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*is proud to support Ducks Unlimited (NZ) Inc.
in their efforts to propagate and preserve
New Zealand's rare waterfowl.*



Feeding time at the Wildfowl Trusts' centre at Welney in the U.K.

Photo Christine Reed

WINCHESTER

MORE THAN A NAME. A LEGEND.

Distributed in New Zealand By: Winchester New Zealand

No. 2/89 • ISSUE 60 • JUNE 1989

NEW ZEALAND REGISTERED MAGAZINE

DUCKS UNLIMITED
QUARTERLY
WATERFOWL JOURNAL



Flight

\$4



DUCKS UNLIMITED (N.Z.) INC.,

— FOR WATERFOWL AND WETLANDS —

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Ducks Unlimited (NZ) Incorporated is a private, charitable, non-profit conservation organisation dedicated to the preservation, restoration, creation and maintenance of wetland habitat in New Zealand, the propagation and conservation of the country's rare waterfowl, and the advocacy of wetlands as a valuable natural resource. This is achieved through six projects each with specific aims. These are: "Operation Pateke", the reduction of the threatened status of the New Zealand brown teal through the release of captive bred birds and wise habitat management; "Operation Grete", to increase the number of grey teal in New Zealand through the provision of suitable nesting habitat; "Operation Whio", the conservation of blue duck through the release of captive bred birds to expand the species range; "Operation Branta", to establish the Canada goose in the North Island as a valuable recreational resource; "Operation Royal Swan", the conservation of Mute Swan through the establishment of a captive breeding population; and "Operation Wetlands", to preserve, create and manage wetland areas through direct funding, technical assistance and public education of wetland values. The scientific study of wetlands and waterfowl is also encouraged through direct funding.

The organisation was founded in May 1974 by a group of concerned conservationists and incorporated by them in June 1975 at Wellington, New Zealand. Membership, in four categories, is open to anyone who supports the organisation's objectives. Junior membership is \$11.00 per annum, Full membership is \$27.50 per annum, Trade and Sponsor membership is \$55.00 per annum, and Life membership is \$550.00. Membership carries with it a subscription to "Flight", the official quarterly publication of Ducks Unlimited which currently reaches 2000 members and friends concerned with waterfowl conservation. Letters, manuscripts and photographs should be addressed to the "Flight" Editor. To assure prompt delivery, members should send subscription renewals and changes of address to National Headquarters at PO Box 44-176, Lower Hutt. Any views expressed by contributors in "Flight" are their own and do not necessarily constitute those of Ducks Unlimited (NZ) Incorporated.

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Cover Photo: The Shoveler Painting by
Russell Jackson in this year's raffle.

Presidents Report



Ducks Unlimited NZ on track during this time.

I am positive Ducks Unlimited NZ will only gain strength in the 90s. We have only tapped a very small potential membership compared to our overseas counterparts. There is a vital need to concentrate on the 12% of Junior members we have and I shall personally endeavour to include more of them in our field projects. We need younger persons coming on at board level, here lies our future strength.

Over the past four years I have met many friendly and generous people in my travels and through Ducks Unlimited have gained international friendships in Canada and USA which have proved invaluable.

I wish Neil Hayes, my successor, every success for the future and trust I am able to reciprocate the backup service he has provided me.

I shall endeavour to spend more time on my bulldozer creating wetlands for future generations and maybe have time to assist Bud Jones with some tree planting, and compiling a list of suitable trees for wetland planting, to enhance the environment.

In closing I thank the QEII National Trust for their support, not only on the Sinclair Wetlands but their assistance with protecting habitat areas with open space covenants.

I also thank the Department of Conservation for their input on endangered species and financial assistance with Operation Pateke, and the Sinclair Wetlands.

The Acclimatisation Society movement for their support with Home Lagoon and recently the Wairoa Lagoon area on the eastern edge of Lake Wairarapa.

The Wairoa project is rather significant because we have the unique situation where Ducks Unlimited, the Wellington Acclimatisation Society and the Department of Conservation are working together to restore wetland habitat. This augurs well for future potential projects.

Thank you all for your support.

Jim Campbell
PRESIDENT

activities to net around \$30,000.00 for habitat works.

All this means many of our members have volunteered many hours work for our push to improve wetland habitat and all those who participate in attending dinners, shoots, working bees etc are an integral part of Ducks Unlimited, NZ.

I sincerely thank all directors for the support they have given me over the past four years, and for their time and effort they so willingly contribute.

I also thank the people who have enabled my attendance at two 50th Conventions to be possible by helping to run the farm whilst we were overseas, and keeping

In this, my final report as President, I wish to highlight some of Ducks Unlimited's recent achievements.

The purchase of the Pearce Wetlands, a major step forward for wetland conservation and one of the biggest privately owned areas that has a national conservation order attached to it.

The attendance by five Ducks Unlimited NZ members at Ducks Unlimited Canada's 50th celebrations in Winnipeg.

The 1988 visit by our fellow Ducks Unlimited friends from USA and Canada.

The presentation of a \$40,000.00 cheque by the President of D.U. Canada and Chairman of the Board Ducks Unlimited Inc. at the Sinclair Wetlands Educational Centre.

The decision to employ Grant Dumbell.

The commencement of major development work within the Sinclair Wetlands, particularly the walkway to Lonely Island and the display ponds.

Bulldozing wetlands at Henley Lake area to create further habitat.

The sponsorship from the Broadlands Wildfowl Trust of \$15,000.00 plus \$10,000.00 to assist with waterfowl quarantine facilities in New Zealand.

The attendance at the Auckland Game Fair with well presented displays and a sales team, and several directors. All coordinated by Dr Grant Dumbell.

An initial attempt to establish a new roost site for brown teal on Purerua Peninsula with captive reared birds.

Successful breeding by brown teal from our captive breeding programme released on Tiri Tiri Island.

A visit to the Wildfowl Trust in the UK by Neil Hayes, Brendan Coe and their wives.

A second visit to NZ by Ritta and Herb Moulding which gave Ducks Unlimited New Zealand an opportunity to tap more of Herb's knowledge for our wetland projects.

Most recently a visit by Fred Parnell, champion duck caller USA at the National Duck Calling competitions at Palmerston North.

Four Chapters have held very successful fund raising dinners, and other fund raising

THE DUCKS UNLIMITED 18 HOLE GOLF TOURNAMENT

to be held at the THC WAIRAKEI GOLF COURSE SAT. JULY 8, '89

The format will be a straight stableford competition with ladies to play on their full handicap and off the ladies tees.

While non-club golfers are welcome to play, only those with an official club handicap authorized by their club secretary will be eligible for the championship title.

The entry fee is \$40 which covers green fees and the prize list.

Prizes will be presented at the dinner to be held at the THC Tokaanu Hotel.

TEE OFF 9.30 AM

Club, trolley and buggy hire can be arranged if any entrant so wishes. Club sharing is not permitted.

THE DUCKS UNLIMITED 18 HOLE GOLF TOURNAMENT
SATURDAY JULY 8 1989 TEE OFF 9.30 A.M.

Name and Address

CLUB

Handicap (include Secretarial endorsement)

ENTRY FEE ENCLOSED \$40

RETURN TO T.A. Caithness

32 Mawson Street, Lower Hutt

Mallard management in New Zealand

by Richard J Barker
Field Officer
Wellington Acclimatisation
Society

In the March issue of *Flight*, Neil Hayes expressed some views on the management of mallard in New Zealand. I would like to provide alternative views to some aspects of Neil's article, as well as expand on some of his ideas.

While there is no question that the mallard has had its ups and downs recently, I believe that Neil's comments exaggerate the picture somewhat. I assume that Neil's estimate of 6 million mallard was derived from the National Waterfowl Diary scheme run since 1968 by Tom Caithness. There are several points that should be noted regarding these data.

First, mallard made up around two thirds of the estimated 6 million waterfowl in the late 1970s to early 1980s, and Tom's estimate of the mallard population at this time was in fact 4-4.5 million birds. Second, the population estimates were based on an assumed harvest rate of 20%. Mallard band recovery rates in New Zealand typically range between 8%-16%. Recent work in the US indicates that the band reporting rate may be as low as 30%. In other words, for every three banded birds that are shot, perhaps as few as 1 is reported. Therefore, our harvest rates are probably at least 20%, and may run as high as 25%-45%. This would reduce population estimates further. A third point is that independent estimates of harvest in the Wellington and Wanganui Society Districts, based on random samples of licence holders, suggest that the National Waterfowl Diary scheme may overestimate by up to two times the true value.

Collectively, these factors suggest that the late 70s early 80s mallard population may have only been 2 million birds, falling to around 1.5 million in the mid 1980s.

Neil refers to reports from various areas of New Zealand indicating a "massive" decline in mallard numbers. Duck numbers are well down in Otago as a result of prolonged drought conditions. However, in the Manawatu and Southland, mallard populations are quite healthy. Information based on estimates of waterfowl harvest, and harvest per unit effort, trapping data including juvenile:adult ratios, brood counts, and other field observations indicate that in both the Manawatu and Southland the mallard population did reach a low point in the mid-1980s, however over the past 2 years populations have increased considerably. Our current projection in the Wellington Society District for the 1989 season is for a population of around 300,000 mallard up from 225,000 in 1986.

The changing fortunes of mallard in the mid-1980s provoked widespread prophecy of doom, some of which remains today. It should be pointed out that the pattern of mallard population change has followed the classical form for an animal population moving into a new environment. There are countless examples that illustrate that in a new environment, animal population levels increase rapidly, overshoot, then oscillate about a stable equilibrium, at a point somewhere below peak levels. Of course environmental variables cloud the picture somewhat, but it still looks familiar. From now on, New Zealand hunters can expect mallard numbers to closely reflect prevailing environmental conditions, in particular the amount of rain in winter and spring, and the subsequent availability of ephemeral ponds.

Neil cites "continued habitat destruction by humans. Each year more wetland hectares go down the drain" as a major factor responsible for the mallard decline. I cannot speak for the rest of New Zealand, but what significant destruction is occurring in the Wellington District? Most of what could have been destroyed has gone. While there continues a small chipping away at remaining wetlands, there is also some replacement, and there are also ironical cases where the drains used to remove

water from wet ground, provide mallard habitat, where none occurred before. I don't want to deny the existence of habitat destruction, however, I believe that claims are sometimes much exaggerated, particularly in relation to the effects on mallard.

One of the more dominant issues has been that of the effect of shooting on the resource. Much of the debate was fuelled by the early 1980s decline coinciding with a liberalisation of hunting restrictions. However, this in itself does not prove anything. Comet Halley passed close to the earth in the mid-1980s and there were an unprecedented two successive defeats for a National Party. In either case what is coincidence and what is cause and effect?

Data from the Wellington and Wanganui Societies harvest surveys show clearly that increasing bag limits from 10 birds per day to 25 + adds at most 5-6% to total harvest. Another interesting feature is that while season length varies, rest of season harvest has remained the same, despite significant variations in opening weekend harvest. At the risk of introducing another game management myth, I suggest it is probable that most hunters have a hunting satiation level. In years of low bird abundance, they hunt more intensively to kill the same number of birds. In years of high bird abundance, they lose interest in hunting once they have shot around a certain number of birds. Although we are all aware of fanatics who hunt almost every day available, it should be remembered the bulk of the harvest comes from much more casual hunters.

The effects of this would be twofold: first, making it more difficult to alter harvest levels with varying season lengths, and second, placing more pressure on the birds in years of low abundance. Regardless of exactly what happens, the point needs to be made that things are not always as they superficially seem.

A point I agree absolutely with, is that we do not understand enough about the mallard, in particular concerning dynamics. Given the importance of the mallard to New Zealand hunters, it seems strange that there has not been any significant study of elementary mallard ecology published to date.

In 1987, Acclimatisation Society staff addressed the question of gamebird research priorities and agreed on the following list:

- Developing means of predicting autumn-winter population size by late summer.
 - Determining the relationship between harvest and subsequent autumn population size.
 - Determining the main physical and biological factors that affect game productivity and survival.
 - Examining the effectiveness of existing harvest management techniques.
 - Identifying geographic management units for gamebirds.
 - Determining the economic effect of crop depredation by gamebirds.
- To implement these research priorities, the Societies need to begin collecting what I believe is the critical information necessary for effective gamebird management.
- Some index of autumn population size.
 - Some measure of the critical variables influencing autumn population size.
 - Annual measures of gamebird harvest that are accurate and precise.

iv) Annual measures of survival rate and harvest rate.

While it is very easy to identify areas of priority, it is another matter doing the work. What have Societies been doing to develop this information?

Without question, the fundamental issue is that of the relationship between harvest and subsequent population size. This question in relation to mallard has been the subject of considerable research in the US, and while their evidence points toward the mallard appearing to compensate hunting losses through reduction in non-hunting mortality, the research has been frustratingly inconclusive.

On the initiative of DoC Scientist, Murray Williams, an approach was made to Jim Nichols, US Fish and Wildlife Service, to see whether a joint investigation was possible, using the New Zealand mallard population to test the key hypotheses. In March 1988, Dr Nichols visited New Zealand to investigate the feasibility of this project with the result that US Fish and Wildlife Service will shortly submit a proposal. The likely scenario is that harvest regulations would be deliberately manipulated and the effect on survival rate monitored.

The catch is that hunters will have to accept some restrictive years, even though the restrictions are not necessary from a pure management point of view. Restrictive seasons will probably involve bag limits perhaps as low as 5 birds per day, or less, and seasons measured in weeks rather than months. Whatever the difficulties, if Societies are ever to manage the resource effectively this question must be addressed. A further benefit would be in focusing world-wide attention on the New Zealand mallard population.

To identify factors useful in predicting autumn population size first requires a measure of autumn population size, then potential predictors are correlated. Population size can be measured directly, through some sort of census, or by measuring other factors that are a function of population size. In either case, there must also be a measure of the precision of the estimate.

For a variety of practical reasons, the Wellington Acclimatisation Society has opted to estimate autumn population size by measuring harvest and harvest rate. Population size is a simple function of these two variables. Data have been collected on both these variables for three years with the project planned indefinitely.

As far as potential predictors go, the Wellington Society has only been measuring age ratio at trapping. Information from more than ten years trapping related to the National Waterfowl Diary scheme suggests this factor has some promise, however, a tightening up of methodology is needed before a better assessment can be produced. The Southland Acclimatisation Society has been evaluating the use of brood counts, a technique used overseas. With two years data, it is too early to tell how good this technique will prove, however, Southland are very optimistic.

Several Societies have been collecting data relating harvest restrictions to the size of harvest. Southland and Otago have looked at the distribution of daily hunting bags, the Wellington and Wanganui Societies have used hunter survey data to simulate the effects of lower limits on overall harvest. Whatever the method, the consensus has

been that even small reductions in harvest require large changes in limit bag. Moreover, bag limits traditionally set in New Zealand are only effective when the population level is high, somewhat ironical. In years of low bird abundance, restrictions would need to be far more severe than New Zealand hunters have traditionally experienced.

Although some progress is being made, it doesn't mean the pace is fast enough. The danger is that as bird populations return to levels that stop hunters from complaining, some of these fundamental questions will seem less urgent. While we have the information around to collect, we must collect it.

Neil Hayes comments: Feedback to date shows that my mallard piece was well read and there is widespread agreement with my thinking. It's also great to see Richard Barker responding with a good article. However, in respect of change of wetlands in the last ten years we've seen at least 1,500 hectares go down the drain in the Wellington Society's district — Te Hapai, Awarua,

Tangimati, Makereia, etc, etc, etc. Plus large numbers of smaller and equally important areas of flax swamp, raupo drains etc.



DUCKS UNLIMITED (N.Z.) INC 6th ANNUAL NATIONAL CLAY TARGET CHAMPIONSHIPS

TAUPO GUN CLUB GROUNDS
FRIDAY 7th JULY 1989—9.00am
SATURDAY 8th JULY 1989—9.30am

PROGRAMME

Friday 7th July

- 25 Tgt 1989 DU (NZ) Skeet Championship
- 25 Tgt 1989 DU (NZ) Sporting Championship
- 10 Pair 1989 DU (NZ) Double Rise Championship
- 20 Tgt 1989 DU (NZ) Sparrows Championship
- 25 Tgt 1989 DU (NZ) Single Barrel Championship

Saturday 8th July

- 25 Tgt 1989 DU (NZ) Points Score Championship
- 25 Tgt 1989 DU (NZ) Single Rise Championship
- 15 Tgt 1989 DU 5 man Chapter Teams Champs
- 50 Tgt 1989 DU (NZ) International 10 man Team shoot.

All events graded A, B & C Combined (2 grades). Sash & Silver Fern to HOA winners. Grade winners receive medals. Sash also for winning team members and HOA High Gun.

Entry \$10 per championship event, Targets 20c, Sweep \$5, HOA High Gun \$2. (All GST inc).

Postal entries accepted.

Accommodation at competitive rates available at Adelphi Motel. Your hosts: Fay and Gordon Clark. ph 87-594.

Annual Ducks Unlimited dinner and auction held at THC Tokaanu on Saturday evening. See notice re bookings in this issue.

Shoot Organiser: John Coatham R.D.1 PUTARURU ph (0814) 25-779



Parasitic laying among Grey Teal using artificial nesting sites

Dale Towers

Introduction

It is well known that many birds are rather "careless" in their egg-laying habits and frequently lay one or more eggs in the nest of another bird, of the same or different species, while still caring for their own. This behaviour is known as "brood parasitism", or egg dumping, and can be divided into interspecific parasitism and intraspecific parasitism. Interspecific parasitism involves the hen of one species laying her eggs in the nest of a hen of another species. The classic example of this is the cuckoo. Intraspecific parasitism is less common and involves hens laying their eggs in the nests of other hens of the same species. Of the birds involved in intraspecific parasitism, the habit is most frequent among the family Anatidae (Friedmann, 1932) and is the type of parasitism being investigated in this study.

Several previous investigations of waterfowl (Weller, 1959; Sugden, 1980; Andersson and Eriksson, 1982) have revealed that the degree of intraspecific parasitism is influenced by factors such as population and nest densities, the availability of suitable nesting sites and these with which host nests can be found by the "egg dumping" hen. These studies have found that parasitism can result in reductions in clutch size, nesting success and egg hatchability and, therefore, an overall reduction in the population's productivity. In contrast, research by Morse and Wight (1963) has shown that intraspecific parasitism, among populations of Wood Ducks, has actually increased productivity by lifting the number of day-old chicks introduced into the population.

In 1974, Ducks Unlimited began "Operation Grete", with the objective of increasing Grey Teal numbers by supplying suitable nesting sites. As Grey Teal are hole nesters, nest boxes were erected in areas where teal numbers were relatively high. One such area is located at Pokeno, south of Auckland, on Tony Flexman's property where an earlier investigation (McFadden, 1983) indicated that some degree of intraspecific brood parasitism was occurring among the birds using the boxes. However, no conclusions as to the effects of this parasitism could be determined.

With this in mind, it is the objective of this study to determine what overall effect the intraspecific parasitism has on the breeding dynamics of the teal using Flexman's pond, and the factors affecting the behaviour.

Study Area

The pond on Tony Flexman's property near Pokeno, is the centre of the research. At this location approximately one hundred nest boxes have been erected, and over recent years there have been very high rates of usage by Grey Teal. This site has the ad-

ded advantage of having existing data available in the form of the work previously undertaken by McFadden (1983).

Proposed Research Programme

This programme will be split into two sections. The immediate emphasis will be to assess the degree of parasitism occurring among the Grey Teal using the nest boxes, and to gather basic information about the behaviour. To achieve this, reliable methods of detecting parasitism will be developed and regular surveys of the boxes will be undertaken to establish the percentage of the nests being parasitised within the study area. The effects that parasitism has on clutch size, nest success and hatchability will be measured by comparing those nests not parasitised, with those that have been. It is planned to undertake this preliminary work during the 1988 breeding season.

The second section of the programme will be undertaken during the 1989 breeding season when further data will be collected on the effect of parasitism on clutch size, nest success and hatchability. This will allow for comparisons to be made between the two seasons. Experiments based on the 1988 observations will also be undertaken during this second season, and will include an in depth investigation into the effect nest box availability has on nest parasitism. It may be necessary therefore to erect further nest boxes in stands of differing densities around the pond.

From the recorded data, trends and patterns relating to parasitism and its effect on the population as a whole will be identified, and the overall extent of any negative or positive effects determined. Once the effect of parasitism on Grey Teal breeding dynamics has been determined it can then be incorporated into future Grey Teal management strategies that are based on nest boxes.

Summary

The main purpose of this research proposal is to provide a broad overview of the likely path that the research will take in investigating nest parasitism among Grey Teal using Ducks Unlimited nest boxes. It is intended that the programme will run for two and a half years, allowing observations from at least two breeding seasons (1988 and 1989 breeding seasons).

Tony Flexman's Grey Teal Factory



Section 1 — June-December 1988

1. First breeding season.
2. Develop positive methods for reliable identification of parasitism among Grey Teal.
3. Survey nest boxes to gain an indication of the degree of parasitism occurring among Grey Teal.
4. Investigate the effects of parasitism on clutch size, nest success and hatchability.

Section 2 — June-December 1989

1. Second breeding season.
2. Repeat studies on the effects of nest parasitism with regard to clutch size, nest success and hatchability.
3. Investigate the effects of nest availability on the level of parasitism among teal. This may entail manipulating nest box numbers within the study areas.
4. Undertake any experiment/trials resulting from the first year's investigations.

To date, very little research has been undertaken on intraspecific nest parasitism among southern hemisphere waterfowl. Even less has been completed on the effect of providing artificial nesting sites in relation to this behaviour. Therefore, the proposed investigation will not only yield valuable information with regard to "Operation Grete", but it will also add new information to our understanding of Grey Teal biology in New Zealand and contribute to an area of waterfowl research that has received little attention in this country.

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- Dale Towers, Biology Department
University of Waikato
Private Bag
HAMILTON

15th Annual Conference of Ducks Unlimited (NZ) THC Tokaanu 8th & 9th July 1989

Members, we again need your vital support to ensure that this year's conference raises more money than ever before and sets a new record. Come and participate in DU's major fund raising and social event of the year.

The past year has seen DU and its members create numerous wetlands up and down the country. But there is much work to be done, and very little can be achieved without a good income. To date each wetland that has been created, or restored, by DU has resulted in further enquiries from farmers who have heard about our activities. It would certainly be great to have all the money readily available so that we could make real progress in our efforts to replace a much larger percentage of the 90 % of wetlands lost this century through drainage.

This coming year sees further expansion of DU activities and we need your support to ensure that DU remains No. 1 in waterfowl and wetlands.

Diane Pritt, Smiths Road, Ohakune, is co-ordinating registrations for the annual conference and if you haven't already booked in with her please do so pronto — phone Ohakune 58016 (Std 0658). There will be a slight increase in this year's registration fee and the cost is \$50/head. For the 'social event of the year' this is a relatively modest cost and registration includes the superb THC smorgasbord dinner, plus coffee and biscuits on Sunday morning.

Don't forget that there is a limit on seating for the Annual Dinner — 110 places. (At the time of writing — mid May — 85 bookings had already been made).

All auction items should be notified to: Glenys Hansen R.D. 3 Eketahuna

Friday 7th July and Saturday 8th July 1989

The 6th DU (NZ) National Clay Target Championships are to be held at the Taupo Gun Club, commencing at 9.00 am on Friday and 9.30 am on Saturday. The full

programme of events is shown elsewhere in this issue.

Saturday 8th July 1989

Field Trip Hinemaiaia Dams

Please assemble in the THC Tokaanu foyer at 9.30 am for what will be an exciting 3 hour field trip to the dams which provide Taupo with electric power. These dams are the home of many species of waterfowl and its only rarely that people are able to visit the dams.

Annual Conference — Saturday 8th July at the THC Tokaanu

- Commencing at 1.30 pm
1. 1.30 pm Registration — \$50/head
 2. 2.00 pm Welcome and Apologies
 3. 2.05 pm Minutes of the 1988 AGM and Matters Arising
 4. 2.10 pm President's Report and Presentation of the Financial Report for 1988 — 89
 5. 2.20 pm Appointment of Auditors for 1989 — 1990
 6. 2.25 pm Election of four (4) Directors from the floor of the meeting.
 7. 2.30 pm Report on operation "PATEKE" (Neil Hayes)
 8. 2.35 pm Report from Dr Grant Dumbell on his 1st year of work for Ducks Unlimited
 9. 2.50 pm Presentation of the Brown Teal Breeder of the year Award
 10. 3.00 pm Guest Speaker, Kerry Muller, Director of the Wellington Zoo, will talk about his work with wildlife.
 11. 3.45 pm Break for President's "SHOUT"
 12. 4.00 pm Presentation of the Bill Barrett Trophy
 13. 4.10 pm Sinclair Wetlands Manager's report (Horrie Sinclair)
 14. 4.25 pm Report on operation "WETLANDS" (Brendan Coe)

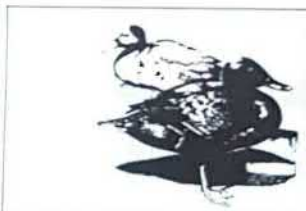
15. 4.50 pm Report on operation "WHIO" (Neil Hayes)
16. 4.55 pm Report on operation "ROYAL SWAN" (Jim Glover)
17. 4.40 pm EDITORIAL Report (Brendan Coe)
18. 4.45 pm General business followed by refreshments
19. 7.00 pm Annual Dinner
20. 8.15 pm Annual Auction
21. 9.30 pm Refreshments and socialising

Sunday 9th July

9.30 am Coffee and biscuits and a couple of hours of viewing Trade displays

Ducks Unlimited (N.Z.) Inc 6th Annual National Clay Target Championships

- TAUPO GUN CLUB GROUNDS
FRIDAY 7th July 1989 — 9.00 am
SATURDAY 8th July 1989 — 9.30 am
PROGRAMME
Friday 7th July
1. 25 Tgt 1988 DU (NZ) Skeet Championship
 2. 25 Tgt 1988 DU (NZ) Sporting Championship
 3. 10 Pair 1988 DU (NZ) Double Rise Championship
 4. 20 Tgt 1988 DU (NZ) Sparrows Championship
 5. 25 Tgt 1988 DU (NZ) Single Barrel Championship



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Building and erecting Ducks Unlimited Grey Teal nest boxes.

by Dr Grant Dumbell Ph.D

Introduction

Since its inception in New Zealand, Ducks Unlimited has been advocating the provision of nest boxes as a way of increasing the number of Grey Teal in the country. This project, known as "Operation Gretel", was the first project undertaken by DU in New Zealand and has already seen over 900 nest boxes erected in different parts of the country.

As Grey Teal are usually hole nesters, there is a common belief that their numbers in New Zealand are limited by a shortage of nest sites, compared with Australia. Therefore, the provision of artificial nest sites, in

the form of boxes, is a potentially powerful management technique for increasing both the number and range of Grey Teal. Probably the most successful example of this is the management of Carolina Wood Duck in North America, however, nest boxes are also used successfully for the management of other species in both North America and Europe.

The attached plans cover the construction, mounting and servicing of two different designs of Grey Teal nest box. The front entry box is the type most widely used, however, the alternative side entry box may be preferred by some people as it is

possibly more weather and predator proof. Its main disadvantages are the extra material, and hence cost, required to build it, and its more complicated fabrication.

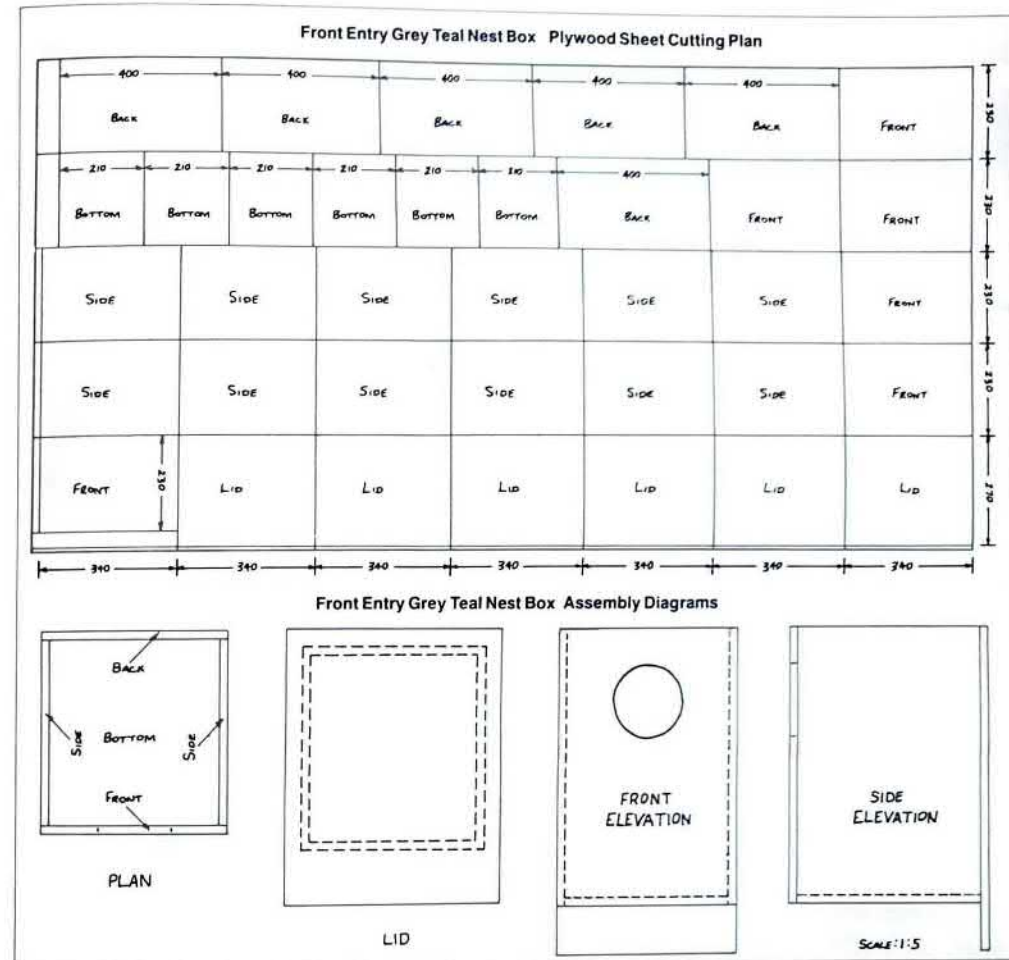
The plans for both designs are based on the use of 2400mm x 1200mm sheets of 9mm plywood which is suitably treated for exterior use. For each design there is a cutting plan, to ensure the correct number of components are cut from each sheet, while minimising waste, and an assembly diagram, to illustrate correct overlaps. Thicker plywood may be used for a longer life, however, this will entail some dimensional alterations. Suggestions for mounting each box type are also included.

Construction

The dimensions on the cutting plans are all in millimetres, and are finished sizes. This means that most of the waste shown around the edges of the sheets will be consumed by the thickness of the saw blade multiplied by the number of cuts made. One sheet of plywood will yield enough components to build six front entry boxes or four side entry boxes.

Galvanised flat head nails, or non-corroding screws, should be used to assemble the boxes and for added strength, lengths of 20mm square timber can be used in the corners of the boxes. This will provide something more substantial for the nails or screws to hold into and will help prevent the ply splitting when nailing or screwing into the edge of a component. To minimise the amount of reinforcing timber needed, it should be used along the top and bottom edges of the two sides on the front entry box, while on the side entry box it should be placed vertically along both edges of the front, and on the back, where the sides join. In both cases allowances will have to be made for the recessed bottom.

The entry hole of the front entry box should be 90-95mm in diameter as anything bigger could allow larger waterfowl to enter the box and evict the Grey Teal. The centre of the hole should be on the centreline of the front, about 90mm from the top edge. A strip of chicken wire netting must also be fixed on the inside of the front, from the bottom edge of the entry hole to the bottom of the box. This allows the ducklings to climb out of the box once the female decides to lead them away.



The side entry box is not as deep as the front entry box so it is easier for the ducklings to escape. However, because plywood has a smooth finish to it, a strip of wire netting should also be fixed on the inside of these boxes as well.

On the assembly diagrams, the boxes are shown with the lids removed. The dashed detail shows the suggested lid overlap of the box's four sides, which will help keep the box weatherproof. When fitting the lid, which has to be removable, short lengths of the 20mm square timber can be fixed to its underside to fit tightly inside the four vertical sides of the box. The lid can then be weighted down with something heavy, or be secured with screws.

The bottoms of both box designs are fully recessed and holes may be drilled through them to allow the drainage of any water which does manage to get in. If required, the side entry box can be assembled with either a left or right entry by simply rotating the back and swapping the two sides.

Mounting

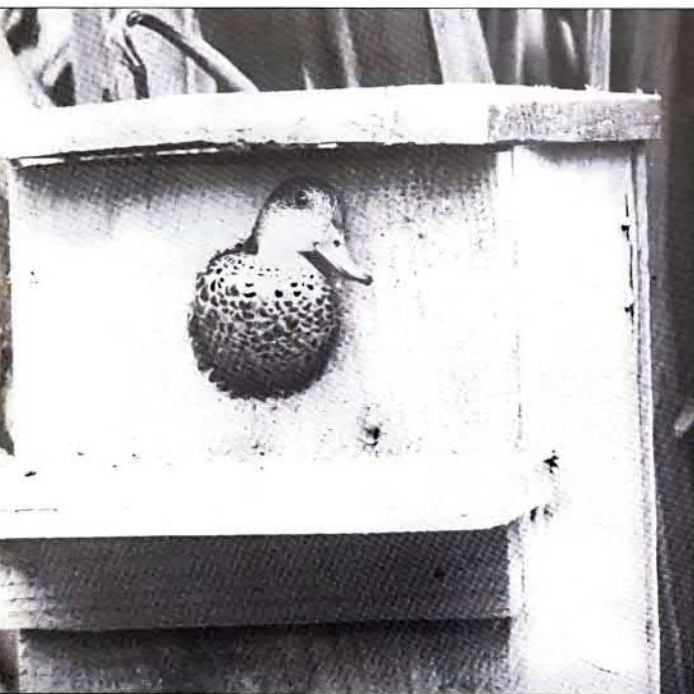
Boxes should be securely mounted on a pole, with the bottom about 1m above waterlevel. If necessary, allow sufficient clearance for the pond's waterlevel to rise during floods. Poles should be driven into the bottom of the pond, in open water, clear of overhanging vegetation as weed mats and overhanging branches can give predators access to the boxes. At the same time, it is beneficial to locate the boxes in the lee of tall vegetation to provide them with shelter. Boxes can be erected in lines or small groups, however, they should not be closer than about 4-5m as neighbouring birds can provide sufficient disturbance to lead to nest desertion. As a result, two boxes cannot be erected back to back on the same pole.

Boxes can be mounted by simply nailing or screwing them to the pole permanently, however, there are advantages to be gained from mounting boxes in a way that will allow them to be easily removed for servicing. The use of half round poles will also

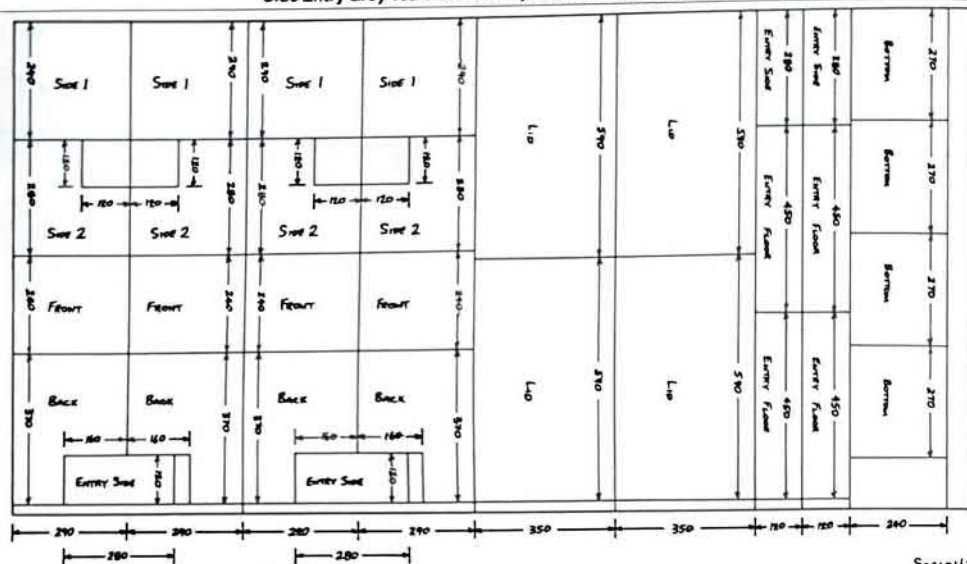
give a flat surface to mount the box on to.

Mounts can be made out of 50 x 50mm tanalised timber, such as fence battens. For the front entry box a 230mm length of timber should be fastened within 10mm of the top edge of the back and should be drilled with two vertical holes to carry locating pins. On the pole a second 230mm length of timber should be fastened with its top edge 50mm below the top of the post. This should also be drilled with two vertical holes corresponding to those on the box mounting, however, they should remain blind. A short block should also be fastened further down the post with its top edge 340mm below the top of the post. The box can then be mounted by resting it on the top post mounting and dropping long nails through the holes as locating pins. The box can then be secured by nailing or screwing through the extended back into the block.

The side entry box can be mounted in a similar way, however, the mounts should be 260mm long and only extend across the

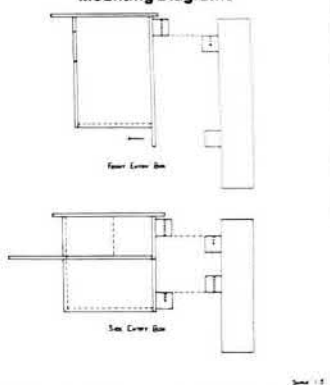


Side Entry Grey Teal Nest Box Plywood Sheet Cutting Plan

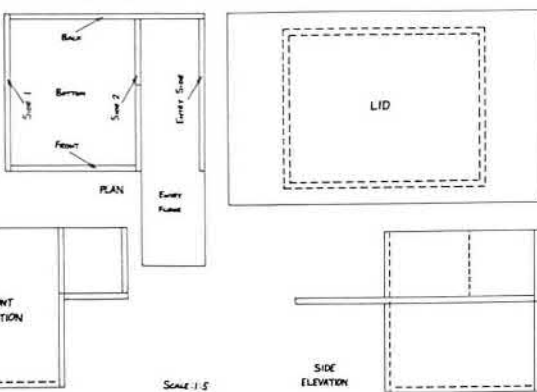


SCALE 1:10

Front and Side Entry Grey Teal Nest Boxes Mounting Diagrams



Side Entry Grey Teal Nest Box Assembly Diagrams



SCALE 1:5

back of the main nest box, not the side entry. A different bottom mount will also be needed. Instead of a block, a further 260mm mount should be fastened to the box close to the bottom edge of the back. A second mount should be fitted to the post in such a position that the top box mount fits over the top post mount while the bottom box mount fits tightly under the bottom post mount. Both the top and bottom mounts can then be secured using simple locating pins, as on the front entry box, yet these still allow the box to be easily removed from its post.

Servicing

Grey Teal begin prospecting for nest sites in late May and June, and eggs can be expected from July onwards, so long as water conditions are suitable. Nesting may also continue into December, or even as late

as January or February in exceptional years. However, because waterfowl do not carry nesting material to their nest site, the boxes must be furnished with suitable material, such as dry hay or straw, before the nesting season.

Once Grey Teal have finished using the boxes it is usual for Starlings and Mynas to take them over, and as these birds do carry nesting material to their nest site it is common to find a box completely filled with dry grass once they have finished with it. Therefore, the boxes will need to be cleaned out and provisioned with fresh nest material each year. This is best done about May as the Starlings and Mynas should have finished nesting yet the Grey Teal should not have started. An annual clean out will also reduce the risk of disease and parasite infestation for the Grey Teal. The bottom of the box should be covered with 50-

75mm of nesting material, enough for the female to fashion it into a nest bowl without the eggs having to sit on the bottom of the box.

If all goes well, the boxes will start being used by Grey Teal as soon as they have been erected. However, if pinioned birds are present they will need to be given access to the boxes via a ramp. This can be made simply out of a piece of 100 x 25mm timber either covered with wirenetting, or having shallow cross cuts in it, for the birds to grip on to as they climb up to the box entrance. The ramp should extend down to water-level, but remember this could give predators entry to the box as well.

For further information about Ducks Unlimited's projects please write to: The Secretary, Ducks Unlimited (N.Z.) Inc, P.O. Box 44-176, Lower Hutt.

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 1989

	1989	1988
	\$	\$
EXPENDITURE		
Administration:		
- Audit & Accountancy	1000	2000
- Advertising & Publicity	1911	565
- Bank fees & C/C Comm	1073	4198
- Printing & Stationery	663	13675
- 'Flight' production	6074	2884
- Tolls & postage	4342	8427
- Travelling & Bd meetings	4583	4801
- A.G.M. expenses	3838	1521
- Interest	17876	
TOTAL ADMINISTRATION EXPENSES	43360	38071
Projects:		
- 'Whio'	12	21226
- 'Patoke'	4251	12235
- 'Wetlands'	4783	14357
- 'Sinclair Wetlands'		500
- operating expenses	13669	
- development	12778	
- 'Study Grants'	1200	
- 'Pearce Wetlands'		272
- Professional Services	10152	843
- 'Branta'		
- 'Royal Swan'		
TOTAL PROJECT EXPENSES	46845	49433
Research	12500	
General:		
- International Visitors Exp	2651	
- Gifts D.U. Canada	2744	
- National Raffle 1989	1364	
- Duty & Freight O'sea gifts	1147	
- Sundry	140	307
	8046	
Depreciation	6187	4727
TOTAL EXPENSES	116938	92538
Excess Income/Expenditure	108520	100595

DUCKS UNLIMITED (NZ) INC STATEMENT OF ASSETS AND LIABILITIES AS AT 31 MARCH 1989

	1989	1988
	\$	\$
CURRENT ASSETS		
Bank - Westpac	10040	400
Term Deposit - Westpac Hamilton Chapter	6700	6700
Term Deposit - Westpac		13351
Sundry Debtors	3160	25000
Stock on hand	6583	5305
Investment - Ward McCulloch	20000	
G.S.T. Recoverable		14779
	46483	65535
CURRENT LIABILITIES		
Term Loan - Westpac (secured)	20000	70000
- Sinclair Wetlands	20000	44292
- Pearce Wetlands		
Bank - Westpac Sinclair Wetlands	353	
G.S.T. Owning	2332	26291
Interest Accrued		
Sundry Creditors		
Stacey, Smith & Gibson Nominees	62000	
- Pearce Wetlands 1st Mortgage	13000	
- Pearce Wetlands 2nd Mortgage		
	117685	140583
WORKING CAPITAL (DEFICIT)	(71202)	(75048)
FIXED ASSETS see schedule	413539	308865
NET ASSETS	342337	233817

ACCUMULATED FUNDS AND RESERVES

	1989	1988
	\$	\$
Balance 1 April 1988	160817	60222
Excess of Income over Expenditure	108520	100595
Balance 31 March 1989	269337	160817
Revaluation Reserve	73000	73000
	342337	233817

Treasurer *[Signature]* 6/4/89

President *[Signature]*

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 1989

	1989	1988
	\$	\$
INCOME		
Subscriptions - Life	8000	3278
- Full	18085	8829
- Junior	656	128
- Trade	780	830
- Sponsor	2050	914
- Supporter		10
TOTAL SUBSCRIPTIONS	29571	13874
Donations - A.G.M.	17359	132587
- Chapter	17319	7883
- Sundry	20170	
TOTAL DONATIONS	54848	40470
Donations Sinclair Wetlands		
- D U Canada	40264	
- QE II Nat Tr	50000	25000
- NZ Lottery	25000	
- Sundry	4231	81372
TOTAL DONATIONS SINCLAIR WETLANDS	119495	106372
PLUS OTHER INCOME		
Grazing - Sinclair Wetlands	2855	3249
Profit - National Raffle	5135	6863
Advertising Income 'Flight'	1548	1700
A.G.M. Fees	4618	
Profit - 'Royal Swan' project	363	
Profit - Sales Item Trading A/c	4235	(4944) loss
Grant - Department of Conservation		18000
Interest	2790	7549
TOTAL INCOME	225458	193133

* includes AGM Fees

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT SINCLAIR WETLANDS FOR THE YEAR ENDED 31 MARCH 1989

	1989	1988
	\$	\$
INCOME		
Grazing	2855	
Sundry Donations -	968	
(These are donations received on sight from visitors)		
National Ins. Co. donation	1263	
TOTAL INCOME		5086
LESS EXPENDITURE		
Managers Allowance	5000	
Rates	2273	
Vehicle Expenses	808	
Telephone	904	
Electricity	431	
Grain	80	
Meeting expenses - air fares	515	
R/M Plant & Machinery	521	
Fencing Equipment	260	
Legal Expenses	594	
Insurance	1298	
Executive visit - air fares	530	
Sundry	455	13689
Interest on Term Loan - Westpac		10694
TOTAL EXPENDITURE		24363
TOTAL EXPENDITURE/INCOME (deficit)		(19277)

* \$1263 insurance was donated back to DU by National Insurance Co.

DU RECEIVES SUBSTANTIAL GRANT FROM THE LOTTERY BOARD

To assist with its work at the Sinclair Wetlands DU has received a grant of \$25,000 from the NZ Lottery Board. DU members will be aware that DU aims to create NZ's major environmental attraction at the wetlands and that an impressive Educational Centre has already been built on the property, which was gifted to Ducks Unlimited in 1984 by H.A. Sinclair MBE. The wetlands are ranked in the top ten of privately owned wetlands.

The total cost of the project will be around \$500,000 and includes, captive waterfowl collections, walkways to hides overlooking the wild wetlands, viewing lounge, tea rooms, research facilities, picnic areas, and so on.

The wetlands are some 310 hectares in size and support nearly 70 species of birds, including many rare wetland birds, such as, the fern bird, marsh crake, spotted crake, bittern, NZ Scaup and brown teal (in small numbers).

The Lottery Board support for DU's work represents a very significant contribution to the project and should ensure that the complex is fully open to the public later this year.

FURTHER SUBSTANTIAL FUNDING RECEIVED FROM THE QEII NATIONAL TRUST

DU's partner in managing the Sinclair Wetlands, the QEII National Trust, has made a further substantial contribution to the Sinclair Wetlands programme by recently presenting DU with a cheque for \$15,000. This brings the National Trust's financial contribution to the project to \$75,000 — a quite magnificent input. Of course, the Trust has also made significant contributions in other areas, a major one being in the preparation of the Sinclair Wetlands Management Plan — copies of the plan are available from DU for \$20 per copy.

UCKLAND ACCLIMATISATION SOCIETY GAME FAIR

Ducks Unlimited participated in a highly successful Game Fair which was held at Clevedon, near Auckland, on the 25th & 26th of February. The fair was organised by the Auckland Acclimatisation Society and the theme of the fair was wildlife habitat. Over 30,000 people attended and DU's stand, which included a display of seven species of live waterfowl, attracted considerable attention and was considered by many to be the fair's most interesting stand.

Grant Dumbell, aided by the Auckland Chapter committee, did sterling work in beating DU's stand into shape. Mark Newcomb also made a major contribution by producing an impressive display of illustrations depicting DU projects and we thank his company — Neville Newcomb Reprographics, of Auckland — for their outstanding support.

The seven species of waterfowl were courtesy of Neil Hayes who took them from Wainioma to Auckland for the weekend. Diane Pitt and Glenys Hansen also made the journey north and did a totally professional job in organising DU sales and



Glenys, Diane & Grant at the Game Fair

recruiting new members. Over \$2,500 was grossed in sales, ten new members recruited and DU gained some extremely valuable publicity over the two days.

DU congratulates the Auckland Society on the success of the Game Fair and looks forward to the next one.

MEMBERSHIP

Renewal subscriptions have been coming

Jersey Wildlife Preservation Trust Training Programme

by Sue Anderson

The ten week training course I attended at the Jersey Zoo consisted of four weeks practical bird section work, two weeks on each of the reptile section and the marmoset and bat section, and a further two weeks to carry out an independent research project.

This practical work programme was different to that quoted in my sponsorship application and was arranged following a request in my course application to be able to concentrate on sections that would be relevant for possible future work with New Zealand's native species. While I did not work on the large mammal sections, many interesting details were picked up in conversation with staff and other trainees.

Practical animal section work involved being with staff doing their normal routines, helping to prepare food, cleaning enclosures, and such like. While this work was very interesting, the main benefit was from the time spent with the staff, all with differing backgrounds and experience, and being able to discuss various topics and hear other different points of view.

Two afternoons each week were set aside for lectures. The lectures covered a variety of conservation issues and specifically zoo-related topics, such as education in the zoo, animal welfare, population genetics, funding/budgeting, and research methods both in captivity and in the wild.

Access to a good general library in the Training Centre was available at all times (including evenings), as was the most valuable

resource — files containing papers on species held at the zoo, species held in captivity elsewhere and in the wild, many different conservation issues, and all aspects of captive breeding. Access was also available to the veterinarian's library, and to the files on individual specimens held at the zoo. There was also a video library with many videotapes of wildlife/conservation documentaries.

The research project I carried out was a survey and analysis of the causes of mortality in four of the rarer avian species held at the Jersey Zoo (Meller's duck, white eared pheasant, pink pigeon, and Bali starling).

On the last day of my training course I sat a written examination to complete Part 1 of the Diploma in Endangered Species Management course offered by Kent University. Part 2 involves 12 months of research, with a further 12 months allowed for writing up the thesis. My research will be carried out here at the National Wildlife Centre, and will be a nutritional analysis of the artificial diets of our native avian species. It is hoped it will result in a detailed analysis of the diets currently provided, and recommendations for the improved future nutrition of native bird species in captivity.

I feel that my participation in this training course has been very worthwhile, both career-wise and personally. I have gained a lot from this learning opportunity, and have many ideas I hope to be able to incorporate in my work for the Department of Conservation.

I would like to take this opportunity to thank your organization once again for your assistance in making my attendance on this unique course possible.

with silent auctions, main auction and annual dinner. A net income of just over \$3,000 was raised during the evening.

3 days later, on Saturday 28th, the Wellington Chapter held a simulated field shoot at the Hutt Valley Gun Club. The shoot was attended by 108 shooters and the day netted just over \$2,000 for DU projects. Much of the day's success can be attributed to the very generous donation of prizes, and prizes down to eighth place in four grades was possible. Outstanding support by way of prizes was received from — Winchester NZ Ltd., Kilwell Sports Ltd, Hooson Industries, Hayes & Associates, Levin Sports Centre, Andy Tannock's Hunting & Fishing, and Rod & Rifle magazine. Ducks Unlimited sincerely thanks these companies for their support and strongly recommends that DU members do, in turn, support these firms at every opportunity.

DU would also like to record its sincere thanks to the Hutt Valley Gun Club committee for making the highly successful shoot possible.

NEW BOOKS AVAILABLE

A new book entitled "DUCK SHOOTERS — SPORTSMEN & CONSERVATIONISTS" has just been added to the DU Sales Department, as has the "READERS DIGEST COMPLETE BOOK OF AUSTRALIAN BIRDS". Prices on these are \$22 and \$85 respectively, including GST & Postage.

The Duck Shooter's book has been written by DU member Kerry Butler and it is therefore not surprising that as Kerry is very familiar with DU's work, DU gets some great coverage in the book. Kerry does not, however, agree with DU's release of Canada geese in the North Island — even though it's now obvious that DU has provided another game bird!

The book discusses many thought provoking philosophies relating to duck hunting and game bird management, including — Management decisions, pond building and habitat, etiquette, limit bags, season lengths, and so on, plus some general thoughts on — the use of dogs, decoying, memorable moments, awareness of what it's all about, and so on.

The Readers Digest — Complete Book of Australian Birds is a quite magnificent volume of some 640 pages and covering every species of bird found in Australia. The book follows a similar pattern to its NZ equivalent, with a superb photograph of the bird, followed by a comprehensive run-down on the bird's biology and distribution.

This is a book which has rarely been offered in NZ and is a must for DU members as it covers all the waterfowl present in Australia.

Protection of the Manganui-teao River

A national water conservation order for the Manganui-teao River in the Central North Island has been confirmed by the Government.

The order preserves the upper reaches of the river and its major tributaries such as the Mangatururu and the Makarete in their natural state. This complements the protection afforded the land adjacent to these tributaries in Tongariro National Park.

The remainder of the Manganui-teao River, the Orautoha Stream, and the lower Waimarino Stream are given a high level of protection by the order. No water rights for damming or hydro-electric power development will be permitted, although some limited water is potentially available for irrigation.

Provision is made for the continued operation of the Orautoha Power Station.

Conservation revamp aims at delegating

The new structure of the Conservation Department would have 14 conservancies instead of the present eight regions and 54 districts. Conservation Minister Philip Wood laston said recently.

The changes would take effect from July 1 and merge the functions of the present district and regional offices, he said.

New conservancies centred on Wellington, Napier, Tairāngi, Gisborne, Whangarei, and Invercargill would be in addition to the existing Auckland, Waikato, Bay of Plenty, Wanganui, Nelson/Marlborough, Canterbury, Otago, and West Coast offices.

Mr Woodlaston said the new structure was the first step toward implementing reorganization recommendations from a review by Coopers and Lybrand.

The review called for more delegation of administrative and financial responsibilities and a much smaller head office.

Boundaries were fairly close to those recommended by the Local Body Review Commission but differed where necessary.

The conservancies will be Northland, Hauraki, Waikato, Bay of Plenty, Tairāngi/Tairāngi, East Coast, Hawkes Bay, Wanganui, Wellington, Nelson/Marlborough,

West Coast, Canterbury, Otago, and Southland.

Wellington will merge the Raukawa and Wairarapa districts and include the Tararua, Rimutaka and Haurangi forest parks, Lake Wairarapa, and Kapiti and Mana Islands.

Wanganui will have Whanganui and Eymont national parks and the Rangitikei River system but not the Kaimanawa forest park, which will be part of Tongariro/Tairāngi.

East Coast and Hawke's Bay will include the Urewera national park, Mahia Peninsula, and the Raukumata, Kaweka, and Ruahine forest parks.

Nelson/Marlborough and West Coast will cover five national parks, Abel Tasman, Nelson Lakes, Arthur's Pass, Westland, and Paparoa, the Marlborough Sounds maritime park and the North West Nelson and Victoria forest parks.

Lake Wairarapa National Water Conservation Order

A national water conservation order for Lake Wairarapa has been confirmed by the Government.

Originally applied for by the Acclimatisation Societies in 1964, the draft order had been objected to by two parties, but after consultation they and other parties had agreed to a minor amendment.

The order will protect the outstanding wildlife habitat values of the lake by prohibiting the Wairarapa Catchment Board from granting water rights that would significantly diminish these values.

All existing water rights will be able to be renewed, and provision is made for the continued operation of the barrage gates at the lake outlet.

Fenn Traps

John Dyer's excellent article on trapping predators certainly did the trick and within one week of the last FLIGHT appearing in print our stocks of Fenn traps had disappeared. However, DU has another large shipment on order and these should arrive in late July. This time we have ordered the slightly larger Mark VI version and they will be offered at \$28 each, including GST & Postage. Place your orders now for prompt delivery when the shipment arrives.

1989 National Raffle

The 1989 National Raffle tickets will be in the post to each member during June.



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The first prize of an original painting of a pair of NZ Shovelers, by Russell Jackson, is quite magnificent. The other prizes include, a limited edition waterfowl print, camera, binoculars and books. Please support this major habitat fund raising project by returning the butt of your raffle tickets, with your cheque, on receipt of your tickets, which will again be \$2 each or \$10 for a book of twelve tickets.

A duck's eye view of the world

Birds are renowned for their visual skills, but do any achieve completely panoramic vision? Although popular wisdom suggests that many do, none has ever been investigated in the laboratory. Now, Graham Martin of the University of Birmingham has found that at least one species, the mallard (*Anas platyrhynchos*), really does enjoy a panoramic view of its surroundings.

Martin used an ophthalmoscope to measure the visual fields of his ducks. This device directs a beam of light into the subject's eye along the line of sight of the observer, who sees a reflection from the subject's retina. To survey an animal's visual field, the observer simply moves around the immobilised creature and notes the point at which light is no longer reflected. That position marks the boundary of the retina — and so the field of view.

Martin's results reveal that the mallard's visual field completely encircles its head. Without moving, it can keep an eye not only on the entire horizon but also on the full celestial hemisphere. As the fields of view of the two eyes overlap, the duck also manages to view a narrow vertical strip of space through both eyes. This strip (the binocular field) is about 20 degrees wide and runs right the way over its head from front to tail.

The bird's bill lies just at the boundary of the binocular field, where vision may not be of the highest quality. In this respect, the duck differs sharply from the pigeon, whose bill falls well within its binocular field. The contrast probably reflects the pigeon's need to make accurately directed pecks at food and the mallard's less precise method of feeding on watery vegetation.

Martin argues that the mallard's feeding habits have freed it from constraints on the position of its eyes. That freedom has allowed it to create the panoramic visual field. As a result, the mallard, which effectively has eyes in the back of its head, can detect predators approaching from any quarter.

(courtesy NEW SCIENTIST)

THREAT TO BROWN TEAL ROOSTSITE

It has come to Ducks Unlimited's attention that the Auckland Education Board is seeking to designate further land on Great Barrier Island for school development, only this time the proposed site will displace a small resident population of brown teal. The site is in Tryphena and is wanted for the relocation of the existing Mulberry Grove primary school about 2 km away. If the development goes ahead, brown teal breeding habitat will be turned into a playing field, while the drainage required to make the site suitable will adversely affect feeding areas. The land in question is privately owned and

its trustees are objecting to the proposed designation on a number of grounds, including brown teal. If the Education Board are successful it will represent another small step in the incipient decline of brown teal, something Ducks Unlimited has been working to halt since 1976. We are offering as much assistance as possible to the objectors but wonder if its the Education Board that needs educating.

Membership Renewals and Competition

Up until the end of April, 240 members had sent us their membership renewals, which is 27% of those outstanding. Membership has also grown by 50, partly due to early returns from the membership competition. However, nobody is yet close to the numbers needed to win the prizes so it is still wide open. Remember we must have the returns no later than 5 July, in time for the A.G.M.

The winner of the lucky draw, for the case of Ducks Unlimited labelled wine, was: Mr R C Burns
Tiraumea
RD 3
Eketahuna

Your case of wine is on its way to you. Please keep the renewals coming, as the money that we have to spend to remind everyone again is money that could be spent preserving wetland habitat.

Forestry Wetlands

Ducks Unlimited Hamilton member Merv Pratt has recently instigated a joint project with Tasman Forestry to develop a wetland area in pine forest north of Taupo. Tasman recently acquired the area from NZFP and are keen to see it enhanced with areas of open water for waterfowl. It is too wet for forestry and already supports wetland birds such as fernbirds. By either damming or digging areas it will be possible to create open water, and a preliminary field investigation has already been completed so overall planning can be started. Grey teal nest boxes will be erected in the future and the Broadlands Wildfowl Trust has already released some mallards onto the existing small ponds. This project will be a good example of a major land user putting something back into habitat for what it has taken out in development and Ducks Unlimited applauds Tasman Forestry's responsible attitude to it.

Auckland Chapter Dinner

The Auckland Chapter held its first fundraising dinner auction since 1986 at Heritage Park, on Wednesday 26th April. The dinner, which included Ducks Unlimited's specially labelled wine, was followed by the main auction, while a silent auction ran throughout the evening. There was spirited bidding on a variety of items, ranging from limited edition prints, decoys and knives, to wall mirrors, T-shirts and perfume. A total of \$4000 was raised throughout the evening. Special thanks must go to all the donors of auction items, who helped make the evening a success.

The Auckland committee would like to thank those who attended the evening, especially Laurie McEntee who filled in as the auctioneer at the last minute. With such a strong start, the future looks bright for Ducks Unlimited in Auckland.

Letters

Dear Sir,

In references to Anne Graeme's article in the December 1987 issue of *Flight* on the retention of wetland habitat.

My view is that the prevention of draining and development is not all that is needed to stop wetlands being lost. Being lost to its original inhabitants that is.

The duck population on a chain of dune lakes, running from the Rangitikei river along the Manawatu coast to the Manawatu river, was such as to provide a game resource for the whole of the Manawatu. Although by far the majority were Mallard, Grey duck, shoveler, and steadily increasing numbers of both grey and brown Teal, were to be found there. This is no longer the case. Black Swan are well on the way to taking over the whole area.

Before the swan were protected in the 1970s, there were only a few hundred on all ten of the lakes. Since 1982, there has been a dramatic increase in number and there are now hundreds on each of these lakes. The swan have developed the ability to crop pasture and go on breeding whatever the conditions. They can be seen with cygnets as late as March.

The tragedy is — this situation has not come about by accident. Ignorance maybe, but not accident.

The Wellington Acclimatisation Society control game waterfowl numbers by means of shooting licences i.e. bag numbers etc. For quite some years they have (according to their Manawatu field officer) been actively pursuing a 2000 swan policy on the afore mentioned lakes. This policy I believe, completely ignores interaction between different species of waterfowl, and has brought the various species of duck into direct competition with the rising numbers of swan. Unlike the Mallard, the native species' rely completely on permanent water to survive.

The competition becomes acute at nesting time, when these large numbers of swan become very territorial. Each breeding pair lay claim to an area of water and cover. Recent dry seasons have made the situation decidedly worse — the Mallard has been forced to find nesting sites closer to permanent water also, because of the lack of the normal surface water.

In the farming world, livestock carrying capacity is expressed in terms of stock units e.g. one ewe represents two stock units, one beef cow equals six stock units etc. I believe this principle can be used in wetland habitat management. Of course, too little rain or too much, will affect waterfowl numbers just as it does livestock performance. Canterbury's dust bowl or east coast flooding are examples of this fact.

But leaving that aside for a moment and returning to waterfowl units, I suggest making:

- Mallard duck = 1 waterfowl unit
- Native Duck = .75 (%) of a unit
- Black swan = 4 units

Using the above principle it can be shown very quickly, as in farming, when one type of livestock is increased another must be decreased or the farm soon becomes

overstocked. This then is what is happening on the Manawatu west coast lakes: for every one swan increase, there is a corresponding decrease of at least four ducks depending on their species.

Consequently, if immediate steps are not taken to reduce black swan numbers on the west coast, some native species will disappear altogether.

F W Shailer
Foxton

P.S. There are two more species also declining in number New Zealand Dabchick and Spotted Crabs.

NEIL HAYES Comments:

Fred Shailer raises a very interesting point about the interaction between Black Swans and mallards. It is a fact that such problems exist, just as they do between the NZ Paradise Shelduck and the dabbling ducks. But what we don't know is how much of a problem it really is.

Compared to the mid 1960's the Black Swan population in New Zealand is but a remnant of what it was, but in areas where it has been protected from hunting the species is increasing steadily in number. However, as my article shows, the continued destruction of habitat, I believe poses a far greater threat to the mallard population.

During the last ten years alone we have seen a number of vital areas of waterfowl habitat go down the drain: nowhere more so than in the Manawatu, where areas such as the 40 hectares of Lake Tangimati, the 400 hectares of the Makerua swamp, plus many many smaller areas along the Waikanae/Foxton coast, have all been drained. When all this drainage is taken into account plus all the factors listed in my article, there is only one way for the mallard population to go — downhill. It's not all bad news, however, for DU and a number of members are very busy creating and restoring vital areas along the Manawatu coast, and particularly around the Waikanae area this activity is already paying dividends with all waterfowl species on the increase.

Back to the Swan versus mallard problem. Fred really needs to talk to the Wellington Acclimatisation Society field staff who will be only too pleased to investigate the problem and determine whether a limited number of swans should be shot.

If any DU members would like to forward their thoughts and experiences we would be pleased to receive them.

Dear Editor,

I would like to take this opportunity to say how delighted I have been with the *Flight* magazine and all the products I have bought so far through Ducks Unlimited — especially Horrie Sinclair's report on Sinclair Wetlands, which was much enjoyed by my father in England also. It was Horrie who first bought DU to my attention, and with (especially) him in mind, I renew my membership for a second year.

Therefore please find enclosed my cheque for membership renewal of \$30.00 for ordinary membership.

Yours sincerely
Nicola J Garnett
AUCKLAND

SALES ITEMS

BOOKS

<i>Duckshooting: Sportsman & Conservationists</i>	\$20.00
<i>Complete Book of Australian Birds (Readers Digest)</i>	\$85.00
<i>Coloured Key to the Waterfowl of the World</i>	\$14.00
<i>Ducks, Ponds and People</i>	\$14.00
<i>Managing Wetlands</i>	\$25.00
<i>New Zealand Birds</i>	\$11.00
<i>The Duckshooter's Bag</i>	\$ 7.70
<i>The Duckshooter's Companion — Duckshooter's Bag & Gamebird Hunting</i>	\$15.40
<i>The Hawaiian Goose</i>	\$24.75
<i>The Mute Swan</i>	\$50.00
<i>Wildfowl Management on Inland Waters</i>	\$21.00

VHS VIDEOS

<i>River in Question — The Manawatu to the sea</i>	\$64.90
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<i>DU Hat — Green (one size fits all)</i>	\$22.00
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<i>DU Duck Head Badge — Large Gold</i>	\$ 6.60
<i>DU Duck Head Badge — Small Gold/White/Green</i>	\$ 5.50
<i>DU Duck Head Stick Pin</i>	\$ 5.50

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<i>Janet Marshall Bird Cards — set of four</i>	\$ 5.40
<i>Waterfowl Writing Paper and Envelopes — set of 10</i>	\$ 9.00
<i>Waterfowl Note Paper and Envelope — set of six</i>	\$ 6.00

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<i>Janet Marshall Print</i>	\$49.50
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<i>Canada Goose Coasters — set of six</i>	\$11.65
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<i>Fenn Traps</i>	\$28.00
<i>DU Duck Head Flag 62cm x 44cm</i>	\$40.00
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<i>DU Ashtray</i>	\$ 4.50
<i>DU Bottle Opener</i>	\$ 4.00
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<i>DU Letter Opener</i>	\$ 4.00
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<i>DU Teaspoons</i>	\$ 4.00
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