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The Mute Swan. Photo Brendan Coe



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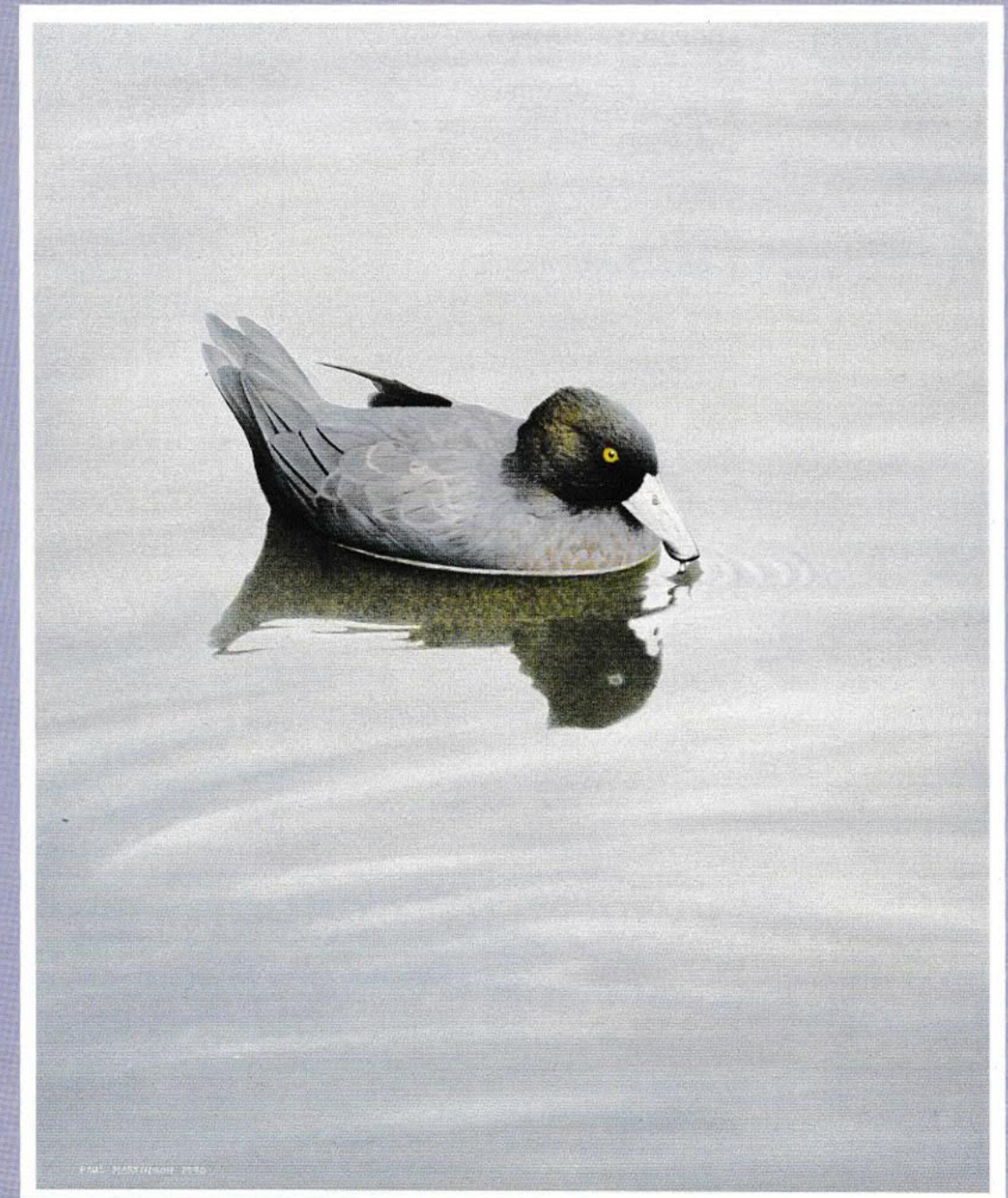
Flight

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Presidents Report

Where the past year has gone I'm not sure, but it's my pleasure to comment on Ducks Unlimited activities during the year, as it was a year which was another successful one for the organisation.

Considerable progress was made in all aspects of DU activities and I believe the most important features during the year were:

- The continued full-time employment of Grant Dumbell as Executive Director. Grant's employment was one of the most important decisions made by the Ducks Unlimited Board of Directors and we could not wish for a better person. During the past year Grant has fully computerised the DU membership list, organised membership survey, revitalised the DU Chapters produced an important Sinclair Wetlands Development plan, carried out further Brown Teal research, presented superb corporate sponsorship packages, etc. Grant will most likely provide members with further details of his work during his report to the annual meeting.



- Four quality issues of FLIGHT were produced during the year, with Brendan Coe of Lithographic Services producing these at no cost to DU - other than for us to comply with his request that the value of each issue be used to reduce the mortgage on the Pearce Wetlands. This magnificent gesture by Brendan and his Company resulted in over \$13,000 being paid off the mortgage.
- Further satisfactory progress was made during the year towards our efforts to create a major environmental attraction at the Sinclair Wetlands and we are close to the point where we can start charging visitors. We have also made considerable progress in reducing our mortgage on the Sinclair Wetlands and when one considers that we currently only owe \$10,000 on our efforts at the wetlands it's a fantastic achievement, particularly when the Educational Centre alone is valued at over \$300,000.

- Another major highlight has been the success of Ducks Unlimited Chapters and as you will see from the financial report, \$42,000 was raised by chapters. This is another significant achievement and I congratulate all those who are involved in running chapters. In respect of chapters Grant Dumbell has been the driving force behind the establishment of new chapters and we now have seven chapters up and running. It's interesting to note that in the areas where we have established chapters we have seen a valuable growth in membership numbers. During the next period we are hopeful that at least one chapter will be established in the South Island.
- The past year has seen all projects continue in a successful and positive manner. We were again involved in the creation of a number of wetlands, either by way of financial support or by using Jim Campbell's considerable expertise on his bulldozer. Jim had stated in his President's Report at last year's annual meeting that he hoped to spend more time sitting on his bulldozer and I can assure members that Jim has done just that; although I did note that he took a week off when he got married! The Brown Teal, Blue duck, Royal Swan and Gretel projects all had a successful year. Project supervisors will provide details about these projects.
- During the year we also continued to support waterfowl research, under a Wildlife Research Study Award, and we financially assisted Dale Towers with his MSc study of Grey Teal in the Waikato and Sarah Stokes with her MSc study of Scaup in Canterbury. Dale Towers has now completed his study and has produced a valuable thesis on his research. Dale hopes to pursue a Phd on Blue ducks, commencing in 1991.
- The only negative aspect of the past year has been our failure to really expand membership and while 240 people joined DU during the year around 200 failed to renew their membership. We therefore ended up with only a small increase. Why people fail to renew we don't know, but Grant will be looking at this during the year. Grant may also comment on this during his Executive Directors report to the annual meeting.
- On the financial side DU had a good year and we have been able to reduce the mortgage on the Pearce Wetlands from \$120,000 to \$55,000. An excellent achievement which

was only made possible through the fantastic support of members, plus the continued support from DU in North America. The Foundation Sponsorship scheme for the Pearce Wetlands has gone well and during this year we hope to come close to eliminating the Pearce Wetlands mortgage. The DU National raffle was again a success, with net profit being an all time record. This year we have a magnificent Blue Duck painting by Paul Martinson as the first prize and we will be producing a limited number of signed prints for sale to members.

Other important areas where DU has made its mark have been in the considerable expansion of predator control programmes in various parts of New Zealand, witnessed by our high sales of the Fenn traps; the total success of our Canada goose programme which has seen around 8,000 geese firmly established in the North Island; making game managers aware that mallard numbers are the lowest seen for many years and making many people more aware of the vital need for wildlife habitat.

To sum up I would like to thank DU Directors and members for their support during the year; the Department of Conservation for its continued support and the QEII National Trust for its outstanding support and involvement in the Sinclair Wetlands programme. I would also like to thank those companies who have regularly advertised in FLIGHT for a number of years: particularly Winchester NZ whose support for what Ducks Unlimited is attempting to achieve has been outstanding.

All in all Ducks Unlimited (NZ) is in good shape and in spite of a very depressed New Zealand economy has come through the past year extremely well.

Neil Hayes PRESIDENT



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Cover Photo: The Blue Duck Painting by Paul Martinson

MISSION STATEMENT

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 Gretel", 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 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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Progress in Brown Teal Conservation

F. Neil Hayes and
Dr Grant S. Dumbell

The Brown Teal population is now largely restricted to the Northland area of the New Zealand mainland, and to Great Barrier Island. Some success is being achieved in retarding the decline of teal on the mainland, and between 1984 and 1989 just over 500 captive-reared Brown Teal have been released in Northland. On Great Barrier Island, research has determined that the teal population is much higher than previous figures had indicated.

This paper summarises progress in a unique conservation project that aims to halt the decline of an endemic bird and to ensure a future for the species. The project is Ducks Unlimited's "Operation Pateke" which started in 1976.

Status of the Brown Teal

The Brown Teal *Anas Aucklandica chlorotis* is the most threatened of New Zealand's main-

land waterfowl and is one of the world's rarest waterfowl (Dumbell 1986). Reasons for the decline of the Brown Teal have not been clearly defined, but habitat destruction, introduced predators (stoats, ferrets and feral cats) and excessive shooting have all played a part. The Brown Teal, once widespread throughout the country, has declined dramatically on the New Zealand mainland during this century (Hayes & Williams 1982).

OPERATION "PATEKE" (Pateke being Maori for Brown Teal). The recovery programme involves most facets of wildlife management, namely:

- Creation, restoration and preservation of Brown Teal habitat
- Research
- Captive breeding
- Release of captive-reared birds
- Control of introduced predators
- Public and hunter education
- Close liaison with wildlife agencies, environmental groups and the farming community.

Habitat work

Ducks Unlimited in association with the Department of Conservation and the farming

community is creating lagoons, and enhancing and preserving existing habitat at critical sites. Such work is, of course, vital to the survival of Brown Teal. This work has so far been carried out mainly in Northland, but some habitat has also been preserved on Great Barrier Island.

Research

Ducks Unlimited, together with the now defunct NZ Wildlife Service, financed a four-year research project on Great Barrier Island - the last stronghold of Brown Teal. This research was completed in 1988 and determined habitat preferences, population size, and the value of the roost site - where teal gather after the breeding season. The very existence of a roost site appears to be critical to the success of Brown Teal populations. The teal population on Great Barrier Island was determined as 1500 birds (Dumbell 1987) - twice the size that had been estimated earlier (Hayes & Williams 1982). Research is now being carried out in Northland - the last significant area on the mainland. Initial surveys carried out in 1988 suggested a **minimum** population level of 700 teal (Dumbell 1988). These population figures are also consid-

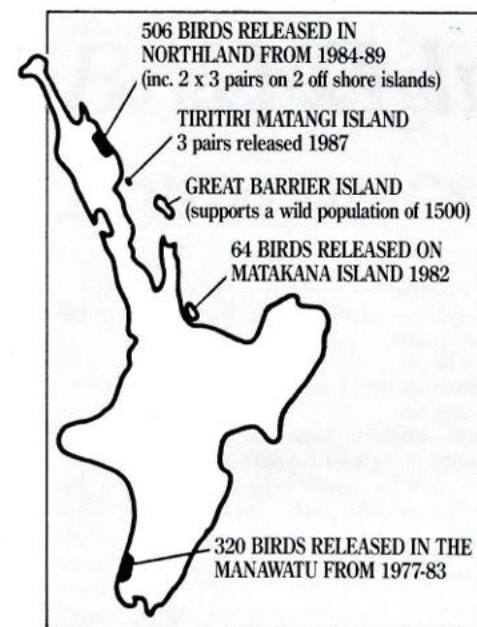


Figure 2. Brown Teal releases since 1977. All Ducks Unlimited releases have taken place in the North Island.

erably higher than the previous figures quoted (Hayes & Williams 1982).

Captive breeding

In many successful waterfowl recovery programmes, captive breeding has formed a vital part. Ducks Unlimited's breeding programme for the Brown Teal has been very successful, with over 1150 Brown Teal reared by Ducks Unlimited members since the project started in 1976. In 1989, 36 members held 66 pairs and annual productivity is around 110 individuals. Several key factors account for the success of the programme, namely:

1. A natural pairing technique which allows each Brown Teal to choose its own mate.
2. Placing each pair of naturally paired birds in their own specially designed aviary.
3. Leaving parent birds to rear their own young - this results in much hardier progeny than when incubators or bantams are used. To boost productivity a brood will be removed from the parent Brown Teal at around five weeks and often the female will re-nest within a short time.
4. The enthusiasm and dedication of Ducks Unlimited members - not only those members directly involved in the project, but members at large. Without their financial support the project would not be possible.

In December 1987 and in September 1988, ten and five wild Brown Teal respectively were removed from Great Barrier Island to provide new blood for the eleven-year-old captive breeding programme. A stud book has been established for the birds.

Release of captive-reared birds

In 1968 the NZ Wildlife Service released ten Brown Teal on Kapiti Island off the Manawatu Coast. These were a mixture of captive-reared and wild caught birds (Williams 1969). Some 20 years later, a small self-supporting population still exists on the island, showing great survival tenacity.

Between 1977 and 1983 Ducks Unlimited

released 320 captive-reared Brown Teal onto lagoons in the Manawatu. These birds adapted well to the wild and successful breeding was recorded (Hayes & Williams 1982). In 1982, 64 birds were also released on Matakana Island in the Bay of Plenty (Hayes & Williams 1982). Unfortunately the factors which forced the decline were still present in these two areas and in 1984 it was decided that the recovery programme should be concentrated in Northland - an area with lower hunting pressure, few mustelids, reasonable habitat and several hundred Brown Teal still surviving - in an effort to stabilise the declining population, rather than attempt to re-establish new ones (Hayes & Williams 1982).

In the early 1980's, the NZ Wildlife Service had carried out, with Ducks Unlimited's assistance, a programme of Brown Teal habitat work in Northland. This resulted in new habitat being created and existing habitat enhanced and protected. The new Department of Conservation and Ducks Unlimited, with considerable support from the Northland farming community, are creating large lagoons specifically for Brown Teal. These artificial lagoons will, we hope, become teal roost sites. Fencing of all roosts to keep out grazing stock and extensive planting to provide overhanging vegetation is also being carried out in Northland and on Great Barrier Island. From 1984-89, 494 captive-reared Brown Teal have been released at five mainland sites in Northland and three pairs on

to created habitat on each of two offshore Northland islands - Moturoa Island and Urupukapuka Island. The bulk of releases in Northland has taken place at the Mimiwhangata Farm Park, where two large lagoons had been created in 1982.

In Northland successful breeding of released birds has been recorded on a number of occasions and it is apparent from the survey figures that some progress is being made in supplementing the wild population. No captive-reared birds have yet been released **directly** into the wild Northland populations and all releases have taken place in either newly created habitat or in habitat recently vacated by wild birds. At Mimiwhangata, however, pairings of released birds with wild birds has been recorded.

In October 1987 three pairs were also released onto created habitat on Tiritiri Matangi Island, in the Hauraki Gulf. From these birds two broods were recorded during the 1988-89 breeding season.

During 1989 a new 7 ha lake on the Purerua Peninsula, near Kerikeri, Northland, is being used as a major release site and in January 1989 the release of 70 birds took place. This lake is on the fringe of the existing Brown Teal population and within the bird's historic range. It is felt that lakes such as this could well hold the key to survival on the mainland, for in Northland Brown Teal have shown great adaptability to artificial lagoons.

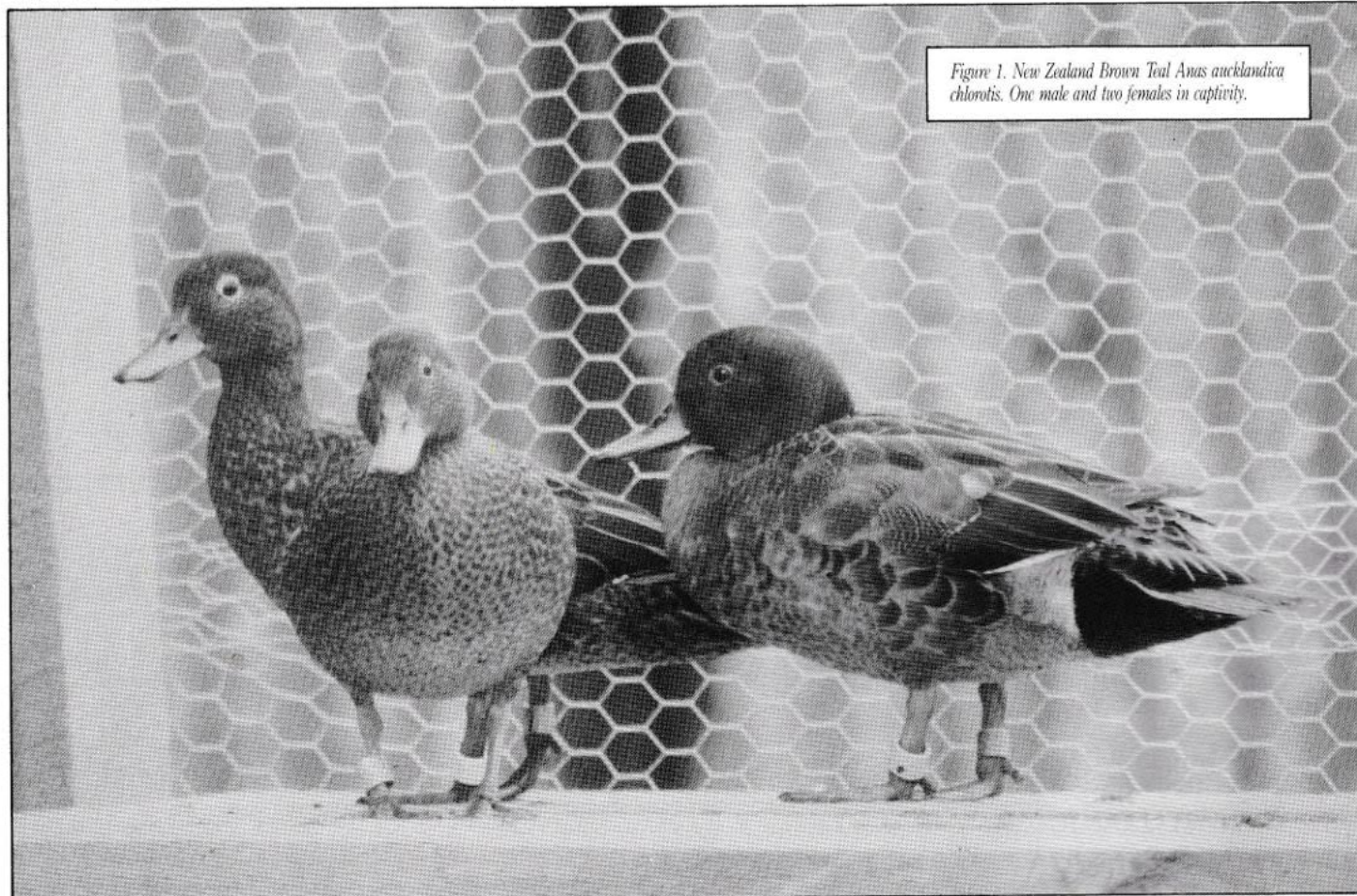


Figure 1. New Zealand Brown Teal *Anas Aucklandica chlorotis*. One male and two females in captivity.

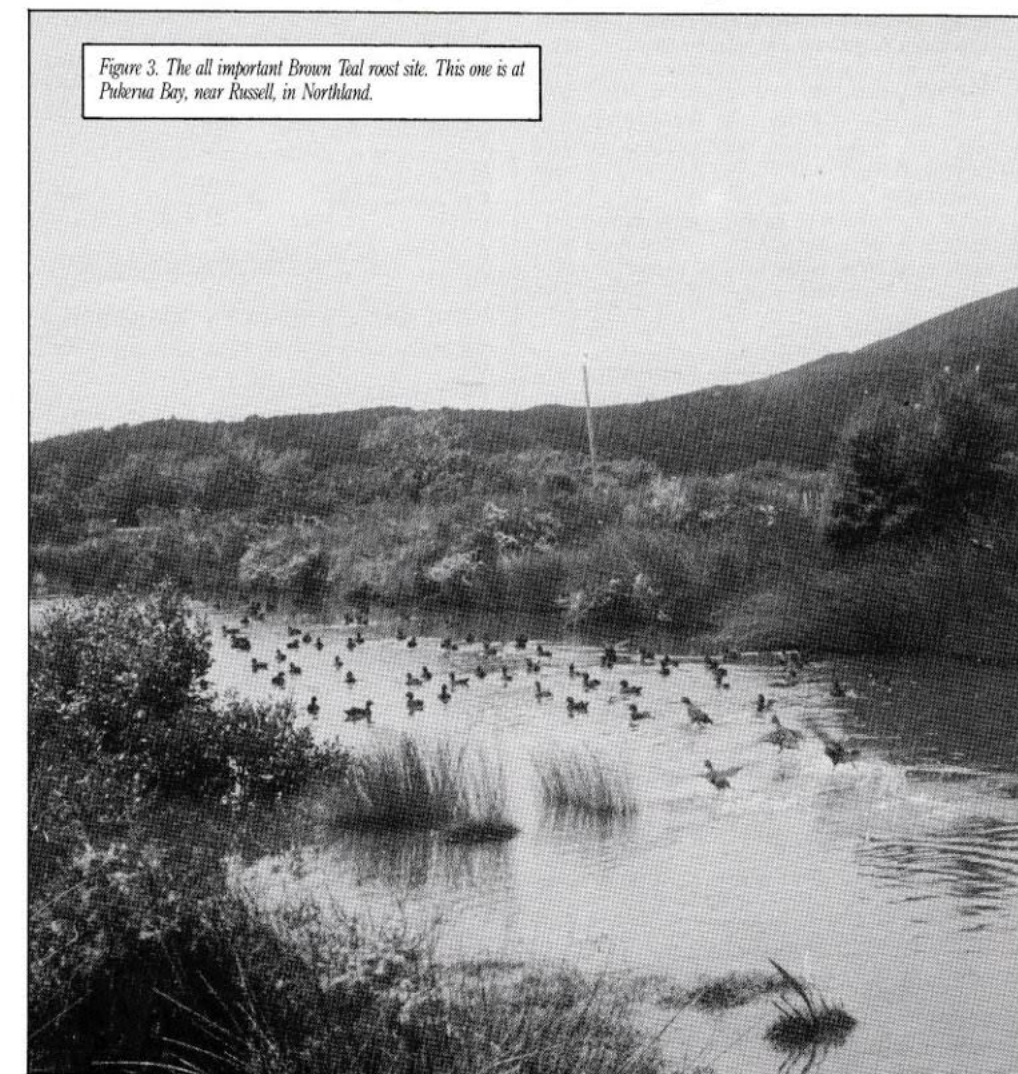


Figure 3. The all important Brown Teal roost site. This one is at Puberua Bay, near Russell, in Northland.

16th Annual D.U. Conference

Over the years 1985-88, birds reared by members were held in a large single aviary and released after the duck hunting season - in either late July or late September. Of 45 birds released in late September 1987 at the Mimiwhangata Farm Park, 35 were positively identified as surviving three months later (Hayes 1988). Experiments regarding releases at different times of the year and from on-site aviaries, or straight from the box, are also taking place.

Control of predators

At the Mimiwhangata release site, which is some 30 km from any major human population, a feral cat control programme is in operation and over 20 cats have been trapped. No hunting is allowed and the population of around 100 Brown Teal has been established. Predator control work is also being carried out at the Pururua site and hunting will also not be allowed. It is of value to note that on Great Barrier Island no waterfowl hunting is allowed, much habitat remains unmodified, and feral cats are the only ground predators. It can be assumed that the Great Barrier population is stable and perhaps even increasing because these factors, which are thought to have influenced the decline on the mainland, are missing.

Public and hunter education

This is another vital aspect of the recovery programme. In Northland, attempts are being made to use all forms of communication in an effort to educate everyone towards a greater appreciation of the unique Brown Teal.

Liaison

Ducks Unlimited (NZ) and the new Department of Conservation are working closely together on operation 'Pateke' and an excellent relationship exists between the two groups, other environmental groups, many individuals and the farming communities in Northland and on Great Barrier Island - whose support is critical to the whole programme.

Conclusion

The efforts being made to preserve the NZ Brown Teal are making satisfactory progress. Operation 'Pateke' is in many ways a unique conservation exercise which is becoming a successful recovery programme, although there is still work to be done.

There are many aspects which could be readily adapted to other rare waterfowl recovery exercises, particularly the natural pairing technique used in captive breeding, the considerable emphasis on habitat restoration and the public education programme.

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F. Neil Hayes and Grant S. Dumbell. Ducks Unlimited (NZ) Inc., P.O. Box 44.176, Lower Hutt, New Zealand.

After three years away from THC Tokaanu last year's annual conference at THC Tokaanu was "like going home". DU Honorary member and manager at THC Tokaanu, Keith Barnett, did us proud again last year, with a superb annual dinner and facilities and we again need members support to ensure that this years annual conference is the best ever.

As mentioned so often in the past, DU can do none of its vital waterfowl work without money, and with more money we can do more.

This coming period we want to do even more in the waterfowl habitat area and your support will ensure that this is possible.

Diane Pritt, Smiths Road, Ohakune, is coordinating registrations for the annual conference and if you haven't already booked in with her please do so - 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 smorgasboard 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 - 80 bookings had already been made).

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

ANNUAL CONFERENCE PROGRAMME

Saturday 14th July at THC Tokaanu

- 1. 9.30 am to 10.30 am
A meeting of all Chapter Chairpersons present, plus any other members who would like to attend. Grant Dumbell in the Chair.
- 2. 10.30 am to 11.00 am
A meeting to discuss captive waterfowl breeding techniques and DU captive breeding programmes. We hope to launch a revised edition of our Brown Teal Handbook at this meeting and to discuss its contents. Neil Hayes in the Chair.
- 3. 1.30 pm
Registration for the Conference - \$50/head
- 4. 2.00 pm
Welcome and Apologies
- 5. 2.10 pm
President's Report and Presentation of the Financial Report for 1989-90
- 6. 2.20 pm
Appointment of Auditors for 1990-91
- 7. 2.25 pm
Election of four (4) DU Directors from the floor of the meeting and ratification of other changes to the DU Board
- 8. 2.30 pm
Report on operation PATEKE (Neil Hayes)
- 9. 2.35 pm
Report from Dr Grant Dumbell on his 2nd year working for DU

- 10. 2.45 pm
Presentation of the Brown Teal Breeder of the Year Award
- 11. 2.50 pm
Address by the Honorable J. Falloon MP
- 12. 3.00 pm
Guest Speakers: John and Bunny Mortimer, Authors of NZ's best selling book "Trees for the New Zealand Countryside", will address the meeting on the topic "Wetlands and Their Trees"
- 13. 3.45 pm
Break for the President's "SHOUT"
- 14. 4.00 pm
Presentation of the Bill Barrett Trophy. This trophy is awarded annually to the person, persons or organisation, who the DU Directors feel have done the most to promote DU's aims and objectives. (Bill Barrett is an Australian who became DU's first Life member and who contributed a sizeable sum of money to establish this annual award.)
- 15. 4.10 pm
Sinclair Wetlands Manager's Report (Horrie Sinclair)
- 16. 4.20 pm
Report on operation "Wetlands" (Jim Campbell)
- 17. 4.25 pm
Report on operation "Whio" (Neil Hayes)
- 18. 4.30 pm
Report on operation "Royal Swan" (Jim Glover)
- 19. 4.35 pm
Editorial Report (Gary Girvan)
- 20. 4.40 pm
General Business followed by refreshments
- 21. 7.00 pm
Annual Dinner
- 22. 8.15
Annual Auction
- 23. 9.30 pm
Refreshments

Sunday 15th July

- 9.30 am
Coffee and biscuits and viewing Trade displays.

(Please note that the DU National Clay Bird Championships will not be held in association with the Annual Conference; they will be held later in the year)



Breeding Ecology and Population Dynamics of New Zealand Scaup

Sarah Stokes

INTRODUCTION

The New Zealand scaup (*Aythya novaeseelandiae*) is an endemic duck which only inhabits inland freshwater lakes and lagoons, unlike its Northern Hemisphere counterparts which overwinter in or near shallow coastal bays. It is widespread throughout the North and South Islands of New Zealand, and in the Ashburton Lakes, where this study is to be undertaken, a very large scaup population of around 2113 birds is supported.

It is known that scaup are very sociable birds - flocking in 'rafts' of up to ten or more and chattering away to each other as they swim from one feeding ground to the next. Being diving ducks they frequently spend up to 15-25 seconds underwater in the search for aquatic insect larvae and small fish (Soper 1972).

Egg laying usually starts in November, but eggs may be found in any month from October to February. The clutch size averages five to six eggs, which are laid on alternate days, and incubation takes about 28 days. Once hatched, ducklings leave the nest within 12 to 24 hours and are immediately capable of self-feeding.

Current knowledge concerning scaup populations is extremely limited, and with the ever increasing threat of environmental damage from possible water extraction schemes and increased agricultural and recreational activities, further knowledge is of fundamental importance to the conservation and preservation of this native bird. The threat from water extraction schemes was evident towards the latter part of last year when proposals to facilitate the irrigation of the surrounding catchment were put forward (Bray 1988). It was intended that the lakes be used as storage reservoirs with the option of either fluctuating the lake levels, flooding the wetlands, or removing river flows which support avian and aquatic life. Fortunately, the proposal was quashed, and now the most immediate threat to scaup

populations comes from the development of tussock grasslands and wetlands into pasture. Being at low altitude the catchments are highly susceptible to the effects of nutrient run-off from the fertilised land, and this will result in lake quality degradation, with a consequent reduction in the diversity and abundance of avian wildlife. Subsequently, it will be the intention of this thesis to assess the stability of the scaup population with respect to the effects created by natural (predation etc) and artificial perturbations (disturbance etc), and to detail their breeding and feeding ecology.

AIMS

1) Population dynamics

According to Owen *et al* (1986) there is a preponderance of male ducks in the Northern Hemisphere (*Aythya fuligula*, *A. marila marila*, *A. ferina*) - particularly within winter flocks. Whilst there is no evidence of sexual disparity at hatching, there exists a bias favouring male ducks in later years. As yet no single causative factor has been found which creates this bias. However, it is thought that intersexual competition for favoured sites is responsible for the imbalance, since males of most duck species leave the breeding area soon after their mates have begun incubation and start their journey to the wintering grounds. This means that females - once their broods have fledged - must migrate later, and often further than the males since males reached the favoured sites well before females.

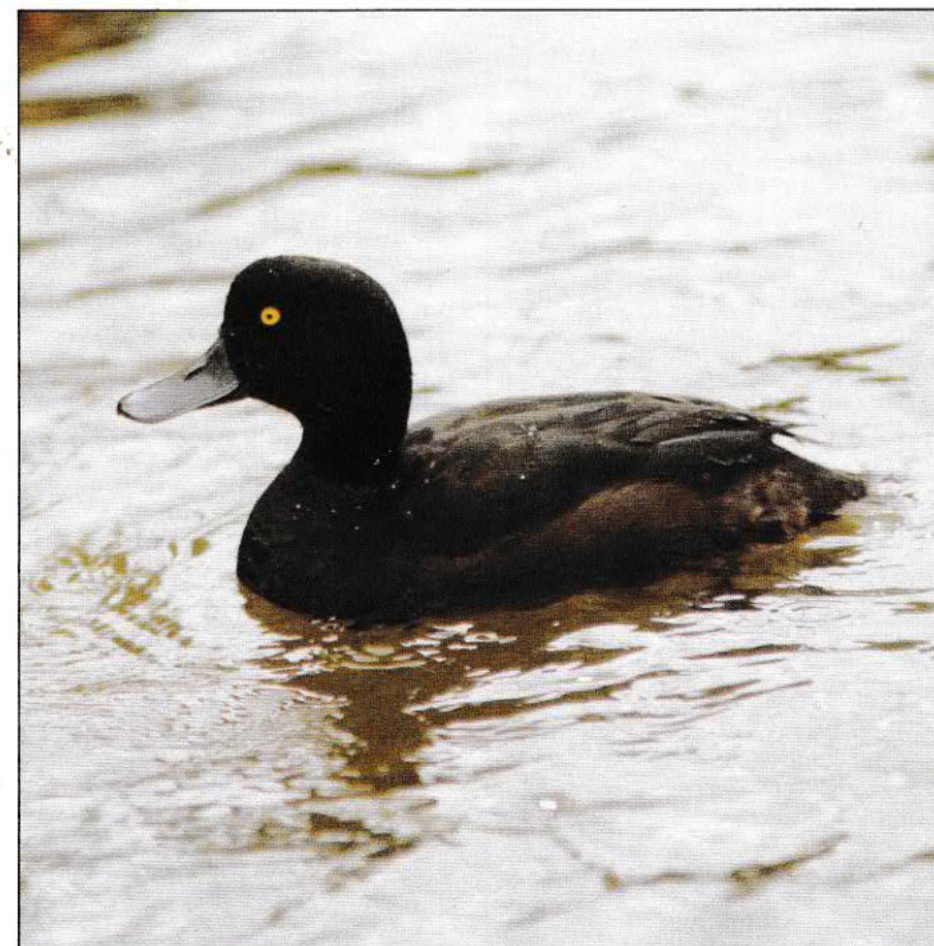
In order to determine whether a similar situation operates within New Zealand, questions pertaining to the population structure of New Zealand scaup must be answered. These are:

- a) What is the population sex ratio?
- b) Does this change with time?
- c) If the population is unbalanced, why is this so?
- d) Is it influenced by environmental perturbations, human disturbances, and/or behavioural mechanisms?

2) Breeding

In the Northern Hemisphere - Europe and North America - *Aythya* species are highly gregarious for much of the year, including the breeding season. At the onset of the breeding season males and females form seasonal monogamous pair bonds which last until the males desert the females during incubation.

In general, only the female tends the young and amalgamation of broods to form creches is common. This is particularly the case for the Tufted duck (*A. fuligula*) which often has creches of thirty plus ducklings to one adult female. This creche forming tendency may result in low breeding success, a characteristic which appears to be widespread amongst the genus. For the Greater scaup, losses of 90-98% are common, and on average less than one



New Zealand's only diving duck, the scaup.

Photo Glenys Hansen.



chick per pair is fledged (Cramp *et al* 1977). To determine whether breeding behaviour and breeding success is similar in New Zealand scaup populations three broad categories will be studied.

a) Sexual selection

- i) When do males and females arrive at breeding grounds?
- ii) Do males defend territories?
- iii) Are there agonistic encounters between males for females?
- iv) What are the courtship rituals and displays?
- v) Is the pair bond monogamous?

b) Nesting behaviour

- i) How many eggs are laid per day and when does incubation commence?
- ii) How many days elapse before hatching, and do the eggs hatch in synchrony?
- iii) Do male scaup help with incubation and tending of the young?
- iv) Are nests communal or solitary?
- v) How long do males defend females?
- vi) Do females form creches?
- vii) How much time is spent on and off the nest?
- viii) How many days elapse till chicks fledge?

c) Breeding success

- i) If egg loss occurs, what percentage is affected?

- ii) Is predation a major factor behind the losses and at what stage does it occur?
- iii) Do creches increase the chance of predation?

3) Feeding

Dabbling ducks (*Anas spp.*) accumulate lipid reserves before laying by consuming plant foods high in carbohydrates. During laying females switch to feeding on foods high in protein (invertebrates) for egg production, and begin to utilize their stored lipid reserves. Restriction of food intake during incubation results in rapid depletion of lipid reserves, so that, by the beginning of hatching, females have virtually exhausted these stores.

According to Noyes and Jarvis (1985) diving ducks (*Aythya spp.*) feed to a greater extent on animal foods throughout the year, and there is much variability in the amount of lipid stores formed between species. They suggested that the nutrient and energy content of the diet was dependent upon the foraging strategy utilised. Opportunistic feeders change their diet with each stage of the reproductive cycle, foraging on the most abundant food items, whilst selective feeders consume only a small number of food items that are not abundant. It would appear that selective feeders retain larger lipid reserves during the egg laying, but quickly utilise these reserves during the incubation stage. Selective feeders therefore devote more energy to incubation and large losses of lipid stores occur as a

result of restricted feeding and high attentiveness to the nest. Opportunistic feeders, on the other hand, expend a greater proportion of their lipid reserves with egg formation than with incubation.

Owing to this, it should be possible to predict that selective feeders have a reduced feeding rate during incubation than do opportunistic feeders.

To determine which feeding strategy New Zealand scaup utilise certain questions must be answered.

- a) Is there a shift from eating plant foods during pre-laying to consuming animal foods during laying?
- b) Is there a reduction in feeding rate during incubation OR, Is there simply a switch from animal based foods to plant based foods?

Other important feeding related questions which also need to be answered include:

- a) Do scaup feed at night?
- b) Are scaup concentrated in areas where macrophytes are abundant, and are these important to the birds diet?
- c) Do scaup surface feed on things like floating midge larvae, fish etc?
- d) Do food resources limit scaup populations?
- e) Is feeding inhibited by rough turbulent water?
- f) Does the level of disturbance govern the choice of feeding places?

METHODS

1) Population dynamics

The structure of the scaup population will be studied in two ways. Firstly, the population at the Ashburton Lakes will be counted to determine whether any biases exist. This will give an indication of the numbers present, their sex ratio and will identify diurnal fluctuations.

The second way will be by gathering past census data and analysing it to determine whether any significant differences between male and female numbers exists, and whether the biases are due to temporal variation.

2) Breeding

Breeding behaviour will be measured in two ways. Firstly, ad libitum sampling will be used - where everything that appears relevant will be noted down. With this type of sampling it will be possible to define behavioural units from which time budgets can be constructed. The second measurement of behaviour will be monitored by instantaneous scan sampling from which a time budget of the animals activity will be constructed. At certain predetermined times the behaviour of individuals in a group will be monitored. If only one individual is present then focal point sampling procedures will be used.

3) Feeding

To determine what scaup eat and how long they spend foraging a time budget, a benthic sample, and an analysis of faecal and stomach contents will be undertaken if practicable. The time budget - based on predetermined behaviour sets - will monitor the rate of feeding and length of foraging periods, both during the day and at night, with special attention paid to the reproductive cycle. The benthic samples - taken regularly at predetermined sites will attempt to estimate the diversity of invertebrate fauna, and to determine whether temporal and spatial variation of the benthos influences scaup numbers.

SUMMARY

By studying the stability of the scaup population at the Ashburton Lakes, and by determining their breeding behaviour and success, as well as their feeding ecology, it is hoped that predictions can be made concerning further human disturbances and the effects these may have upon the species as a whole.

Most of the data must be gathered during the breeding season, from October to March, and to quantify and qualify the results obtained from the first breeding season it will be necessary to study a second breeding season. Owing to this, it is unlikely that the masterate thesis will be completed before February 1991.

References

Bray, A. (1988) Ashburton Lakes Forest and Bird November pp25.
 Noyes, J.H. and Jarvis, R.L. (1985) Diet and nutrition of breeding female Redhead and Canvasback ducks in Nevada. *Journal of Wildlife Management* Vol.49 No.1 pp203-211.
 Owen, M. and Dix, M. (1986) Sex ratios in some common British wintering ducks. *Wildfowl* Vol. 37 pp104-112.
 Soper, M.F. (1972) *New Zealand Birds* Part 3 Birds of the waterways pp79.

D.U. New Zealand Artist of the Year

Ducks Unlimited's 1990 Artist of the Year now resides at Nireaha west of Eketahuna, and has used this as his base while he prepared the text and some 60 paintings and sketches for his first book due out in time for Christmas this year. The book has taken the last 2 years to complete.

Paul Martinson moved to the Wairarapa about 4 years ago, living very close to the National Wildlife Centre for the express purpose of studying and painting our unique native birds. He states that this is the only place in the country where you can see species like Kokako, Saddleback and Morepork all together in one location. Paul says he could not have achieved his book without the invaluable assistance he was given by the staff of the Centre, and in fact he even had the privilege to live on site during some of this time. This enabled Paul to walk out his back door and paint anything from Kokako to Grey Ducks.

It was during this time that Paul was first introduced to Ducks Unlimited, when he attended a local Chapter meeting. Paul admits he was most impressed by the way DU promoted the wetlands and plight of New Zealand waterfowl. He confesses now to hearing about species of waterfowl he didn't even know

existed, and this has since resulted in Paul painting more waterfowl, especially ducks.

His lifelong interest in painting started with animals from overseas before moving to birds which he paints in the realist style. Paul says the progression to birds is such a natural one when looking at the New Zealand countryside, because birds dominate the natural fauna. This move also enabled Paul to begin selling his work which would later allow him to paint fulltime.

Paul was unlucky when working as a science technician for the DSIR, because of an accident which resulted in the loss of part of a finger and severe lacerations to others. He had considerable difficulty after the accident due to the fact that he had little feeling in his fingers, and he often dropped or broke his paintbrushes. Even though Paul has some difficulty in winter, he adapted a new style with a broader stroke which he finds much easier.

Paul has painted a magnificent Blue Duck entitled "Whio" for Ducks Unlimited and this will be the first prize in our national raffle. A limited edition of 250 signed prints will be available. Paul is currently working on his second book which we can look forward to in 1991.



Paul Martinson at work.

Reports

AUDITORS' REPORT

TO THE MEMBERS OF DUCKS UNLIMITED (NZ) INC

We have audited the financial statements comprising the Statements of Assets and Liabilities and the Income and Expenditure Account, together with the Notes thereto, in accordance with accepted auditing standards and have carried out such procedures as we consider necessary.

In common with other organisations of a similar nature, control over the income prior to it being recorded is limited, and there are no practical audit procedures to determine the effect of this limited control.

In our opinion, the financial statements give, subject to the possible effect of the limited control over the income referred to in the preceding paragraph, a true and fair view of the financial position of the Society as at 31 March 1990 and the result of its activities for the year ended on that date.

Darra Quirk

EASTWOOD AND PARTNERS
Chartered Accountants
Bannister Street
MASTERTON
17 May 1990

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 1990

	1990 \$	1989 \$
INCOME		
Subscriptions - Life	4933	8000
- Full	18698	18085
- Junior	295	656
- Trade	576	780
- Sponsor	1339	2050
TOTAL SUBSCRIPTIONS	25841	29571
Donations - A.G.M.	16408	17359
- Chapter	42900	17319
- Sinclair Wetl.	1671	119495
- Pearce Wetl.	7395	-
- Sundry	3153	20170
TOTAL DONATIONS	71527	174343
PLUS OTHER INCOME		
Grazing - Sinclair Wetlands	3272	2855
Profit - National Raffle	6354	5135
Advertising Income 'Flight'	1018	1548
AGM Conference fees profit	930	780
Profit - 'Royal Swan' project	690	363
Profit - Sales Trading account	6911	4235
Interest	2368	2790
TOTAL INCOME	118911	221620

DUCKS UNLIMITED (NZ) INC

STATEMENT OF ASSETS AND LIABILITIES

AS AT 31 MARCH 1990

	1990 \$	1989 \$
CURRENT ASSETS		
Bank - Westpac	1161	10040
Accounts receivable	703	3160
Inventories	9799	6583
GST recoverable	2788	-
Investment - Ward McCulloch	7957	20000
Term Deposit - Hamilton Chapter	-	6700
	22408	46483
CURRENT LIABILITIES		
Term Loan - Westpac (secured)	10000	20000
- Sinclair Wetlands	13000	20000
- Pearce Wetlands	-	353
GST Owning	-	2332
Accrued expenses	1667	-
Stacey, Smith & Gibson Nominees	62000	62000
- Pearce Wetlands 1st Mort.	-	13000
- Pearce Wetlands 2nd Mort.	-	-
	86667	117685
WORKING CAPITAL (DEFICIT)	(64259)	(71202)
FIXED ASSETS see schedule	409404	413539
NET ASSETS	345145	342337
ACCUMULATED FUNDS AND RESERVES		
Balance 1 April 1989	269337	160817
Excess of Income over Expenditure	2808	108520
Balance 31 March 1990	272145	269337
Revaluation Reserve	73000	73000
	345145	342337

Treasurer: *Glenys Hansen* 9/4/90 President: *John Simpson*

Reports

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT SINCLAIR WETLANDS FOR THE YEAR ENDED 31 MARCH 1990

	1990	1989
INCOME		
Grazing	3272	2855
Sundry Donations	1671	968
National Ins Donation	-	1263
TOTAL INCOME	4943	5086
LESS EXPENDITURE		
Managers Allowance	5000	5000
Rates	1952	2273
Vehicle Expenses	-	808
Telephone	619	904
Electricity	122	431
Grain	160	80
Executive visit - airfares	-	530
Travel expenses - meetings	984	515
R/M Buildings, plant & machinery	361	521
Weed control	2260	-
Fencing	-	260
Drainage	154	-
Publicity and advertising	2693	-
Professional services	730	594
Insurance	794	1298
Sundry	593	455
TOTAL OPERATING EXPENSES	16422	13669
Interest on Term loan - Westpac	2171	10694
DEVELOPMENT EXPENDITURE		
Display ponds, walkways, site preparation	11815	12778
TOTAL EXPENDITURE	30408	37141
TOTAL EXPENDITURE/INCOME (deficit)	(25465)	(32055)

DUCKS UNLIMITED (NZ) INC NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 1990

1. STATEMENT OF ACCOUNTING POLICIES

General Accounting Policies

The general accounting policies recognised as appropriate in the preparation of these financial statements are:

The measurement base adopted is that of historical cost, as modified by the revaluation of certain assets.

Revenue earned and expenses incurred are matched using cash accounting.

Reliance has been placed on the assumption that the Society is a going concern.

Particular Accounting Policies

The following are the particular accounting policies which have a material effect on the measurement of results and financial position and are unchanged from last year.

FIXED ASSETS

Fixed assets are stated at cost or valuation less accumulated depreciation. Depreciation is written off on a straight line basis over the estimated economic lives of these assets. The estimated economic lives are as follows:

Buildings	50 years
Equipment and machinery	5 years
Furniture and fittings	5 years

STOCKS

Stock has been valued at the lower of cost or net realisable value on a FIFO basis.

Stock purchased for Operations is expensed when purchased.

2. FIXED ASSETS

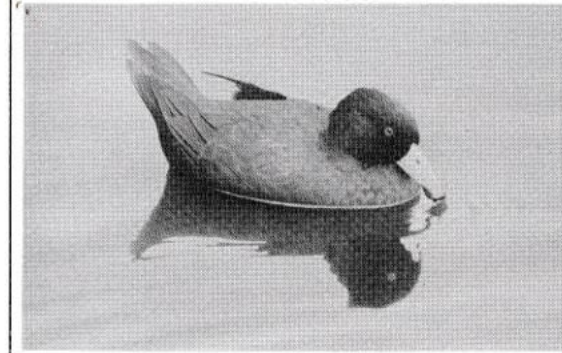
	1990 Cost or Valuation	1990 Accumulated Depreciation	1989 Net Book Value	1989 Net Book Value
SINCLAIR WETLANDS				
- Land	73000	-	73000	73000
- Buildings	233395	13862	219533	224203
- Furn & Fittings	8238	3150	5088	6004
- Equip & Machinery	2503	720	1783	332
PEARCE WETLANDS				
	110000	-	110000	110000
	427136	17732	409404	413539

The land has been valued in accordance with a Government Valuation dated 1 July 1986.

DUCKS UNLIMITED (NZ) INC INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 1990

	1990 \$	1989 \$
EXPENDITURE		
Administration:		
- Professional services	801	1000
- Advertising & publicity	1696	1911
- Bank fees & C/C comm	1023	1073
- Printing & Stationery	1782	663
- 'Flight' production	11729	6074
- Tolls and postage	3973	4342
- Travel & bd meetings	5092	6583
- Interest - P/W	14660	17876
- S/W	2171	-
- sundry	1394	-
TOTAL ADMINISTRATION EXPENSES	44321	39522
Projects:		
- Whio	273	12
- Gretel	70	-
- Pateke	1968	4251
- Wetlands	3870	4783
- Sinclair Wetlands		
- Op Exp.	16422	13669
- Development	11815	12778
- Pearce Wetlands		
- Op Exp	844	10152
- Study Grants	750	1200
TOTAL PROJECT EXPENSES	36012	46845
Research	27500	12500
General:		
- Freight & Duty	1452	1147
- Int. visitors	-	2651
- DU Canada	-	2744
- National Raffle 1989	-	1364
- Sundry	-	140
Depreciation	6818	6187
TOTAL EXPENSES	116103	113100
Excess Income/Expenditure	2808	108520

ART PRINT



A SUPERB ART PRINT IN COLOUR OF A BLUE DUCK FROM THE ORIGINAL BY PAUL MARTINSON SIGNED AND NUMBERED BY THE ARTIST \$85.00

Please send me a print(s) as indicated below

SIGNED & NUMBERED \$85.00

I enclose my cheque for \$..... All prices include P & P or charge Bankcard Visa (Tick one)

Card No. _____

Expiry Date / Send to Glenys Hansen, R.D.3, Eketahuna

Signature this advertisement

Name

Address

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D.U. Director Jim Glover is very pleased with his recent wetland development at Pauahatani near Wellington. The pictures (at the right) show the before and after results and are an excellent example of how to create ponds in a gully. The wall between each pond is wide and an effective spillway has been put from one pond to the next. Photos Jim Glover.



DUCKS UNLIMITED (N.Z.) INC

P.O. BOX 44-176, LOWER HUTT

1990 ANNUAL CONFERENCE
THC TOKAANU

Saturday & Sunday July 14th & 15th 1990

A field trip to the Hinemaiaia Dams will take place on Sat 14th, leaving THC Tokaanu at 9.30 a.m.

a \$50 registration fee is required and must be included with this form.

I/WE WILL BE ATTENDING THE ANNUAL CONFERENCE.

I/WE WILL REQUIRE ACCOMODATION

FOR NIGHTS ON
DEPOSIT \$30 REQUIRED DATES

NUMBER ATTENDING

NUMBER OF ROOMS REQUIRED

NAME/S

ADDRESS

Or charge to my
VISA/BANKCARD/DINERS/AMEX
(Delete to suit)

CARD No.

EXPIRY DATE

SIGNATURE

REGISTRATION FEE OF \$50 IS ENCLOSED

POST TO:
DIANE PRITT, SMITHS ROAD,
OHAKUNE
(PHONE: 0658-58016)

MEMBERSHIP

Membership renewal notices were sent out in early April and subs have been coming in well. Don't forget that all contributions to Ducks Unlimited are tax deductible.

Another clear indication of the support for the work of Ducks Unlimited can be witnessed by the fact that by mid-May we had received another six Life membership contributions, with the following becoming DU Life members - Paul Romans, Pennsylvania State Sponsor Chairman, Paul was in New Zealand recently and in his 5 week stay managed to hunt deer and duck and also managed an 8lb brown trout. Craig Ewing of Carterton, Craig Worth of Hamilton, Marie McEntee (DU Secretary) of Auckland, Dave Robison of Te Puke and Dave's Company Equine Nursery of Te Puke. Paul Romans has also generously donated two rare waterfowl decoys for auction at the AGM.

DU Members Receive Prestigious Awards

Congratulations to DU member Barrie Heather on being awarded the Sir Robert Falla Memorial Award for his long standing contribution to bird studies in New Zealand. Barrie has been prominent in OSNZ activities for many years and for the past decade has been Editor of the Ornithological Society's quarterly publication NOTORNIS.

Congratulations to DU members Tom and Dora Hartree on their recent top Australian conservation award - THE TREE CARE AWARD - for their outstanding contribution to the development of wildlife habitat.

From the air, Tom and Dora Hartree's Hawkes Bay Puketapu property looks like an oasis. In the New Zealand context this means a stable, well forested farm in a severely eroded area. A total of 23% of their 738 hectare holding has been retired from farming - 68 hectares for forestry and 98 hectares for lake, wetlands and wildlife habitat. For the Hartree family it has been a long term project, with the first trees

1990 POULTRY SEMINAR

18th & 19th August
Taranaki Country Lodge,
New Plymouth

Some of the topics to be covered: A Guided Tour of Genetics, Breeding Programmes, Artificial Incubation, Nutrition, Rearing Healthy Chicks, Pheasant, Guinea, Quail and Duck Management, Keeping Wildlife Species. Speakers are professional men in their fields. Registrations close 15th June.

For further details please write to:

N.Z. Poultry & Game
Bird Publications
P.O. Box 5070, New Plymouth
Phone (067) 36617

being planted by Tom's grandfather in the early 1900s.

Tom and Dora started planting in 1959 and have done so for a range of reasons including timber production, erosion control along creeks and steep landslip prone slopes, beautification and shelter. Gorge areas, unsuitable for production, have been reclaimed by planting with tree species suitable for wildlife, especially birds. Bogs and swamps were fenced and fencing of the major lakes is in progress to exclude stock and allow the extension of natural values such as an increase of rush growth. In one fenced and planted area, more than four tonnes of eels were recently harvested and sold.

The local Catchment Board has provided a grant to fence off areas of natural vegetation and the Pest Destruction Board has helped reduce possum and goat numbers. The Hartrees have found that their water has been enhanced by plantings and eutrophication ceased about seven years after planting. To Tom and Dora, who are willing to show others what can be done, this is "their tiny tribute to earth".

DU has recently received a copy of the excellent video tape which documents the fine work carried out by Tom & Dora. If any member would like to see this video send \$5 to Box 44.176.

PEARCE WETLANDS FUND RAISING

Sincere thanks to the following members for their support for the Pearce Wetlands fund raising campaign - Brendan Coe (Foundation Sponsor), Broadlands Wildfowl Trust (Foundation Sponsor), Diane Pritt (Foundation Sponsor), Mitredale Duck Club (Foundation Sponsor), Lithographic Services Ltd (Foundation Sponsor), D & H Chetwin, J. F. Jones, P. Johnson of Canada, A. H. O. Dowd and J. Worth.

A very generous contribution of \$500 has also been received from the Heseltine Trust of Palmerston North.

DU IN NORTH AMERICA

It is only four years since DU (USA) decided that the time was right to put more emphasis into the creation and preservation of waterfowl habitat in the USA. (Previously just about all funds raised in North America had been spent on waterfowl habitat in Canada - the North American waterfowl breeding area). In this short period of time DU has completed 396 wetland projects in the USA, covering over 450,000 acres. In addition DU is currently involved in a further 400 projects.

DU CANADA TO BUILD NEW HEADQUARTERS

DU Canada is presently in the process of building a new head office at the Oak Hammock Marsh, near Winnipeg. The new facility will provide office space for the 100 staff employed at head office and boasts additional features such as, a 120 seat theatre, exhibit hall, reception area, cafeteria, gift shop and observation area on its roof. The project will also provide around 40 new jobs. Currently DU Canada's head office is in the city of Winnipeg.

OTOROHANGA ZOO RECEIVES GRANT TO ASSIST WITH WATERFOWL WORK

Long time DU supporters, the Otorohanga Zoo, has received a grant of \$2,700 from the Pacific Development Conservation Trust. The

grant is to enable the zoo to erect a 64 square metre waterfowl holding aviary. Having won the DU Brown Teal Breeder of the Year Award twice in recent years, Eric Fox the Curator at Otorohanga decided that a holding aviary would be of considerable help to the zoo's waterfowl programmes. We all know how nice it is to breed large numbers of rare waterfowl, but having somewhere to hold them prior to transfer can be a real headache. Congratulations to Otorohanga Zoo on this excellent award.

AGM Auction Items

Those of you who have attended a DU dinner will know that the auction is our main source of fundraising. Its success is only made possible through the variety of items which are donated.

While the auction always includes some special DU Canada/U.S.A. collectors items we are always appreciative of ANY items that you may be able to donate, including smaller items which are suitable for the silent auction.

If you have any items to donate, these will be gratefully accepted. Please notify Glenys Hansen at Eketahuna 8474 or by writing to "Tidfordriv", R.D. 3, Eketahuna.

Join D.U. Help Preserve N.Z.'s Waterfowl and Wetlands

* Life member	\$600
* Gold sponsor	\$250 yr
* Silver sponsor	\$125 yr
* Bronze sponsor	\$ 60 yr
* Trade member	\$ 45 yr
* Ordinary member	\$ 30 yr
* Junior member	\$11 yr
	(under 16)

P.O. Box 44-176, Lower Hutt

All contributions are
tax deductible

Name: _____

Address: _____

D.U. News

1990 Chapter Challenge

This year the Chapter Challenge is being decided on the fundraising performance of chapters for the nine month period between last year's AGM and the end of the financial year. This has the effect of bringing the chapter's financial year into line with the financial year of the national body. The board has also decided that the formula for deciding the winner of the Chapter Challenge will be the total amount of money raised by each chapter plus a bonus for new members recruited. This is calculated as the number of new members in each chapter times the average subscription received. This year's winner of the Chapter Challenge will be announced at the A.G.M.

A.G.M. Field Trip

Unlike past year, there will be no field trip on the Saturday morning at this year's A.G.M. However, this may be replaced by some alternative activities which will be announced when members arrive for the weekend.

National Shoot

This year, the Ducks Unlimited National Shoot will not be held in conjunction with the A.G.M. Instead, it will be held later in the year to allow members who are otherwise heavily involved in organising the A.G.M. to participate in the shoot. We are hopeful that this will then generate some real competition for the Chapter Teams Shoot. As usual, the Taupo Gun Club will be the venue for the shoot at a date to be decided.

National Raffle

Organisation of this year's national raffle is already well underway and, the first prize will be an original waterfowl painting from one of New Zealand's leading waterfowl artists. This year, the board have selected Wairarapa's Paul Martinsen whose painting "Whio" features on

the cover of this issue of "Flight." Tickets will be available before the A.G.M. Minor prizes include more high quality New Zealand art, binoculars, books etc.

SUBSCRIPTIONS

This year's subscription renewals have been progressing well, however, it is important that all members renew their subs promptly to ensure they continue to receive their copies of "Flight". Your payment also assists us to continue our work for waterfowl and wetlands at a time of the year when waterfowl and wetlands have a high profile in the community.

1990 Sponsor Members

This year, the board has widened the range of Sponsor Memberships which are available to members who wish to support our aims and objectives at a level above that of Ordinary membership. There are now three levels of Sponsor member and to date we have received the support of members in this new scheme.

- Gold Sponsor :David Smith, Auckland
Brendan Coe, Wellington
Silver Sponsor :Jack Kamman, Connecticut, U.S.A.
Bronze Sponsor :Kilwell Sports, Rotorua
Ted Hansen, Eketahuna
S. Barnett, Tokaanu
L. D. Appleton, Te Aroha
Diane Pritt, Ohakune
Mrs Sigvertsen, Eketahuna
Robert Sowman, Wellington
K. C. Thompson, Hastings
Canadian Airlines, Auckland
Malcolm Lewis, Upper Hutt
Mr & Mrs Mason, Masterton
Otorohanga Zoological Society

More will no doubt arrive in the near future and it is our intention to list all our valued sponsor members, as they are received, in this and later issues of "Flight".

Whakatane Chapter

After a successful meeting in September last year, which established a chapter of Ducks Unlimited in the Bay of Plenty, it now appears that there is sufficient enthusiasm for having two chapters in the Bay. As a result, the board is looking forward to the formal establishment of the Whakatane Chapter to provide a more extensive presence for Ducks Unlimited in the Bay of Plenty which is now one of our fastest growing regions.

Auckland Chapter

After a very successful fundraising dinner at the end of March, the Auckland Chapter has spent a day in the field servicing 118 Grey Teal Nest Boxes at Tony Flexman's property at Mangatawhiri. These are some of the oldest nest boxes and are still in remarkable condition

after more than 10 years service. As an indication of their impact these boxes have had over 6000 eggs laid in them in the past two seasons, and have produced nearly 3000 grey teal ducklings, one of New Zealand's protected waterfowl species which D.U. is working to help, through "Operation Gretel".

Wellington Chapter

Sunday April 29th saw another highly successful fundraising shoot run by the Wellington chapter, with the invaluable assistance of our friends at Hutt Valley Gun Club. The 86 shooters, including members from Ohakune and Eketahuna, visitors from Greece and Argentina shot at 100 targets during the day.

An impressive array of prizes was made possible by the generous support of the following commercial organisations WINCHESTER, HUNTING & FISHING SUPPLIES, ROD & RIFLE MAGAZINE, HOOSON INDUSTRIES, LEVIN SPORTS, HAYES & ASSOCIATES, GUN CITY, SUNLEY CHEMIST, H. W MOSS LTD.

Windermere Game Bird Conservancy

As part of "Operation Wetlands", D.U. recently made a grant of \$300 to the Windermere Game Bird Conservancy to assist in the first stage of the eventual reflooding of 135 acres of wetlands which fringe the Whangamarino Wetlands in the Waikato.

International Visitors

Ducks Unlimited has recently been privileged to be able to host several visitors from D.U. Inc. The first to arrive were Bud and Carlena Phelps from Utah and Jack and Barbara Kamman from Connecticut. Both Bud and Jack have recently retired from the professional staff of D.U. Inc after spending their working lives in the field of game management, and their experience has given us many ideas to help develop D.U. here in New Zealand.

Our most recent visitor was Paul Romans, the D.U. Inc Pennsylvania State Sponsor Chairman, who visited New Zealand to sample our hunting and fishing. Paul was hosted in the Wairarapa by Allan Elliot and had a successful opening weekend before returning to the U.S.A.

Nature Conservation Council

In its first list of recommendations to the Minister of Conservation, the Nature Conservation Council has identified wetlands as a priority for the incoming New Zealand Conservation Authority. It has also recommended that incentives should be developed to help landowners protect forests and wetlands on private lands and that New Zealand should continue to declare significant wetlands as wetlands of International Importance under the RAMSAR convention.



NATIONAL SALES ITEMS

BOOKS	
Duckshooters: Sportsman & Conservationists	\$20.00
Complete Book of Australian Birds (Readers Digest)	\$85.00
Coloured Key to the Waterfowl of the World	\$14.50
Ducks, Ponds and People	\$14.50
New Zealand Birds	\$11.30
The Duckshooter's Bag	\$8.00
The Duckshooter's Companion — Duckshooter's Bag & Gamebird Hunting	\$15.80
The Hawaiian Goose	\$25.50
The Mute Swan	\$51.00
Wildfowl Management on Inland Waters	\$21.50
Birds of New Zealand Locality Guide	\$50.00
VHS VIDEOS	
River in Question — The Manganui-a-te-ao	\$66.50
APPAREL	
DU T-shirt — White (SM, XOS only)	\$14.00
DU Hat — Red/Fawn (one size fits all)	\$25.00
DU Jersey — Red/Green/Blue (state size)	\$68.50
DU Polo Shirt — Dark Blue	\$35.00
BADGES	
DU Decal	\$ 1.20
DU Lapel Pin	\$ 5.60
DU Cloth Shoulder Patch	\$ 9.60
DU Canada 50th Anniversary Badge	\$ 5.60
DU Duck Head Badge — Large Gold	\$ 6.75
DU Duck Head Badge — Small Gold/White/Green	\$ 5.60
DU Duck Head Stick Pin	\$ 5.60
STATIONERY	
DU Ballpoint Pens — per box of 10	\$11.20
DU Maxipens — per box of 10	\$11.20
DU Maxipens — single	\$ 1.50
Janet Marshall Bird Cards — set of four	\$ 6.00
Waterfowl Writing Paper and Envelopes — set of 10	\$ 9.00
Waterfowl Note Paper and Envelope — set of six	\$ 6.00
Mallard/Canada Card — For framing	\$ 6.00
Postcards — Mute Swan/Brown Teal 10 Pack	\$ 4.00
GENERAL	
Janet Marshall Print signed, Russell Jackson Print signed	\$85.00 EA
Canada Goose Place Mats — set of six	\$28.60
Canada Goose Coasters — set of six	\$11.65
Mallard Duck Coasters — set of six	\$11.65
Fenn Traps Mk 6	\$28.00
DU Duck Head Flag 62cm X 44cm	\$41.00
DU Cam-o-paint	\$10.00
DU Ashtray	\$ 4.60
DU Bottle Opener	\$ 4.20
DU Key Ring	\$ 4.60
DU Key Ring Nail Clippers	\$ 4.20
DU Letter Opener	\$ 4.20
DU Tea Caddy Spoon	\$ 4.20
DU Teaspoons	\$ 4.20
Number Plate Surrounds (Pairs) Red, Blue, Green	\$33.00
Engraved Crystal Wine Glasses (Set of 6)	\$75.00
Engraved Crystal Whisky Glasses (Set of 6)	\$75.00
Engraved Crystal Decanter	\$50.00
Roll Bag	\$24.00
Camo Pack	\$36.00

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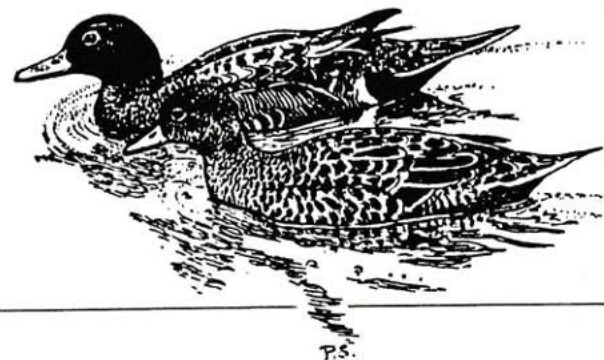
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