

Flight

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2000

ISSUE 104



DUCKS UNLIMITED NEW ZEALAND INC.

For Wetlands and Waterfowl.

26th Annual Conference

The Lakeland Hotel, Taupo, 21 -23 July 2000

DU has booked 35 double or treble rooms for Friday and Saturday nights, which is the maximum accommodation that will be available. If members have not yet booked, it would be helpful to do so early to avoid disappointment.

Full Registration

Includes AGM attendance, morning tea, wetland tour (excluding \$5 per head access fee), barbecue lunch, wine tasting, Saturday night dinner and auction: \$75 per person. Saturday night dinner and auction only: \$35 per person.

Wetland tour: \$5 per person.

Room deposit: \$50

Send your registration to:

P.O.Box 9795 Newmarket, Auckland.

Programme

Friday:

Evening get together, after arrival, conference room bar from 7pm.

Saturday:

9am Registration and AGM

10.30am Wetland tour departs. A visit has been arranged to Lochinver Station to view their extensive wetland and this will be a rare opportunity to gain access to this historic station. There will be a \$5 per head access and afternoon tea charge not included in the conference registration fee. Barbecue lunch will be provided with wine tasting courtesy of Rongopai Wines. Return to the Lakeland Hotel approximately 4pm.

7pm Pre-dinner drinks

8pm Dinner, followed by auction.

Sunday:

9.30am Wetland workshop. A group discussion of all aspects of wetland ownership and management and viewing of videos.

SHANDON WETLANDS

DU's Work to the Fore

The Shandon Golf Club in Petone has the Hutt River flowing on its eastern flank and the Te Mome Stream almost encircles the boundaries. There are several semi-tidal ponds scattered throughout the course proper.

For decades mallards have been plentiful at Shandon, to the stage that the club's playing apparel bears three stylised flying ducks as a motif. Occasionally, white faced heron visited and once a pair of shoveler were seen on the ponds. Canada geese, black swan and shags of a variety of species are seen regularly on the Hutt River.

In early 1998 Ducks Unlimited gifted \$1000 to the golf club to enable them to clear out a raupo choked cut-off meander of the Te Mome Stream. The product of this work has been outstanding. Pukeko, which hadn't been recorded in the Lower Hutt valley for 40 years, appeared almost immediately. In the two breeding seasons since DU's work at least three pukeko broods have been reared and there are now as many as 15 pukeko always present. Further, white faced heron are ever-present and a pair of paradise duck have taken up their usual bossy dominance of part of the area. Shags similarly are present, feeding on galaxiids and other food species which enter the wetland when high tides back up fresh water into this very attractive area.

The prominently displayed DU sign by the new wetland is in the eye of at least 10,000 people each year. Certainly, 1,000 of these are club members and they are very enthusiastic about the beauty of this habitat restoration. Many, many other users of the Shandon club facilities have made glowing reference to the development.

I believe that semi-public but semi-controlled areas like Shandon's are very worthwhile areas to work on for spreading DU's mission statement. The added power of such places is that they are excellent public relations to counter the constant publicity of the anti-gun and anti-hunting lobbies.

-Tom Caithness



A DU-supported wetland restoration graces facilities enjoyed by thousands at Shandon Golf Club.

Photo: Tom Caithness.



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INSIGHT

Craig Worth
President

Doesn't time fly when you're having fun. Here is my second Insight column already.

If you are one of our members who has been out duck shooting over the last couple of months and had to store an extra large amount of ammunition for next year, don't worry. You are not the only one. Where have all the ducks gone? That seems to be the question everyone is asking! Well, one thing is certain, I don't know. Prior to the season there seemed to be a lot travelling up and down the Waikato River and living in the area. But, surprise surprise, a week before the opening they found somewhere else to live. Has El Nino had an effect on the duck population as well? If you have a theory and would like to share it, drop me a line. I would welcome your thoughts.

It is rather disappointing that our project to re-establish brown teal on the Chatham Islands has run into a stumbling block, with the Department of Conservation withholding transfer permits at this late stage. It is hoped that this hurdle will be overcome quickly and the project may continue. There is more information on page 10. It may pay to read it as I am sure the Chatham Islands Project will be discussed more fully at the Annual Conference.

In early June we hosted Dick and Nancy Jacobs from Washington. They had purchased eight days hunting and fishing through their Seattle Chapter. Their visit was most enjoyable and it was great to catch up with what is going on in the States. I would like to thank those of you who assisted with their visit, especially Graham Gurr, who was forced to take four days off work to go hunting and fishing with them. The sacrifices the man makes are unbelievable.

It is great to see the Wetlands Committee has authorised \$27,900.00 worth of projects since the last AGM. I have personally visited the Twin Hills Project between Rotorua and Taupo and peered through the fog to see the countless number of wildfowl enjoying the benefits of another DU project.

Finally, with the AGM only days away, if you haven't already made your reservations, best you move now. Would love to see you there and to share the great weekend we have planned. Remember how great last year was!



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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: Cape Barren goose.
Photo courtesy Howard Egan.*

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BOARD OF DIRECTORS

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OUR People



Ron Denny

Ron is an inaugural member of DU having joined at the beginning 26 years ago and has been an enthusiastic supporter ever since.

He was born and still lives in Masterton having attended Masterton Central School and Wairarapa College. He is proud to announce that he wasn't expelled from either.

Married to Janet or Jill, which sounds somewhat bigamous, they have a daughter and son and three grandchildren.

Ron has been in business as a master painter and decorator for over 40 years, bringing colour and cheer to homes and properties in Wairarapa. His interests include raising game birds, fishing and shooting and something else that eludes him. Perhaps he will recall what it is next time he does it. He has raised teal for DU and is relieved that knighthoods have been removed from the honours list - he wouldn't have coped with Lady Janet or Jill and wonders if he does now even without the title.



By a Member

Having acknowledged but not celebrated my 70th birthday in February, I had been asking myself for some time whether I wanted to shoot any more ducks after some 40 seasons.

My mind was made up after two falls, where I landed first on one, and then the other, shoulder. My GP diagnosed the condition as "Gwinage" - a combination of gin, wine and age.

Come opening day, I couldn't lift a shotgun but joined my son in the maimai and enjoyed the outing just as much. Working my nine-year old Labrador, Purdey and sitting in a maimai is, I believe, the greatest opportunity to get to talk to one's offspring. Wouldn't have missed it for worlds.

The highlight of the weekend came on the Monday morning. My shooting partner of several years, who has no dog, called to tell me he had dropped a duck the previous evening and couldn't find it. "Could we go out with Purdey?"

Off we went and I set her working where the bird had landed. She showed no immediate interest but she covered the area and worked away, disappearing at the back of the pond. I thought we were out of luck.

Then came the wonderful thrill of seeing one's dog appear carrying a wounded bird. She brought it all the way back to us to a small island about seven metres from the shore, but that was it. No matter how often I sent her back, she had a look on her face which clearly said, "I've found it, you come and get it."

Neither of us had our waders so my friend got very wet cold feet. But he had the duck.

Duck hunting without a dog is a no-no. The experience made my "no shooting" weekend.

Andrew Dixon MacMaster Trophy and Grant

Dr Tony Reiger, founder and co-sponsor with Dr Steven Messerschmidt, both of Juneau, Alaska, was in New Zealand recently and visited last year's recipient, Pukepoto School near Kaitiaki. The following are his comments about his visit:

It was a very positive and moving experience to visit the Pukepoto School. To see what the MacMaster grant can accomplish with the energy of the principal, Mr Bill Wilkin, his wonderful students, the school support staff, and community involvement was very validating.

The ownership that these fine young people feel for their school's wetlands can now act as the nucleus for a sense of responsibility

for wetlands in their lives in the future. The primary value of the MacMaster grant, in this example, is not just the creation of one more wetland but the sowing of the seeds of responsibility and a love of wetlands in the hearts of young people who will be the caretakers of wet, wild places when long after you and I and what we have done are forgotten.

Every member of DUNZ, past, present and future, should feel pride in what the students, New Zealand's future, have done in Pukepoto and can do elsewhere.

Good on them all.

- Tony Reiger.





Manawatu Chapter Shoot

Held in conjunction with Manawatu Hunting & Fishing, the Miroku/Remington Shoot on Sunday 28 March attracted 148 shooters. Set-up day on the Saturday was sunny and calm but come Sunday a westerly gale was blowing. A true field shoot eventuated with no two birds the same, some rising and others ducking for cover. Despite this, a fun day was had by all.

Special thanks go to our sponsors, Manawatu Hunting & Fishing, Kiwi Fueline and Coca-Cola, Shane Quinn for the venison for the barbecue, Craig Merritt for cutting up the steak and making beautiful venison patties and sausages, and everyone who helped over both days setting up, running and cleaning up after the event.

In total, \$2500 was raised for wetlands.

* Manawatu Chapter will hold its dinner and fundraising auction at The Coachman, Palmerston North, on Saturday 28 October. Please mark your diary now.

Auckland Chapter Dinner

The Auckland Chapter's annual fundraising dinner and auction attracted 70 people to the Lakeside Convention Centre, Mangere, on 31 March. The venue was chosen for its park-like setting and magnificent lake - a fitting venue for DU. Sadly, most guests never saw the lake as the function started at 7pm when it was already dark. In spite of this, the whole evening was a complete success, with new auctioneer Marian Tolich keeping the bids going.

The evening netted \$4500, after all costs, for DU. Special thanks to Sharon Davis, Lance Dickey, Chris Bindon, Michelle Mackay, David Smith and Graham Gurr, and the organising committee and thanks to everyone who attended and helped to make the evening a success.

Nominations for the Board

The Board of Ducks Unlimited has reluctantly accepted the resignation of two directors: David Johnston, who served for 11 years and worked hard during that time, promoting DU and running the royal swan programme for many years, and Dale Stevens, who has been a director since 1996, ran last year's raffle and whose business acumen and general input at Board meetings has been invaluable. Both will be greatly missed.

There is only one nomination to date to replace these two directors and DU needs more Board members with energy and commitment to share the workload.

Members who know of another member who would be interested in standing for a director's position should approach them and send in a nomination. Members wishing to stand for election should forward their name and background information to DU, P.O. Box 9795, Newmarket, Auckland, and a director will make a nomination.

The DU Board meets quarterly in the centre of the North Island during February, May, August and November and travel to meetings can be subsidised. The meetings are friendly and informal and input is welcomed. There is no requirement to attend the AGM to be elected. Women are especially encouraged to seek election to the Board to redress a gender imbalance.

For further information, contact Alan Wilks, (06)304 9729.

US\$1.3 Million for Wetlands Conservation

A fundraising dinner for Atlanta Ducks Unlimited on 28 April raised

\$550,000 in cash for the group's habitat conservation work. In addition, a conservation easement on a property with an estimated value of \$750,000 was donated to DU, bringing the total raised for Ducks Unlimited to \$1.3 million. The event was held at Atlanta's Piedmont Driving Club. More than 200 people paid \$1,000 per couple to attend.

"In terms of dollars raised, this is the second most successful fundraising event for Ducks Unlimited in more than 60 years," said Event Chairman Jim Kennedy. "Many of this evening's attendees were inspired by the valuable work Ducks Unlimited is doing. And many were also inspired by the conservation legacy of Chip Allen (an Atlanta attorney and longtime DU volunteer who served as Atlanta Area Chairman, Georgia State Chairman, and National Trustee), who loved the outdoors and worked hard to conserve the precious natural resources that add so much to our lives."

Proceeds from the event are to be used for a wetland restoration project in South Dakota, where many of North America's waterfowl and other migratory birds breed and nest. After restoration work is complete, the area will become the Chip Allen Wildlife Management Area to be managed by the State of South Dakota. The property will average nearly 60 breeding pairs of ducks per square mile and support a variety of other water birds. The surrounding grasslands will provide excellent cover for upland game birds, songbirds, and other wildlife. A perpetual conservation easement on the property will protect it from development forever.

Hamilton Chapter

The dinner and auction advertised for 28 April unfortunately had to be postponed due to a lack of response and is being organised for a later date. Members will be advised.

Wairarapa Chapter

The annual dinner and auction will probably be held sometime in September and members will be contacted.

DU Whio Recovery Effort Acknowledged

A letter to the Board of DU from the current leader of the Whio (Blue Duck) Recovery Group, Tim Shaw, of the DOC Motueka Area Office, which accompanied minutes of the Group's last meeting, also paid tribute to DU's contribution to this conservation effort. The following extract of the letter is published with Tim Shaw's ready agreement:

"The second reason for writing is to formally thank you for the continued involvement and commitment of your organisation to whio conservation, in particular with the representation of Peter Russell on the Recovery Group and more generally the hard work and progress of whio breeders. You will note throughout the captive breeding sections of the minutes that much progress has been made in this field and most of it down to Peter's efforts. We now have a co-ordinated captive breeding programme that is producing for the first time enough ducks to support itself and have extra for liberation. Peter has also helped extensively with the soon to be published captive review and husbandry manual and has begun a new initiative to produce a captive management plan. On behalf of the Recovery Group I sincerely thank Ducks Unlimited for its contribution to whio conservation through Peter Russell."



1999/2000 ANNUAL REPORTS

President's Report

As outgoing President I am allowed to be reflective as I try to sum up the achievements of Ducks Unlimited in New Zealand during the past year. As our Treasurer reports, financially we are in good heart. The Wetland Committee reports that we provided money for an increasing number of projects and these are going from strength to strength for the very good reason that we have, over the past two years, in almost all cases appointed new project leaders who have brought a new perspective to the task.

As an organisation we are able to return 100% of the money raised to our projects. I suspect we may be unique in this regard. The foresight of those Board members who established the Waterfowl and Wetlands Trust Capital Fund should be praised at every opportunity. It is WWT that allows DU to have a reserve providing an income stream which will, with good management, never dry up and should, in time, increase. For all our efforts we can only make a small difference. We need always more members and more money as the need to protect habitat grows every year. I was proud to be a member of DU last year when, as an organisation, we attended the Resource Management hearing for the renewal of water rights for Lake Waikare. We were the only organisation with legal counsel (thanks to David Smith of Cairns Slane), and the only organisation prepared to argue not only from a habitat perspective but, thanks to David's input, from a legal one. The consent is still not resolved but DU's input stopped a blanket renewal and forced a rethink on some aspects of the renewal. There we made a difference.

I am equally proud of our efforts with brown teal and blue duck. For years the efforts of our breeders and organisation have been accepted by DOC with few if any thanks. It was DU which did a feasibility study on suitable release sites for brown teal on the Chathams. It was DU which raised the funds to carry the project through. And it was DU which was trying to do something to save brown teal from almost certain extinction on the mainland - only to have DOC stop the release at the eleventh hour. This matter is not resolved and I step down as President at the end of my two-year term with a feeling of frustration at the attitudes and actions of a department, the aim of which would seem to be to frustrate every attempt to improve the lot of our threatened waterfowl.

Graham Gurr

Treasurer's Report

Once again the Board has requested that a simple statement of Income and Expenditure for Ducks Unlimited NZ Inc. for the period 1 April 1999 to 31 March 2000 be published in this issue of Flight. A full set of audited accounts should be available at the forthcoming AGM in Taupo

or by writing to me at P.O. Box 5095, Frankton, Hamilton.

Raffle Expenses were up this year compared with last. This was bought about by prizes for the '98/'99 raffle falling into the year to-date. Membership is down around \$2,000 on the previous year which will hopefully be addressed in the forthcoming year. All in all, the organisation had a fairly successful year showing around \$9,000 surplus without any contribution from the Wetland & Waterfowl Trust.

It gives me great pleasure to hand over the treasury to Graham Gurr knowing the organisation is in a sound financial position. I would also like to take the opportunity to thank Robert Simpson from Huntly who has provided his accounting skills free of charge to the organisation over the year.

Craig Worth

The New Zealand Waterfowl & Wetlands Trust

The Trust financial year ends on 31 December. As at 31 December 1999 the Trust fund stood at \$298,712 - a 7.73% increase over the year after all expenses. Our thanks to Spicers Portfolio Management Ltd. who have been one of the better performing fund managers over the last year.

There have been no funds paid out of the Trust to DU during the year. This has been because DU has had sufficient funds of its own without the need for the Trust to pay over any of its income. The agreed policy is to retain sufficient funds to enable the fund to keep pace with inflation but the trustees are happy to allow the fund to increase at a greater rate if it can do so.

The full accounts of the Trust will be available at the AGM in Taupo for those who would like to peruse them. Those who will be unable to be at Taupo, and who would like a copy, can obtain this by sending a request with a self-addressed stamped envelope to P.O.Box 9795, Newmarket, Auckland. There will be an update of the Trust fund's performance to July given at the AGM.

David Smith

Chairman of Trustees

Project Gretel

It is with some disappointment that I note that I have received only seven grey teal breeding returns from the unknown number that must be spread throughout the country.

The DU Board has allocated the project with a reasonable budget and have approved the gifting of further nest boxes to those members who have access to proven sites and are prepared to carry out the rather minor paperwork.

However, from the seven returns to date, the following statistics emerge:

200 Nest Boxes	
133 in use	
Clutch size	8 average approx.
Hatching	5 average approx.

My thanks to the following who have filed returns, including Chris Bindon, Tony Flexman, Malcolm, Roy, and Murray Dench, Ray Hayward, and Andre Terpstra.

Jack Worth

Royal Swan

The past year has been a more successful one, with 21 cygnets hatched into the scheme. Unfortunately, to date, only five females have been sexed. The swan tend to throw more males than females. This has enabled us to develop enough pairs among our breeders to ensure a more reliable supply of cygnets in years to come. Hopefully, the poor breeding results of past years have come full circle and we can look forward to placing many more of these magnificent birds throughout the country.

William Abel

Blue Duck

The last year has been a very good one for the recovery of blue duck for the Recovery Group and DU. Overall, there is a good partnership between most of the breeder members of DU and myself on the Blue Duck Recovery Group. Except for the lack of publicity at the release of blue duck at Egmont National Park, the Recovery Group really appreciates DU and its support.

This species is endangered and is on the decline. As an organisation we need to really get behind the blue duck and support it as much as we can. One way of doing this is to report to DOC all sightings of blue duck in the wild. This will help with the overall picture of this species.

Money for the Pre-Translocation Health Screen of the released birds from Palmerston North, Staglands and Hamilton Zoo, came from these organisations. The testing is not cheap - about \$150 per bird. Hopefully, DOC will have the money to do this next time.

Last year saw the best breeding season ever, with 18 ducklings reared. Eleven of these were released on Egmont National Park. Of the remainder, six are females. I don't think we have ever had so many surplus females before.

At present we have 19 males and 24 females at 16 different locations around New Zealand.

It won't be long before we will be in the new breeding season. All in all, a great year for blue duck

Peter Russell

Operation Pateke

The year started with the release of 33 brown teal from last year's progeny, at two sites in Northland, the Wilson property, and the Hoskins property.

Previous releases at both these properties have shown small positive successes, with a few pairs establishing and successfully raising young to fledging while intensive predator control is in place. But we have not been able to establish flock sites or a good breeding nucleus in these areas.

The Wilson property had nine birds released. Two pairs on nests were found by James Fraser and his dog Fidick when they did their annual search of the area. The other five with transmitters have never been heard of again.

The Hoskins property had 24 birds released. I saw three pairs outside the predator control area, including one pair with young ducklings. Unfortunately, this release was not as successful as one would have hoped, with a neighbour's fox terrier dining out on teal quite regularly.

After the July Recovery Group meeting I was assured that I would receive 20 wild eggs or ducklings from the up and coming breeding season. Unfortunately, this did not happen. I cannot understand why? DOC?

But Dave Barker did manage to save and recover a nest of six eggs from Great Barrier Island when a farmer came across a duck nesting in the top of his hay shed. They were taken to Auckland Zoo in a portable incubator and we now have five wild siblings in the captive population. Dave also came across two orphan ducklings and these too were sent to Auckland Zoo. One survived to fledging. Great work by both Dave Barker (DOC, GBI) and the awesome team at Auckland Zoo.

December was a very busy time. Not only was Christmas approaching rapidly but young teal ducklings were everywhere. But some figures were presented which estimates possible functional extinction of brown teal on both Great Barrier Island and

the mainland within the next 10 years, with a 50% decline in the adult breeding population within the next five years. Scary stuff!

The Department flew into action and organised a special meeting for brown teal on 20 December. As many conservators, scientists and staff as you could find were all squeezed into a room where some immediate solutions and actions could be decided upon and then implemented immediately in this crisis situation. No one had ever heard these resolutions before. PREDATOR CONTROL seemed to be one of the main solutions, to KILL, everything with teeth or a sharp beak at key teal sites.

I walked out of the meeting with the most positive outlook. Finally a Department meeting that was productive. They may actually be putting their money where their mouth is. Five months later, as I write this report, I am pleased to report there has been plenty of planning, so I am expecting great things in the next 12 months.

In March the Captive Management Plan was officially released. It is amazing that it has only taken four years. Good to see the cheese makers are starting to rush things along.

Unfortunately, the Chatham Island release has been put on hold for this season. This is due to both transfer proposals being submitted late and the implementation of the Disease Screening Protocol, which sees the release as an unacceptable disease risk to other Chatham Island bird species. Also, the Department needs further refinement of known potential pathogens, as they currently have very little knowledge of what diseases are currently out there. (See page 10.)

But the good news is that I have to thank my 13 captive breeders who produced 45 young this season. I am now busy trying to organise their releases to Kapiti Island, Mana Island and Karori Sanctuary. These releases will, I believe, be of great conservation value to the species.

Next season is looking very promising and

I hope things will progress a little smoother with the Chatham Island release. Thanks again to all the breeders for their hard work and generosity. Without them the species will surely be lost.

Kevin Evans

Flight Editorial Report

Flight production has gone smoothly through the year and I take some pride that it is mailed by the beginning of the month of issue, apart from January which is deliberately held back to miss the holiday period.

Members will be conscious of the increased content between the covers of each issue. This has been possible as a small but increasing number of members discover that it is relatively painless providing copy for Flight. Our access to internet and email now makes this much easier. For example, a good proportion of this issue, including many of the annual reports, was handled through email, saving considerably the time which would normally have gone into typing.

My only disappointment is that there is not even more input and comment from members. You are DU's main publicity and promotional resource - the work which you and your friends and neighbours are doing to preserve and extend habitat needs to be publicised in Flight. Others can benefit immeasurably from your experience and acquired skill. In the absence of a lot of feedback as to whether Flight is telling you what you want to know, the production team continues to fly by the seats of their pants. After all, Flight is your magazine and we'd like it to reflect that ownership.

My thanks to editor Steve Oxenham for shaping the material and planning the layout, my wife Di for her invaluable input at the editorial and proofreading stages, and Lamb-Peters Print, Greytown, for their patience and co-operation at a very competitive rate.

Alan Wilks

Ducks Unlimited New Zealand Inc.

INCOME AND EXPENDITURE ACCOUNT

For Year Ended 31 March 2000

Income		Expenses	
Membership	\$20,552	Administration	\$10,770
Donations & Fundraising	\$15,940	Conservation Projects	\$24,338
Conservation Donations	\$17,973	Flight Magazine	\$11,669
Other Income	\$ 1,131		
Total Income	\$55,596	Total Expenses	\$46,777
		Surplus	\$8,819
		Bank Balance as at 31 March 2000	\$50,805

Copies of a full set of audited accounts are available on request from the DU Treasurer, P.O. Box 5095, Frankton, Hamilton.



Operation Wetlands



Over the last year, DU has committed \$27,900.00 towards wetland development projects. This includes seven separate projects in locations spread between Auckland and South Wairarapa.

Only one of these projects did not involve actual excavation, and this was an addition to fencing at Lake Whangape. All these projects have had to meet DU's specific criteria and all will contribute greatly to the habitat restoration work DU is all about. More details and photographs of these individual projects will be published in Flight over time.

Details of specific projects funded through Operation Wetlands are illustrated on this page.



The Val John Five wetland in the Waikato involves the creation of extensive new areas of water and awaits a dry period for the digger to operate. Funds have been committed to subsidise this development.



On Jim Law's property at Pirinoa another very successful development (above) has been completed. This involved damming a gully leaving natural islands exposed. At a later date it is intended to publish photographs showing the wetland reaching its full potential.



The MacKereth Wetlands at Tokomaru required the restoration of two dams lined by native bush. This is a particularly attractive development and because of the extreme water flows the spillway was sprayed with concrete for safety. The area is fully fenced and further development is planned higher up the gully.

As well as those pictured, Operation Wetlands has helped to fund:

- ◆ Lake Care Whangape in association with DU, Fish & Game, DOC and Environment Waikato are planning a \$14,000 programme to eradicate possums, erect 14km of fencing and plant 2,500 oak trees. DU has subsidised this wetland project with \$1,800.
- ◆ Two ponds adjacent to State Highway 2 on Jim Campbell's property north of Masterton have now been completed and are fully fenced.
- ◆ A South Wairarapa project yet to be carried out will involve cleaning and extending an existing pond and creating shallow feeding areas adjacent to the Ruamahunga River. This is a Tom Caithness development.

William Abel

Operation Wetlands is constantly on the lookout for worthwhile projects to become involved with. If members' plans are likely to contribute good habitat for waterfowl, contact us for assistance at Operation Wetlands, c/- 18 Moorefield Road, Johnsonville, Ph.(04)586 2752.

William Abel



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BLUE DUCK

Artificial Insemination for Blue Duck in UK

The extreme territoriality and aggression of blue duck mean that only the most belligerent and compatible pairs are able to defend breeding sites and reproduce successfully. This poses a problem for the welfare of the endangered species and attempts to breed them in captivity.

At WWT Slimbrige and Arundel in UK, an attempt is to be made to boost the population of 17 blue duck through artificial insemination. AI should also overcome problems of mate incompatibility and low egg fertility. Clutches of artificially inseminated eggs will be incubated by the parents for up to 10 days before being placed in an incubator. The ducklings will be hand-reared. It is hoped that the resultant ducklings will later be able to form compatible and productive pairs and increase the mate

choices for the existing population.

If the project is successful, it will provide a boost to the recovery programme in New Zealand.

[Reported in *Wildfowl & Wetlands*, Summer 2000, No. 132. *Wildfowl & Wetlands Trust*.]

Monitoring New Zealand Populations

Significant blue duck breeding has been recorded in the 1999/00 season in the Tongariro/Taupo Conservancy. Four chicks were transferred from the Whakapapa River to Mt. Taranaki as part of the National Blue Duck Recovery Programme. For the first time, DOC staff have sighted blue duck on the lower reaches of the Mangatururu River - a river previously thought to have been unsuitable for blue duck.



Monitoring of blue duck released into the Egmont National Park is continuing. Over previous years, 12 blue duck have been released in the area in three separate releases in 1986, 1989, and 1991. Three males were known to have survived. The most recent release was of 15 birds in December 1999 and January 2000.

A survey of blue duck on rivers and streams in the Kahurangi National Park was completed over the last summer. The survey revealed 192 adults, including 58 pairs and 41 ducklings.

Blue Duck Predation

by Kerry Oates,

Whakamanu Wildlife Management

During my study of a small population of blue duck on the upper reaches of the Manganuiateao River, Tongariro National Park, from September 1986 until March 1999, the population fluctuated between one and 10 resident birds. Three pairs were consistently monitored during the breeding seasons of 1986 - 89. In 1990 only two pairs were present and in 1991 and 1992 only one pair was present. In 1993 and 1994, no pairs were present, but one individual remained in the study area.

Seeking to understand the reason for this decline, in 1996 I began an intensive predator trapping regime throughout study areas 1 and 2 (refer to map, Flight 102, page 11).

The main aim of this trapping work was to identify what and how many predators were present which would indicate the potential threat to blue duck, particularly during nesting and brood raising. It was not possible to monitor the impact of predation on annual blue duck productivity because the trap lines were only run during one breeding season and there was no control area. Annual productivity was low in 1996 due to severe flooding over a four week period from mid-November to mid-December. This caused brood fragmentation and most chicks produced were swept away and not recovered by parent.

Along the forested banks of both the Manganuiateao and Makatote Rivers, 150 tunnel traps were placed. The trapping area was from the confluence of both rivers upstream for approximately 4km on the Makatote and 8km on the Manganuiateao. This area is known as the Pokaka Scenic Reserve. It has some farmland adjacent to it and on the Eastern side of State Highway 4 is the Western fringe of Tongariro National Park's Erua Wilderness Area.

Mk6 Fenn traps were used, two in 50 of the tunnels, and a single trap in the rest. The tunnels were placed at 100m intervals and baited with fresh hen eggs with a pinprick crack in them.

In 1996 when the study began, eggs were adopted as the preferred bait and used throughout the investigation. A 1995 trial had shown they were the best bait for catching both stoats and rats. Traps were oiled with a mixture of fisholene commercial anti-rust fish oil and peanut oil. These oils acted as a lure. The peanut oil was a very strong attractant to possums, which otherwise might not have been caught.

The traps were cleared daily over an 11 month period between January and August and October and December 1996.

A total of 31,170 trap nights produced a catch of 89 stoats, 214 rats, 23 possums and 25 miscellaneous animals (rabbits and hedgehogs).

Once a month, all traps were sprung to the safety catch position, freshly baited, then left untouched for two or three days before being re-set.

This was a ploy to get the animals feeding from the tunnels without being caught. The method also removed human scent from the tunnels and trap lines for a couple of days, creating a false sense of security for mustelids and rodents. This approach is recommended to anyone involved in long term predator control.

Results

The highest catch of stoats in any one night was four and this happened on two occasions. The most stoats caught in one week was eight, followed by two weeks in which six stoats were caught. The highest catching months for stoats were March, April and December, with 17, 16, and 11 respectively. The lowest stoat catch was in October when only two were caught.

All but two rats caught were ship rats (*Rattus rattus*), and two Norway rats (*Norvegicus*). No weasels or ferrets were caught, even though ferrets had been seen in the area during the year prior to trapping. The reason for this is unknown.

Of all the stoats caught, 65% were males, and 50% of those were juveniles. Of the 31 females caught, only four were adult (13%). This sex and age ratio suggests that while 89 stoats was a significant number, it was far from the total population present and highlights the labour intensity of trapping with a limited outcome.

Tunnels containing two traps were significantly more successful than those containing a single trap, even though 79% of the traps caught something over the 11 months.

The high number of stoats and rats caught indicated that substantial risk to nesting female blue duck existed, with eggs being vulnerable, especially when females were off their nests feeding.

Evidence of predation during the 13 years of blue duck study in this region has been minor. In 1992, an adult female was found in a cave with injuries consistent with mustelid attack. In 1989 a chick, approximately one week old, was found dead on the river bank with puncture marks on its neck, but had not been eaten.

In 1994 a New Zealand falcon was observed diving on both adult and juvenile blue duck in a large pool in the river. Juveniles dived under the water to escape while adults huddled beside a cliff at the river's edge, forcing the falcon to stall its dive to avoid striking the cliff face. No other predation was detected and the largest single cause of nest failure or brood disappearance was spring flooding.

Acknowledgements: *This voluntary project was one of the most memorable years that I have ever experienced. It would not have been possible without the support and contributions from a number of sources. I would like to thank the following sponsors and contributors:*

Ducks Unlimited NZ Inc., NZ Lottery Grants Board, Better Improvements Ltd., Ohakune Butchery, Tongariro/Taupo Conservancy, Department of Conservation, J. G. Dobson, E.V. Reynolds Family Trust.

UPDATE:

The Egmont National Park Blue Duck Release

In December 1999/January 2000 15 juvenile blue duck, comprising four wild-caught and 11 captive-reared birds, were translocated to Egmont National Park.

The four wild-caught birds

These birds were caught as a brood from the Whakapapa River.

Two of these birds have died - one was run over by a car and one was preyed on by a harrier/falcon (possibly, but not proven, it was killed by a mustelid).

The other two birds are alive. One was caught in March to check on the harness and condition and he was found to be fit and well and had put on good weight.

The eleven captive-bred birds

The increase in productivity of captive birds meant more birds could be released than was initially anticipated. These birds were raised at the following institutions (numbers of birds in brackets):

Palmerston North City Council Aviaries (5)

Hamilton Zoo (4)

Staglands Wildlife Park (2)

On release, the captive-reared birds were obviously unstable on their feet in moving across unfamiliar rocky terrain. They also had problems negotiating fast flowing water and a number of birds were often found away from the river, clearly being more comfortable foraging in the undergrowth.

Seven captive-reared birds died within four weeks of the release. Three were lost through starvation. This was not due to a lack of food resource but, we assume, because the birds did not know how to forage for aquatic invertebrates. Due to the significant loss of weight of one of these latter birds, the harness had slipped causing the bird to get a leg through it, which might have exacerbated the problem.

When the problem of weight loss among the captive-reared birds was discovered, all birds were caught and their harness transmitters checked.

The harnesses were removed from all but one. This meant a considerable increase in the effort to monitor the birds but these efforts have paid off.

Four birds were predated by stoats and/or ferrets. Four captive-reared birds, two males and two females, remain and appear much more confident living in blue duck habitat and doing what wild blue ducks do. Intuitively we knew there might be losses to mustelids but it would appear from the limited data that the captive-bred birds have been more susceptible than wild birds.

Some of the captive-reared birds have been found to have grazes, some quite severe, on the sides of their feet. It is assumed these were caused by the birds not being hardened to life in the wild. There is a need to provide the captive birds with more opportunities to feed on natural prey in more natural conditions, i.e., more than just the provision of a dish of aquatic invertebrates. The Blue Duck Captive Review (Bell, 1999) lists a number of holders who give access to aquatic invertebrates and it would be interesting to find out how this access is given and whether holders have data on how often this resource is taken.

Provision of an environment more closely resembling the natural habitat of the species is required. To increase survival it might be possible to have a "half way house" for the birds prior to release so they can experience the basics such as rocks and fast flowing water - the environment that contains natural prey species.

Interestingly, the wild-caught birds' behaviour has been quite different from the captive-reared birds. The wild ones, as one would expect, have flown to different catchments and travelled significant distances over 24 hour periods. The captive-bred birds have remained in the catchment in which they were released but have moved up and down stream significantly, including outside the park.

At the time of writing there have been no further losses in the last 10 weeks, which implies that the remaining birds are true survivors, although the threat to adult birds from introduced and native predators remains.

Despite the losses to date, the results are encouraging. With the knowledge gained from the experiment I believe that we will be able to refine future releases to significantly increase the chances of survival of birds that will ultimately assist in re-establishing a population of blue duck.

*Tim Holmes
DOC Wanganui
5 May 2000*

CHATHAMS BROWN TEAL UPDATE:

Hold the Release

The re-establishment of brown teal on the Chatham Islands appears to have struck a major obstacle in the form of DOC's requirement that all captive-bred birds should be disease screened and held in quarantine before being sent to the Chathams (see box opposite).

The January 2000 issue of Flight published the first newsletter covering the work to date involved in establishing brown teal on the Chatham Islands. The newsletter detailed how DU had, with the support of DOC, the Brown Teal Recovery Group, and all the other agencies involved, received money from the Lotteries Grants Board and had used its own money to engage the services of Applied Ecology to conduct a feasibility study two years ago.

All parties received the report and supported DU's application for millennium funding for a two year release programme. We received funding for a year one release and considerable commercial sponsorship.

A letter of 8 May from DOC Wellington Conservator Allan Ross stated: "I am advised that the release of captive-reared teal as proposed poses an unacceptable disease risk to other Chatham Islands bird species, and that further refinement is needed before the proposal can be approved..." Allan Ross continued to state that he regretted that previous discussions had

"It is not practical (or possible) to screen for the full range of potential pathogens in birds. The best that we can aim for is to adopt practices and procedures that minimise disease risk, and then to screen for organisms known to be of particular concern. If captive-bred brown teal are to be released on the Chatham Islands, I must be assured the following issues are addressed:

- Birds must be reared in a facility where there is minimal opportunity for disease transmission from other bird or mammal species (e.g. rodents). This could be achieved through artificial rearing of ducklings from eggs in isolation from other waterfowl, or by using such "clean" birds as breeding stock at a new, approved facility.
- A risk assessment study for the proposal is required, focusing on the disease risk posed from the proposed transfer of free-living birds on the Chatham Islands.
- Birds proposed for transfer would need to be quarantined in an approved facility and screened for a range of pathogenic organisms known to occur in waterfowl...
- Results from the screening programme must be compared with the baseline information on the occurrence of the same pathogens on the Chatham Islands before approval for transfer of low-risk birds is given. The Department could assist with the collection of samples from a range of Chatham Islands birds in the course of fieldwork over the 2000/01 season."

emphasised predator security for the birds at the expense of concern about disease risk.

The DOC letter offered help with standards for captive breeding and quarantine facilities, details of processes for a risk assessment study and disease screening. DOC offered to consider release of existing birds on Kapiti and Mana islands and to help in preparing budgets for further funding applications to meet increased costs of the Chathams project.

The DU Board discussed DOC's response. Board member David Smith was instructed to reply to DOC Wellington Conservancy. Following, with reference to essential points in the DOC letter of 8 May 2000, is an edited summary of DU's letter.

DOC has supported the project at all phases. The report of the project feasibility and logistics study commissioned by DU in 1997/98 identified that DOC acknowledged, in the draft Chatham Islands Conservation Management Strategy, that

it was appropriate to reintroduce brown teal to the Chatham Islands using captive-bred birds. On this basis DU committed its members' funds to prepare an application and successfully gained \$39,375 to fund the project's first year. The application was prepared in consultation with the Department's Science and Research Group and was again supported by the Brown Teal Recovery Group and the Chatham Islands Conservation Board. Support also came from Te Runanga O Wharekauri Rekohu Inc., one of the Chatham Islands' Iwi groups.

In response to this, the Department offered DU its congratulations, and confirmed that its staff could offer technical advice to the project.

Since November 1999 DU proceeded with the project in accordance with the Project Plan and budget. This included the preparation of a formal transfer proposal, in accordance with Departmental guidelines. In April Dr Grant Dumbell of Applied Ecology applied for a permit to release brown teal on the Chatham Islands.

"In your letter of 8 May [2000] you advise that you were not able to issue a permit for the release of brown teal on the Chatham Islands because of advice you have received from within your conservancy that to do so would represent an unacceptable threat to the ecology of the Chatham Islands. That threat arises, you advise, as a result of the chance that birds which are transferred to the islands could carry with them a novel parasite or pathogen."

DU acknowledges that decisions must be based on a balance of the known information and the urgency of any particular situation. However, it believes that the advice informing DOC's apparent change of heart relies on a number of erroneous, unsubstantiated and scientifically indefensible assumptions.

DU contests the assumption that because the Chatham Islands are a physically isolated island group, some avian pathogens present in New Zealand may not be in the Chatham Islands. The fact that the islands host many sea bird and wading species which migrate across the hemispheres and rest and feed in many countries along the East Asian Flyway, was cited.

Feral bird populations which arrived via New Zealand inhabit the Chathams. Other species, like silveryeye, white faced heron and welcome swallow, established naturally in New Zealand's historic times have also colonised the Chathams. There are no constraints on the movement of poultry and other avian livestock between New Zealand and the Chatham Islands.

Noting the foregoing, DU argued that it is unrealistic to suggest that the controlled movement and release of up to 120 brown teal over two years is a significant introduction pathway to the Chatham Islands for a novel pathogen.

The value of DOC's suggestion that baseline surveys for specific disease organisms be undertaken before birds are transferred to the Chatham Islands is questioned. DU argued that the interpretation of the results of any such survey would be largely meaningless. A survey could fail to detect particular disease present in the Chathams, "...And without corresponding data from control sites, such as New Zealand and preferably another island group east of the mainland, such as the Antipodes or Bounty Island, the objective interpretation of the survey results is impossible."

DOC suggested that low levels of genetic

variation in some endangered Chatham Island bird taxa mean that they may not cope well with a new pathogen. Some Chathams bird taxa do have low levels of genetic variability, but the black robin is the only taxa where this can be adequately understood. To say that island populations of birds have low levels of genetic variation is meaningless, unless the levels of genetic variation before the population experienced its perceived bottleneck are known. Chatham Islands bird taxa have been established from founders which dispersed from New Zealand. This is more likely to be the cause of low levels of genetic variability among Chatham Island bird taxa than perceived historical bottlenecks.

Many New Zealand species, including brown teal, show low genetic variation. Of more than 1700 brown teal genes investigated in 1986, only one showed any variation. Similar patterns are known from species as diverse as tuatara and fur seals. South Island saddleback and blue duck are other species where genetic variability is known to be very restricted, yet none of these have exhibited disease-related population crashes.

"The corollary of your argument is that the Department should be moving urgently to establish captive populations of the very taxa you are concerned about, simply because they are, by your own assumption, at significant risk in the wild. That you are not doing so in the face of the well known movement of birds from the Chathams to other land masses, including the New Zealand mainland, is a contradiction to your stated position."

To the suggestion that brown teal reared in facilities in New Zealand would have been exposed to a wide range of pathogens, DU argued that birds raised in New Zealand would have been exposed only to the New Zealand set of pathogens. Because birds freely move between New Zealand and the Chathams, the Chathams are also exposed to the same pathogens.

DU argued that in fact, to have them reared in a range of facilities may actually reduce their chance of commonly carrying some pathogens simply because of the variability that pathogens can be expected to exhibit throughout the country. Without knowledge of the background pool of pathogens either in New Zealand or the Chatham Islands there is no basis for assuming that captive birds are inferior to wild stock. Because the captive stock is not free to range as wildly as wild stock, it is at less risk from infection.

If, as DOC proposes, brown teal are reared in isolation, on release the birds would be exposed to environmental pathogens to which they would have no immunity. Along with stresses of adapting to the wild, which would be heightened by the isolation rearing, the chance of success of the release programme could be reduced.

The DOC letter expressed regrets that "the depth of concern at disease risk is only lately becoming clear to you". Both Dr Dumbell's and DU's position is that neither the Brown Teal Recovery Group nor the Department had raised the problem before the recent discussion which led to the DOC letter.

The DOC letter of 8 May seeks to impose disease guidelines which DU argued are not approved Departmental policy. The Department itself does not submit to this level of screening. DU questioned why the Wellington Conservancy seeks to impose these requirements, particularly

in light of the matters set out above.

DU supports a realistic, achievable and affordable disease screening protocol. However, the cost of screening the birds proposed to be released increases from \$34 to \$266.50 per bird, (a total of \$16,000) and includes tests which cannot be undertaken at the present time in this country. Those costs exclude costs of collecting and processing samples for laboratory analysis.

DU expressed doubts as to whether the Department is actually concerned about the present position, noting that brown teal has been upgraded in its conservation priority and that the sole remaining sizeable population is undergoing a steep and continued decline in the wild.

If the project is halted as a result of the apparent change of heart on the part of DOC, DU faces the prospect of refunding the grant from the Millennium Trust and then seeking reimbursement of expenses of \$39,443 incurred or committed to date.

An urgent reconsideration by DOC of its position was sought by DU. Without this DU could have to end its involvement with the project and return the funding. DU said it was not prepared to jeopardise its reputation and standing with funding bodies. It was also seriously concerned about the position of the breeders of the birds who are making it known to DU, in no uncertain terms, that they view DU's inability to uplift the birds at the time agreed as unacceptable.

A response to DU's letter was received from Dr Colin Miskelly, Acting Conservator, dated 8 June. This reaffirmed DOC's support for the proposal to reintroduce brown teal to the Chatham Islands, but stressed that it must not jeopardise the continued survival of critically endangered endemic species on the Chathams. A "rigorous disease screening programme" remained critical if the programme is to proceed.

A sharing of tasks necessary to a successful reintroduction of captive-reared brown teal to the Chatham Islands in 2001 or 2002 is proposed by DOC. DOC has undertaken to prepare a transfer proposal for Kapiti and Mana Islands (draft completed), make disease assessment of birds destined for Kapiti, Mana and Karori, prepare a bid to cover costs of transmitters and a contractor to monitor survival, dispersal and breeding of birds released on Kapiti and Mana Islands, and collect baseline disease assessment samples from Chatham Island birds.

The letter suggested that Ducks Unlimited could investigate funding analysis of baseline disease samples from Chatham Island bird species, identify or develop a facility (or facilities) able to rear teal to the same wildlife health standards that the Department currently requires for Campbell Island teal destined for release on Codfish Island, and identify a suitable quarantine facility.

DOC has offered Kevin Evans and Grant Dumbell places in a wildlife health workshop for Departmental staff and individuals interested in management of threatened wildlife, at Massey University in July. DOC would cover the registration costs (\$350) for someone involved in the DU brown teal programme to attend this workshop in the interest of fostering closer mutual understanding of wildlife health practises.

The issues raised by what amounts to the need to reassess crucial aspects of the programme to re-establish brown teal on the Chatham Islands will be a major agenda item for DU members at the forthcoming July Annual Conference.



IN THE WET OUTBACK

On their fourth trip into the Australian Outback, Howard and Pearl Egan found a lot of it under water. But, as Howard Egan writes, this in no way overshadowed the grandeur of the scenery and wildlife they encountered...

While we prepared for our desert trip to observe reptiles and waterfowl, Lake Eyre (a thousand kilometres north of Adelaide) was being filled by floodwaters for only the third time in 150 years. Murphy's law. Floodwaters spreading over one sixth of the Australian continent would obviously affect our four wheel drive trip through the Strzelecki and Sturt deserts.

The travel brochures said it all: "I love a sunburnt country, a land of sweeping plains, of ragged mountain ranges..." The ragged Flinders Ranges and the sweeping South Australian Outback plains stretching to endless horizons, teeming with wildlife. Fascinating rock formations, superb gorges and water holes, vast salt lakes, plains to the horizon, rare wildlife, equally rare plants. Remote but special places. Coongie Lakes - desert wetlands of international significance.

By the end of desert day one we had accomplished 500 km, which was a sign of days to come. We are experienced Outback travellers but the distances were huge - 2500 km in this tour, and more than half on the "dirt" across desert. Our itinerary included the Barker Inlet wetlands on the coastal outskirts of Adelaide city. This 172 ha mangrove wetland collects and purifies storm water from the city and northern suburbs. Here were black duck but mostly swamp hens. Then we encountered the absolutely beautiful Parachilna gorge which was the nicest of the several major gorges we visited in this part of the Central Flinders Range.

The evening saw us settling in for a couple of days at the 1876 Parachilna Hotel, a forlorn whistle stop with a distinctive "feral food" cuisine. The 'roo fillets were delicious.

The herpetologists (Pearl and Ray) of our party of four scored at Parachilna. We found a small derelict pine and pug cottage, lined with wire netting and pug, which was for sale with 214 ha of bare land. There was not a blade of grass. We spent a happy morning there searching under



Maned wood duck - South Australia

abandoned material for lizards and found striped skinks, freckled geckos and several (400 mm) shingle backs. Elsewhere we found bearded lizards and saw wild camels in the far distance.

Innaminuka (population 15), our prime destination, was reached after 650 km on the dirt-surfaced Strzelecki Track across the Strzelecki desert. The dead flat landscape alternated with gibber plains of small stones and vast areas of 450 mm high salt bush and blue bush. The only trees were river gums on the occasional dry creek beds. Some creeks were running, though, and there were mud patches. A year's rain (150 mm) had fallen in the previous six weeks. Our home at Canada Flats out of Carterton gets 1500 mm a year.

In the sheep country a few hours north of Adelaide, and then the temperate zones at the eastern edges of the South and Central Flinders Ranges, we had seen occasional farm ponds with small numbers of maned wood duck and Pacific black duck - *Anas superciliosa*, our grey duck. Once we hit the desert the habitat disappeared. Just a single pond of 2.5 ha with a score or so of maned wood duck. After that there were no more of that species.

We struck the floods at Innamincka. Cooper Creek runs through town. A causeway covered by several centimetres of water is normally forded to travel further Northwest to Coongie Lakes and Birdsville - northern end of the famous Birdsville Track. The water level at the causeway was 6 metres and still rising. We didn't get to Coongie Lakes or home via the Birdsville Track.

Coongie Lakes would have been lost under hundreds of square kilometres of water and the waterfowl well dispersed between there and Lake Eyre.

An afternoon was spent boating down the flooded Cooper Creek among the river gums. The birds had responded to the rains by nesting and for hours we were able to nearly look into (because of the higher water level) the treetop nests of yellow-billed spoonbills, herons, whistling kites as well as scores of corellas and galahs. We saw small numbers of grey teal and chestnut teal only, although the guide said that at certain seasons they see hardhead and pink-eared duck.

We headed away "across desert" via Mount Hopeless and the Gammon Ranges National Park to Arkaroola Wilderness Sanctuary and then, a few days later, to Wilpena Pound in the Northern Flinders Ranges. We were badly bogged twice but eventually extricated ourselves. The week before, a small busload of people had been bogged in the same general area. It was three days before a passing helicopter spotted them.

Lake Eyre is Australia's largest salt lake, situated in the driest region in the country, within a major internal river drainage system of the interior lowlands. The salt has been washed from underlying marine sediments into the lake where it accumulates. When in its usual dry state, the lake bed is a glistening sheet of white salt.

Named after Edward Eyre, the first European to sight it in 1840, it actually comprises two lakes - North Lake Eyre and South Lake Eyre - connected by a narrow channel.

To the east and north-east of the lake lie the Tirari, Strzelecki and Sturt Stony deserts, a most inhospitable and bleak environment. Almost three-quarters of the run-off from the 1.3 million square kilometre catchment runs through an intricate network of channels, known as the Channel Country, through these deserts towards Lake Eyre.

The lake filled only three times last century to temporarily become Australia's largest lake of 9500 square kilometres. At its deepest it reaches 6 metres. The bed of Lake Eyre is also the lowest area in Australia, at 17 metres below sea level.



Mt. Chambers Gorge - Flinders Ranges.

It's too flat for radios. The party was nearly out of food and water.

I like the travel brochure description of the Flinders Ranges: "Purple-hued mountains stand majestically above the grey salt bush plains, the eroding stumps of a great, ancient mountain system silhouetted against the piercing blue of the Outback sky." My highlights were more simple: dozens of emu; my first wild dingo, arrogantly watching from the edge of the track; the ridge-top ride through the red rock mountains of Arkaroola; our campsite in Mt. Chambers gorge, "a secluded idyll, where rusty quartzite bluffs loom over green tinged pools surrounded by grey shingle"; and aboriginal rock drawings hundreds of years old.

After covering 2500 km of Outback in 10 days, we had four enjoyable but exhausting recovery days in Adelaide. Adelaide's CBD is surrounded by parkland: tree-studded open spaces with playgrounds, gardens, picnic grounds and lakes. At Veale Gardens we came among semi-domesticated maned wood duck and black duck. I was intrigued to find good numbers of beautiful black (grey) duck but we saw only one pair of mallard in the whole fortnight trip. The State Government, as a move to protect black duck, has an active campaign to destroy all mallard and mallard hybrids throughout the state.

We spent a wonderful half day as guests of Mick and Shirley Olsen. Mick was the inaugural president of Ducks Unlimited Australia. They took us to the Penrice Saltfields - salt pans covering hundreds of hectares to the Northwest of Adelaide. We went on the high tide (another early morning) which brought all the birds into view. Ornithologists frequently sight up to 78



The flooded Cooper Creek in Burke and Wills country.

different species on a trip. There were large numbers of Australian shelduck (mountain duck) and all were in their pair bonds. There were black swan in the harbour estuaries and shags, pelicans, ibis and royal spoonbill were all common. Incidentally, Pearl identified 74 species of bird during our two weeks in South Australia.

Perhaps our longest day was the one we spent at Kangaroo Island viewing Cape Barren geese in the wild. Kangaroo Island is Australia's third largest island (150 km by 50 km) and off Cape Jervis about two hours drive south-west of Adelaide and an hour on a ferry.

The Cape Barren geese are only at the western

end of the island, in the Flinders Chase National Park. Some 200 graze on pasture areas, visiting water only occasionally. The geese occur only at the South Australian coast, with a few in Northern Tasmania. Though localised in their populations, they are relatively common. There is some farmer resistance. I saw groups flying and grazing - reminiscent of Canada geese in Wairarapa. I spent half an hour with the birds and was thrilled to find and photograph a nesting goose. Wild birds provide a different thrill.

We returned to Wairarapa pretty well shattered but now that we have recovered, it was a tremendous trip.

Photos courtesy Howard and Pearl Egan.



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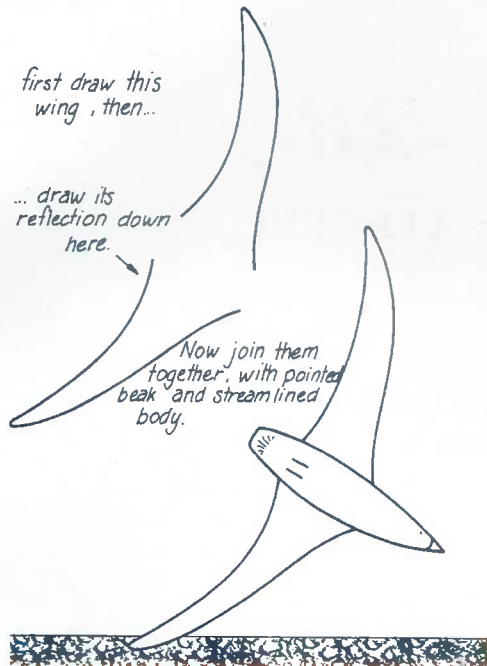
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DRAWING: The Wandering Albatross

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



The wandering albatross (*Diomedea exulans*), also known as "wanderer" or toroa, is a huge bird measuring between 1000mm and 1350mm from its heavy bill to the tip of its tail. It has a wingspan of 3 metres.

It has a short tail, white underwing with black tips and trailing edge. In flight its feet protrude beyond its tail and it is smaller and darker than the Royal albatross.

Fairly common in New Zealand, the wandering albatross breeds at Antipodes Island in large numbers and the Auckland Islands. Moving north in the winter, some birds visit south-eastern Australia.

Ranging the southern oceans of the subantarctic, it hunts fish and squid and any available food including other sea birds.

Most albatross nest every other year, as it takes 15 months to raise a chick, and pairs stay together for life, nesting in the same place close to where they were raised. The female lays one egg and both parents share incubation.

Illustration republished courtesy of Alan Fielding.

Flight ECOFILE

Fire: a Necessary Part of the Ecosystem

While uncontrolled destruction of forests caused by human activity destroys ecosystems and contributes to modifying climate, there can be a place for prescribed, controlled burning. In Los Alamos, New Mexico, recently, hundreds of homes were lost and thousands of acres of forest were consumed when a deliberately set fire, called a prescribed burn, raged out of control.

The pre-European Californian forest was one of widely spaced, large-diameter trees with some understorey and some smaller trees. There was not as much brush on the forest floor. Lightning fires or Indian fires removed the debris.

Without fire in the ecosystem, under modern management practices, forests have filled with dense brush that ignites easily and burns at high temperatures. Periodic fires of yesteryear tended to burn the forest floor and merely scorch the trunks of older trees without killing them. Now there is an overabundance of brush and young, densely growing small trees that can fuel fires that move to the top of large trees quickly and easily burning the crowns and killing the trees. Crown fires spread easily, causing vast devastation and often leave behind nothing but bare soil.

Forests with natural fire cycles tend to have trees of many ages, no dense brush on the forest floor and are more habitable

to wildlife. More frequent fires ensure that huge, devastating blazes are rare.

In 1994, United States federal agencies burned about 1 million acres a year using prescribed burns. Last year, that figure was up to 2 million acres a year, according to the US Forest Service. Burning is avoided where thick stands of trees present a threat of a fire burning too hot. Instead, the smaller trees are trimmed before burning which usually takes place in small, well-defined areas bordered by natural or man-made fire barriers and in appropriate weather conditions. Cold mornings and a certain amount of humidity are desirable conditions to help keep prescribed burns manageable.

Global Warming Bewilders Animals and Birds

A University of Maryland ecologist, Dr. David Inouye, has shown that climate change caused by global warming is disrupting the normal hibernation, migration, and reproductive cycles of animals that spend winters at lower altitudes and summers at higher altitudes (above 2,900 metres). Differences in the effects of global climate change at different altitudes are to blame.

The 25-year-old study, co-funded by Earthwatch Institute and the National Science Foundation, was based at the Rocky Mountain Biological Laboratory in Gothic, Colorado. From 1982 to 1998, teams monitored plants, pollinators, birds, and other animals in the meadows and forests. The research documented that global warming affects lower altitudes differently from higher

ones. As a result, animals exposed to earlier warm weather at lower altitudes may exit hibernation and birds may flock north while there's several feet of snow on the ground, risking starvation.

Marmots (close relatives of woodchucks), which hibernate for eight months during the long winter at high altitudes, are emerging from hibernation 38 days earlier. And over the past 19 years, American robins that migrate from low altitude wintering grounds to high-altitude summer breeding grounds in Colorado have been arriving 14 days earlier, and must wait longer for snow to melt before they can feed and nest. The study found that such animal and bird confusion has become commonplace over the last 25 years as a result of global warming.

The researchers' work suggests that other hibernating mammals at high altitudes, such as ground squirrels, chipmunks, and bears, may also risk starvation as a result of global warming. There is growing evidence to support that climate change is resulting in earlier and longer growing seasons at low altitudes, earlier migrations by some bird species, and earlier reproduction in both plants and animals.

At altitudes greater than 2,900 metres in the Colorado Rocky Mountains, where spring has not been arriving any earlier and the growing season has started later, some species' response to temperature may have a negative effect, reducing chances for survival and reproduction

[Adapted from an Earthwatch Institute report.]



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