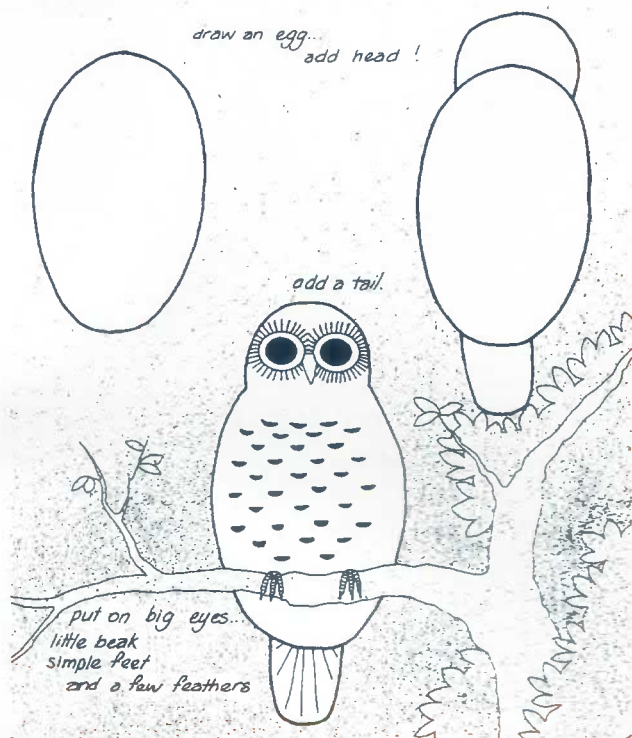
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# Drawing: The Morepork

... A regular feature introducing a simple drawing technique for new wildlife artists.



The nocturnal morepork (*Ninox novaeseelandiae*) is also known as ruru, New Zealand owl, or boobook owl.

The morepork is endemic and is found on the three main islands of New Zealand from sea level to the bush-line. It is also found on off-shore islands including Three Kings, Cavalli and Mercury, Hen and Chickens, Mayor, Kapiti and Great and Little Barrier islands.

It has adapted well to the deforestation of New Zealand and now also lives in man-made habitats like parks and pine plantations.

Insects are the morepork's main food and it frequently hunts prey attracted to lights. The sexes are alike but the female is slightly larger, measuring 250mm from beak to tail.

Recognised by its distinctive call of "more-pork, more-pork" at night, mainly during the breeding season August to September, it is bigger, darker and browner than the little owl and is noiseless in flight.

Illustration republished courtesy of Alan Fielding.

## Flight ECOFILE PLANTING TO ENCOURAGE BIRDLIFE

Planting to encourage bird life in a rural or urban area or to rejuvenate a restored wetland area can be done to provide a year-round supply of food. Apart from selecting species which will provide nectar, fruit or seeds, selection needs to be made to suit the local climate and soil conditions, speed of growth, desired height of vegetation and aspect. As a general principle, planting species to suit fruit and nectar eating bird life will also provide food for seed and insect eaters. Seek advice on local conditions from local horticulturists. The following lists a number of suitable native species under various categories:

### Berry/Fruit Bearing Trees and Shrubs

(Seed ripening time in *italics*)

Aristotelia serrata (wineberry) *Jan/Feb*  
 Coprosma *Feb/Mar*  
 Kohuhu *April/Jun*  
 White maire  
 Miro *Aug/Sept*  
 Corokia  
 Tawa *Sept/Nov*  
 Tree fuchsia *Dec/Mar*  
 Totara *April/May*  
 Mysine australis (red matipo)

### Pittosporums (karo particularly)

*Aug/Dec*  
 Griselinia (NZ broadleaf)  
 Pseudopanax (five-finger range) *July/Aug*  
 Cordyline (cabbage tree) *April/May*  
 Titoki *Feb/April*  
 Pepper wood

### Wetland or Pond Edge Species

Cordyline (cabbage tree)  
 Hoheria (lacebark)  
 White pine  
 Sophora (kowhai)

### Rapid Growing Shelter/Nurse Species

Acacia longiflora  
 Buddleia varieties  
 Casuarina varieties  
 Hoheria varieties  
 Neopanax arboreum  
 Pittosporum tenuifolium  
 Virgilia capensis  
 Virgilia dicaricata

### Duck Food

A pond need not immediately provide food for ducks. They may use it for resting or breeding and may forage elsewhere for the bulk of their food. Generally, the appropriate plants will appear of their own accord, the seeds and pieces of the plants being brought by

the ducks. The process can be speeded by transplanting from existing ponds or wetlands.

The following are useful duck food species:

Polygonium species (willow weed, water pepper, smartweed)  
 Potamogeton species  
 Ottelia ovalifolia

### Basic Planting Tips

- Aspect and likely exposure to wind are vital considerations; avoid planting deciduous trees where there are prevailing northerly and southerly winds.
- Use mulch around new plantings to retain moisture around roots.
- Although not essential, a little fertiliser mixed with the soil when planting will encourage young growth.
- Drainage must be appropriate to the tree type.
- Add peat, compost or rotted organic material to improve soil and moisture retention.
- Soak trees daily during spring and dry spells.





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*Photo: River Flat Pond on Terpstra property, Galatea, North Island. Photo: Andre Terpstra.*

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