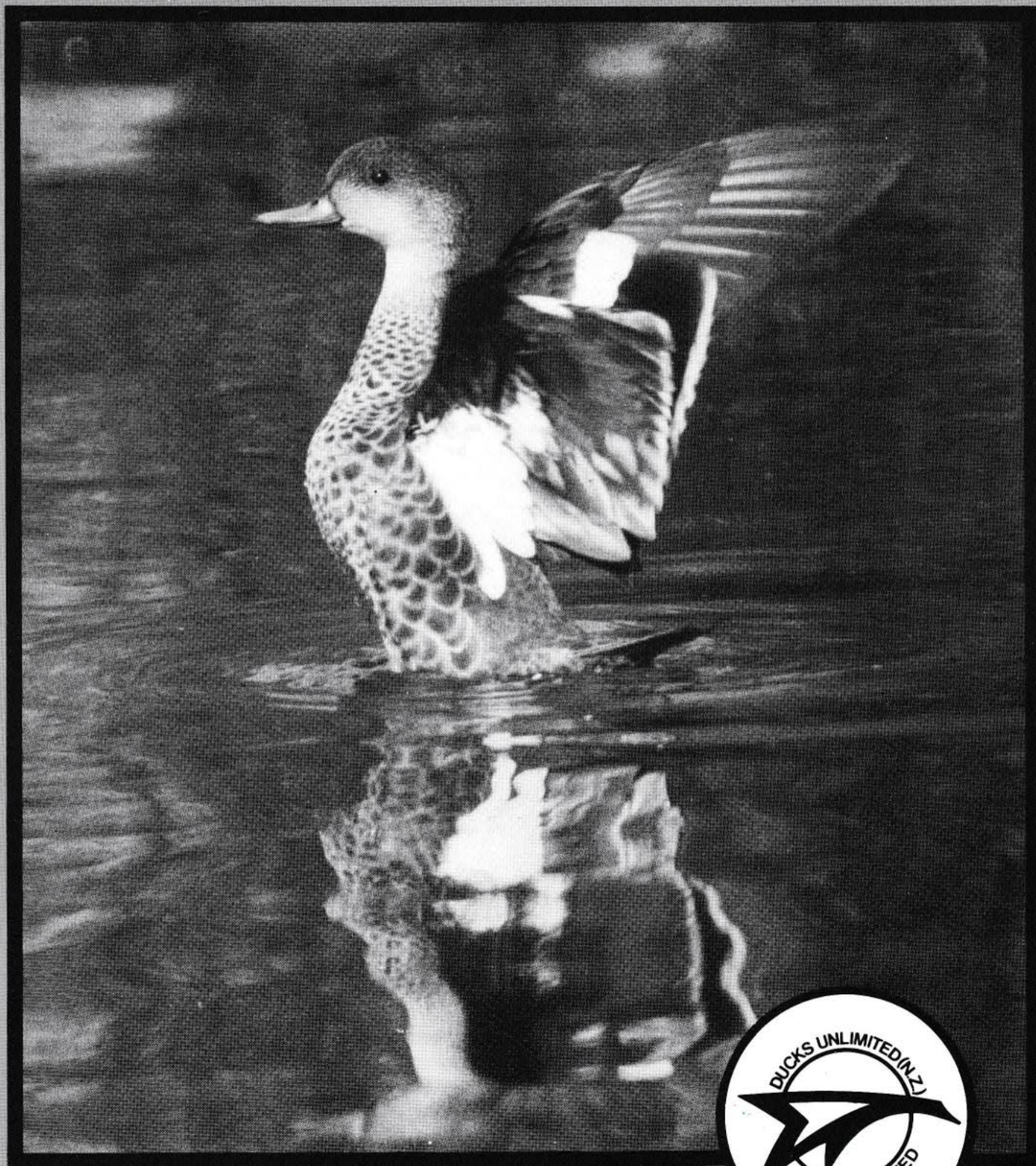


Flight

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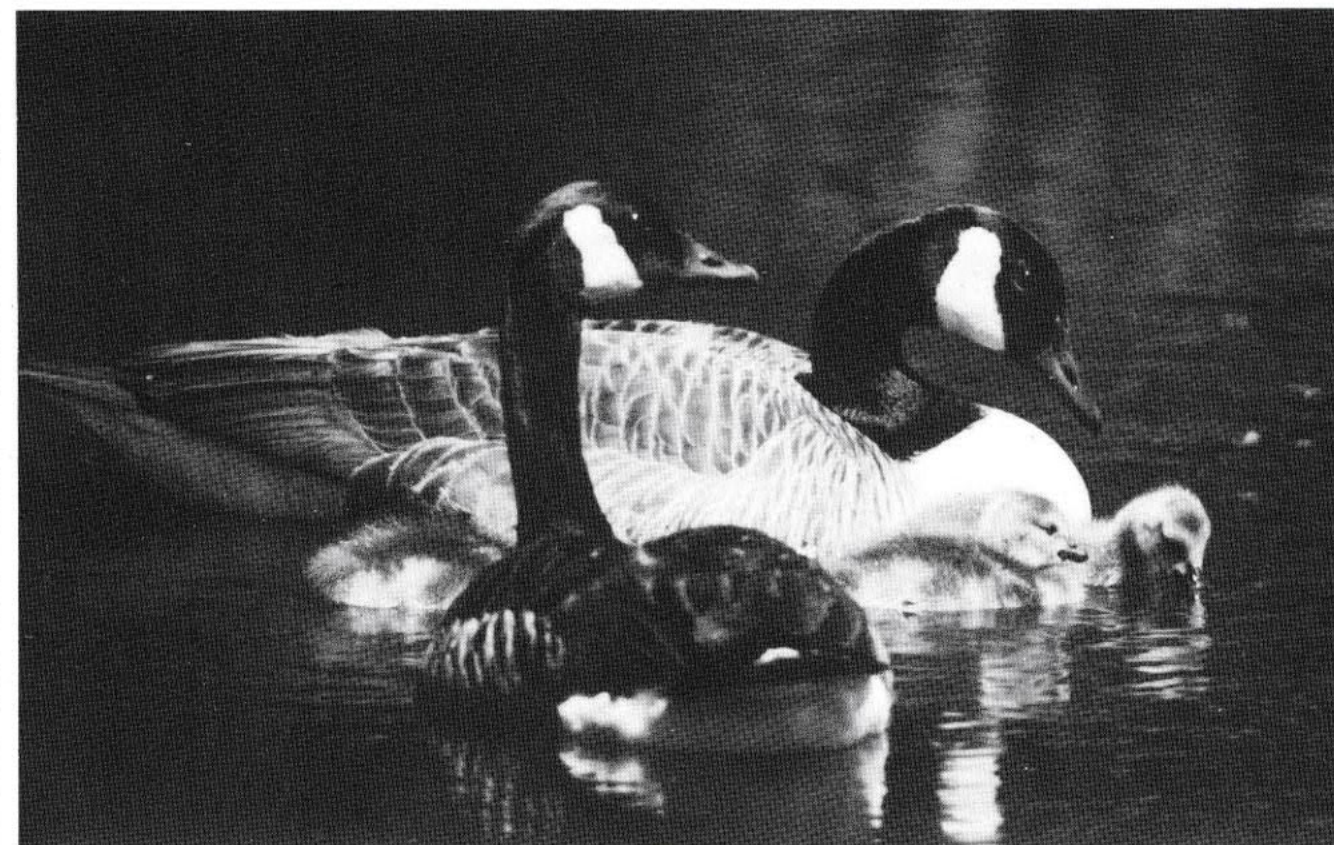
NEW ZEALAND REGISTERED MAGAZINE

DUCKS UNLIMITED'S
QUARTERLY
WATERFOWL JOURNAL



Winchester (NZ) Ltd

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



The Canada Goose.

Population in NZ 15,000



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A N.Z. Alien? — the Grey Teal.

Photography: Neil Hayes, Philippa Scott, Gary Girvan and Ron Munro.

Ducks Unlimited (NZ) Incorporated is a private, non-profit membership organisation dedicated to the preservation, restoration and maintenance of wetlands habitat in New Zealand and to the propagation of the country's rare waterfowl as a valuable natural resource. The organisation was founded in May 1974 by a group of far-sighted conservationists and incorporated by them in June 1975 at Wellington, New Zealand. The national headquarters mailing address is PO Box 74, Hamilton and the registered physical address is 84 Houchens Road, Hamilton. "Flight" is the official quarterly publication of Ducks Unlimited (NZ) Incorporated reaching 1300 devoted members and friends concerned with waterfowl conservation. DU membership begins at \$5.00 pa for Junior to \$15.00 for full membership with provision for trade and life members. Membership of Ducks Unlimited carries with it subscription to this publication. To assure prompt delivery, members who move are urged to forward their new address along with current membership details to national headquarters. Letters and contributed manuscripts and photographs should be addressed to the "Flight" Editor. Views expressed by contributors are their own and do not necessarily constitute those of Ducks Unlimited (NZ) Incorporated.

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THC TOKAANU 10TH DUCKS UNLIMITED ANNUAL MEETING 14TH JULY 1984

Members: Don't miss what has become the 'social event of the year'. Participate in DU's major fund raising function by attending the annual meeting and dinner at THC Tokaanu. This will be our 10th Annual Meeting and we are sure it will be a memorable occasion.

Over \$7,000 was raised at last years annual auction and with your support this years figure could go over \$10,000. And as mentioned in the last 'Flight' we need lots of money to maintain the fantastic progress DU has made over the past ten years.

This year's auction items look like being the best to date, with several superb waterfowl paintings, items of pottery, air guns, carved waterfowl decoys, waterfowl books, waterfowl hunters equipment, and so on.

As can be seen from the following programme, DU Honorary Member Horrie Sinclair will be our guest speaker. For nearly twenty-five years Horrie Sinclair has owned and managed New Zealand's best privately owned wetlands — nearly 800 acres not far from Dunedin. With neighbours who have wanted to drain every piece of water around, Horrie's management of his wetlands has not been without drama and incident, and Horrie will relate some of his experiences to us in his address.

Accommodation at THC Tokaanu has been filling up fast, but as there are a number of motels within walking distance of the THC, accommodation should present no real problems.

We have three important additions to this year's annual meeting programme, these are; the presentation of the Bill Barrett trophy (see DU News), the presentation of ten year badges, and the presentation of trophies for winners of the clay bird championships.

This year's registration fee will be \$20 per person. This is only a small increase on last year's figure and is very inexpensive when one looks at the superb annual dinner we had last year. Thanks must, of course, go to THC Manager Keith Barnett for helping us keep the cost down.

Sunday morning will again be used for a social gathering over coffee and biscuits. This proved very popular last year and the morning was particularly good for DU Sales Department. Likewise the fine display of Winchester products proved extremely popular and we are hopeful that something similar can be arranged this year.

The full programme for the weekend of the tenth annual meeting is as follows:

Friday 13th July

9.00am DU's International Clay Bird Championships at the Taumarunui Gun Club.

Saturday 14th July

1. 1.30pm Registration — \$20/head
2. 2.00pm Welcome and Apologies
3. 2.05pm Minutes of the 1983 Annual

Meeting and Matters Arising.
4. 2.15pm President's Report and presentation of the Financial Statement

5. 2.25pm Appointment of Auditors for 1984-85

6. 2.30pm Election of four (4) Directors from the floor of the meeting

7. 2.40pm Report on operation 'Pateke' (Neil Hayes)

8. 2.50pm Presentation of the 'Breeder of the Year Award'

9. 3.00pm Guest Speaker: Mr H.A. Sinclair will address the meeting on the topic 'Twenty five years of wetlands management'

10. 3.45 pm Break for refreshments (President's 'Shout')

11. 4.00pm Presentation of the Bill Barrett trophy

12. 4.05pm Report on operation 'Gretel' (Jim Campbell)

13. 4.10pm Report on operation 'Whio' (David McNeil)

14. 4.15pm Report on operation 'Branta' (Neil Hayes)

15. 4.20pm Editorial Report (Neil Hayes)

16. 4.25pm General Business

17. 4.40pm Refreshments

18. 7.00pm Annual Dinner

19. 7.45pm Presentation of

(a) Ten year badges
(b) Clay bird championship trophies

20. 8.15pm Annual Auction

21. 9.30pm Refreshments

Sunday 15th July

9.30am For those staying overnight coffee and biscuits and 2 to 3 hours of socialising. DU sales section will be open for inspection and purchases. We also hope to have a display of sporting goods.

CREDIT CARD FACILITIES WILL AGAIN BE AVAILABLE THROUGHOUT THE WEEKEND

DU NEWS

Bill Barrett Trophy

Bill Barrett our Life Member in Australia has very generously sent us a sizeable sum of money for us to establish a new annual award — to be awarded to the DU member who, in the opinion of the DU Board of Directors, has done most during the year to promote the aims and objectives of Ducks Unlimited. The trophy is currently being made and will be in the form of a carved Blue duck mounted on a kauri base. The Bill Barrett trophy will be presented for the first time at the 1984 annual meeting. The first recipient has been chosen, but an announcement will not be made until the meeting. Recipient names will be engraved on the trophy. We certainly thank Bill Barrett for his support and initiative in establishing the trophy.

Membership

The repeat of the DU/Country Calendar programme in February gave us another big boost in membership and in April nearly 50 new members joined.

TWO NEW LIFE MEMBERS

Norman Marsh of Taupo was so impressed by the Country Calendar programme that he immediately sent us \$500 for Life membership. As a long time member of the Wildfowl Trust, an aviculturist and ornithologist, Norman says he is pleased to see DU making such good progress. The Isaac Wildlife Trust has



Scratchboard by Lee D. Salber

also taken up Life membership. The Trust's founder, Neil Isaac, is a Trustee of the World Wildlife Fund of N.Z. and is well known for his outstanding work in developing Peacock Springs, which consists of a series of lagoons that have been landscaped from the quarrying work of Neil's construction company.

NEW TRADE MEMBERS

The Stanley Ammunition Company who recently moved into part of the Colonial Ammunition Company factory and who are producing shotgun cartridges and components have joined as Trade members. Halcyon Publishing Co. have also joined as Trade members, as have the new Wellington company the Pacific Arms Company. The jewellery manufacturing company and retail company Partridge and Savage of Lydney Place, Porirua, have also recently joined as Trade members. John Savage, Managing Director, of Partridge & Savage has been a long time supporter of DU and he will in fact qualify for a ten year membership badge this year.

DONATIONS

With the new financial year underway we are pleased to report that subscriptions and donations have been keeping our Treasurer, Garry Girvan, extremely busy. We would like to thank the following for some very generous donations; B. Coe, N. Marsh, H.E. Wagner, M.D. Midgley, D. Brown, B. Chudleigh, M. Dugdale, R.J. Pinkerton, P. Nola, A.C. Hellyer, R.E. Satherley and E. Hansen.

Clay Bird Championships

The DU Clay Bird Championships, to be held on Friday 13th July at the Taumarunui Gun Club, have aroused considerable interest. Unfortunately entries have had to be limited to 54, so if you are attending and haven't yet filled in the form in the last 'Flight' please drop Jack Worth a note at Ryburn Road, R.D.4, Ruakura, Hamilton, straight away. Entries close 6.7.84.

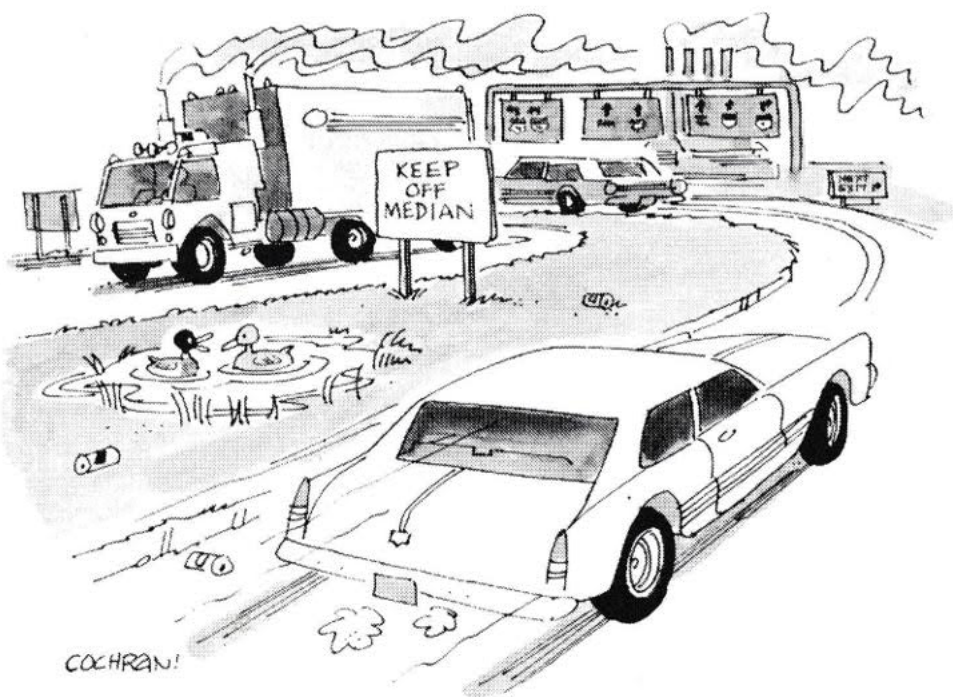
Good Publicity in Southland

DU gained some good exposure at a recent Duck Hunters Forum organised by the Southland Acclimatisation Society and held in Invercargill. As part of the forum the 750 people who attended viewed the DU/Country Calendar video tape. Other topics in the forum covered such matters as, duck calling, hunting techniques, shotguns and cartridges, the law, and habitat.

In all, an excellent hunter education forum for which the society is to be congratulated.

Shooting Success

Congratulations to 10 year DU member Murray Dench of Hamilton on his selection for the New Zealand team at the recent national Clay Target Championships held in Christchurch.



*"I knew our habitat was dwindling,
but I had no idea this was it!"*

FINANCIAL REPORT

AUDITORS' REPORT TO THE MEMBERS OF DUCKS UNLIMITED (N.Z.) INC.

We have audited the financial statements comprising the Statement 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 considered 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 1984 and the results of its activities for the year ended on that date.

DUCKS UNLIMITED (N.Z.) INC NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 1984

1. STATEMENT OF 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.

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

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.

Income is recorded as received.

Stock has been valued at the lower of cost or net realisable value.

Stock purchased for Operation 'GRETTEL', 'BRANTA', and 'PATEKE' is expensed when purchased.

The results and financial position of the Hamilton Chapter are not reflected in these accounts.

2. The Investment Account represents funds passed to the Society by the Hamilton Chapter. Interest on those funds is paid to the Chapter.

Deloitte Haskins & Sells
Chartered Account

Wellington, NZ
30 April 1984

DUCKS UNLIMITED (N.Z.) INC. INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 1984

	1984	1983
INCOME		
Subscriptions: Life	1,325	810
Full	4,725	3,234
Supporter	2,125	1,108
Junior	140	60
Trade	200	282
TOTAL SUBSCRIPTIONS	8,515	5,494
PLUS OTHER INCOME		
Advertising income "Flight"	865	3,073
Donations	3,936	6,463
Conference income	9,183	40
Profit/(loss) on T-shirt sales	(8)	64
Profit/(loss) on lapel badge sales	310	1,173
Profit/(loss) on book sales	78	11
Profit/(loss) on cards sales	(15)	—
Profit/(loss) on ties sales	987	224
Sundry	500	170
Grant: Environmental Council	285	700
Internal Affairs	700	645
Ministry of Recreation and Sport	583	18,057
Interest	26,004	—
TOTAL INCOME	58,307	31,818
LESS EXPENDITURE		
Audit and accountancy fees	350	843
Advertising	1,488	—
Donations	250	128
Duplicating	93	831
Operation: "Gretel"	1,361	1,532
"Pateke"	3,351	357
"Branta"	463	15
"Whio"	0	674
Postage	514	4,303
Printing	6,576	273
Sundry	810	2,027
Travelling expenses — board meetings	2,826	1,616
AGM expenses	2,981	112
Tolls	363	13,029
TOTAL EXPENSES	21,426	\$ 5,028
EXCESS INCOME OVER EXPENDITURE	\$ 4,578	\$ 9,028

DUCKS UNLIMITED (N.Z.) INC.

STATEMENT OF ASSETS AND LIABILITIES AS AT 31 MARCH 1984

	1984	1983
ASSETS		
Investment Account (Note 2)	4,000	2,000
Term deposit	3,000	3,000
Bank	4,876	3,181
Stock: T-shirts	38	60
Lapel Badges	143	68
Ties	924	—
Books	1,339	1,117
Cards	91	126
Machinery	52	52
	\$14,463	\$ 9,604
LIABILITIES		
Sundry Creditors	281	—
ACCUMULATED FUNDS		
Balance 1 April	9,604	4,576
Plus excess income over expenditure	4,578	5,028
Balance 31 March	\$14,182	\$ 9,604
	\$14,463	\$ 9,604

Signed copies of the Financial Report will be available for inspection at the Annual Meeting.
F.N. Hayes, Secretary

The Aliens



by Myfryn Owen, Assistant Director of Research at the Wildfowl Trust

The following article is reproduced by kind permission of the Wildfowl Trust. It is an extremely informative article and one which is of direct interest to our waterfowl scene — for where would we be without our alien waterfowl? — mallards, black swans, Canada geese, Grey Teal, etc.. In reading the comments about Canada geese in the U.K. it should be born in mind that the Canada's in the U.K. have always been looked upon as an ornamental species and not as *wildfowl*; with the result that most flocks in the U.K. have become very domesticated.

Wherever man has travelled, he has deliberately, or accidentally been responsible for carrying with him other organisms which have established thriving populations in places which they could not conceivably have colonised naturally. Accidental dispersal of plants, invertebrates and even mammals such as rats have later caused serious problems by damaging crops and threatening native species, and deliberate introductions by man have been far from trouble-free.

There have been two main reasons for introducing new species — ornamental (they look nicer than native ones or they remind the traveller of home) and to provide useful commodities for man (food, clothing or sport). Most mammals and birds have been introduced largely to be exploited by man and in most cases the effects on wildfowl have been extremely damaging. A classic example was of course the Hawaiian Goose which was pushed to the verge of extinction following the introduction into Hawaii of predators such as the Indian Mongoose (ironically to try to control the introduced rat population) and direct hunting by man.

Arctic foxes were introduced on to the Aleutian Islands in the early part of this century to support a trapping industry there and this almost extinguished the distinctive Canada Goose which nested there. The Auckland Islands Flightless Teal was wiped

out on many of the islands after the introduction of cats and pigs. The list is endless . . . but this account deals with the fate of introduced wildfowl in Britain.

The first introduction and our most familiar alien is the **Canada Goose** *Branta canadensis* which was brought over in the 17th century as an ornamental bird and perhaps with a view to eventual sport shooting. Canada Geese were present in London at least as early as 1671 and they were thereafter dispersed to several large estates where they were fostered and where they established viable flocks. Notable concentrations were established at Windsor, Holkham (Norfolk), Harewood (Yorkshire) and the area of Nottinghamshire known as the Dukeries.

Canada Geese are very adaptable and prolific breeders, but the large race introduced here is rather sedentary and without help, spread from the estates would have been rather slow. However, early in this century as numbers in some sites became undesirably high, dispersal was aided by man. Flocks were rounded up when flightless in summer and transported to areas of suitable habitat elsewhere. Canada Geese were soon to be found in most parts of the country where they were suitable breeding places. The practice of moving flightless birds then ceased.

Canada Geese naturally breed in places safe from land predators (coyotes and wolves

in North America), on islands, cliffs or even in trees. Islands were the only suitable places available in southern England and the spread of the birds coincided with a great increase in the area of gravel pits, many with suitable nesting places, in the valleys of the Thames, Trent, the Ouse and its tributaries. The birds soon spread to gravel pits from park lakes and this trend is continuing. Although the production of gravel has fallen slightly since the era of peak motorway construction in the early 1970s, new areas continue to be excavated and the demand for water space for recreation means that many of these are left to flood rather than filled for agriculture or building.

The first organised attempt to assess the numbers of Canada Geese on a countrywide basis was in 1953, when the total amounted to 4,000 birds at most. The 1968 census indicated there were just over 10,000 and in 1976 no fewer than 196,000 were counted. In the late 1970s the species was recorded in no fewer than 484 10km squares in Great Britain. The growth has not been even throughout the country, as numbers have been controlled in Scotland and the north-west Midlands, balanced by enormous increases in the Thames Valley.

One interesting feature is that the British Canada Goose has developed a tradition of migrating to moult to the Beaulieu Firth in

north east Scotland. More worrying are the increasing complaints from farmers that the geese are damaging their crops and, being resident throughout the year, the birds undoubtedly do considerable harm locally to cereal crops as well as grass. Many, including some conservationists, feel that the situation is getting out of hand, and indeed many farmers and estates are taking action by increasing winter shooting. After all, if population growth continues at the present rate we shall have 57,000 by 1990 and 120,000 by the turn of the century!

Although **Greylag Geese** *Anser anser* are native British birds all of those seen nowadays in the south are the result of introductions. A small breeding population still survives in the Outer Hebrides, but eggs were taken from there to establish a stock in south-west Scotland in the late 1930s and from there birds were 'transplanted' further south. There are now probably 3,000 feral Greylags in Great Britain, and a native population of 1,000 or so all in Hebrides. Unfortunately some introductions into south-east England involved pink-billed Eastern Greylags and these can be regarded as alien stock.

The **Egyptian Goose** *Alopochen aegyptiaca* (really a closer relative of shelducks than of geese) established a full-winged flock in Norfolk following introductions in the 18th century. It is still almost entirely restricted to that county, with the main concentration being on the Holkham estate. The group is obviously self-supporting and the birds survive the winter well, but there is no evidence of increase of spread, with numbers stable at 300-400 birds. This is probably due to the poor survival of the young, many of which succumb to predation by crows.

The colourful **Mandarin Duck** *Aix galericulata* has obvious attractions as an ornamental bird, and has the additional appeal that it has no obvious counterpart in Europe. The Mandarin is an inhabitant of deciduous forests in its native China, nesting in tree holes along slow running rivers and feeding in the wet areas along the banks. There is little of this habitat in Britain but introductions into Surrey and Berkshire earlier in this cen-

tury succeeded in establishing a viable population. The birds are still centred there, with only isolated pockets elsewhere (including one of the River Tay near Perth). Numbers have, and are probably continuing to, increase, from about 500 in the early 1950s to perhaps 1,000-1,500 today. Considering the uncertain state of the native population in the far east, this is encouraging, though the shortage of suitable forests will set a relatively slow limit on future numbers.

A close relative of the Mandarin, and almost as colourful, the **Carolina or Wood Duck** *Aix sponsa* has also been the subject of several introduction attempts. The species is yet to become firmly established in the wild, probably because of shortage of suitable nesting holes.

The **North American Ruddy Duck** *Oxyura jamaicensis* is the only established alien whose introduction was accidental. Aviculturists found it very difficult to rear ducklings artificially so in the past at Slimbridge, females were allowed to rear their own young, which were rounded up before taking flight. In the early 1950s a few escaped and a feral flock became established in Chew Valley Lake, Avon. Some escapes from other collections have supplemented this stock. Two separate groups, one in the Midlands and one in Avon and Somerset, were soon established and there was some interchange between them, with the northern group moving south to the Avon reservoirs in winter.

Numbers have been monitored fairly closely and since most birds are on reservoirs and lakes in well populated areas most are picked up in the winter national wildfowl counts. The spread and growth of the species was so rapid that it could, without exaggeration, be called an explosion, with the total reaching almost 1,800 in 1980. Experts have always predicted that the Ruddy Duck would be severely hit by a hard winter, after all it is a very small duck, unable to stand great extremes of temperature. It is dependent on open water (it is almost ungainly on land and among the most aquatic of wildfowl) and has no tradition of migrating to milder areas of

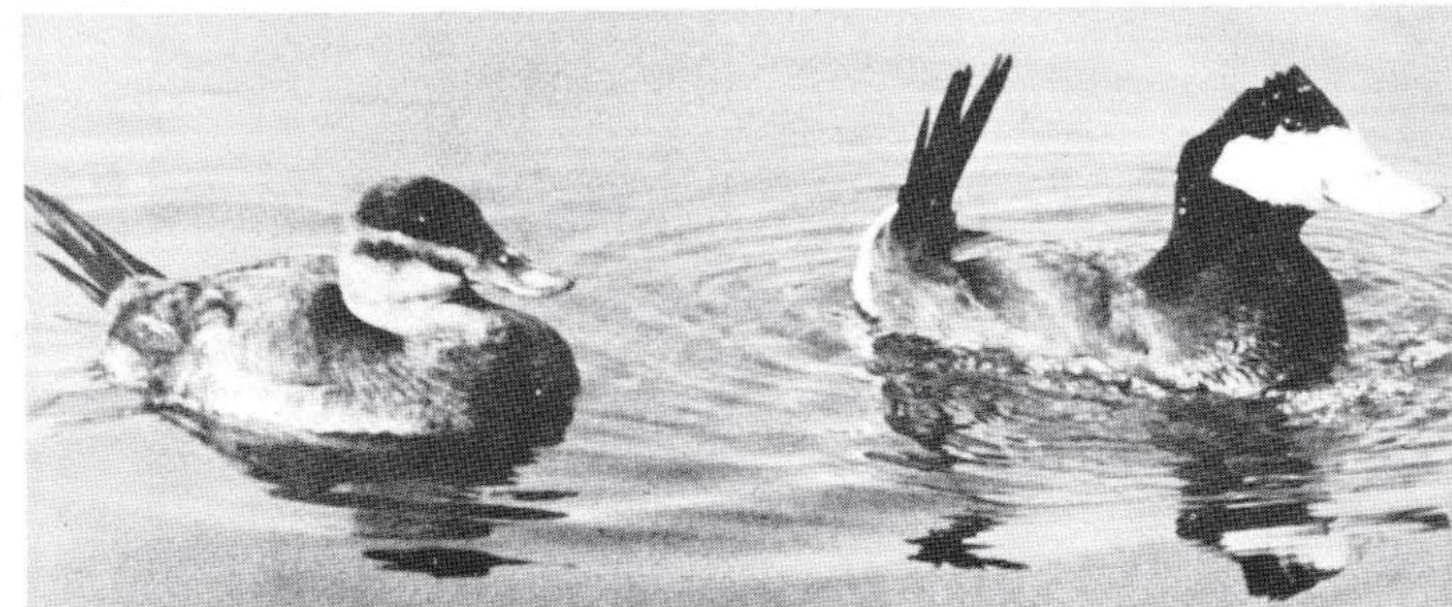
Europe when cold weather strikes. It was with considerable interest therefore that we examined the results of the counts at the end of the cold winter 1981-82.

We found, to our surprise, that at the very least 60 per cent of the ducks had survived — this hard winter caused no more than a slight hiccup in the progress of this North American species.

Most people welcome, or at least have no objection to, the spread of the Ruddy Duck here. Although it is most unlikely to have reached our shores in sufficient numbers to colonise of its own accord, it is causing no harm to anyone's interest, and is an attractive species with no close competitors among our native ducks. The only concern has been expressed in southern Europe, where some fear that if the Ruddy crosses the channel it will spread southwards and compete or interbreed with the White-headed Duck, now almost extinct in Europe (only a handful of pairs remain in Spain). Others argue that the White-headed Duck is doomed there anyway and that there is sufficient difference between the two species to prevent interbreeding and severe competition.

Whatever the truth, the matter is out of our hands — there are now regular occurrences in France and following hard weather here in January 1982 there were at least three there, including a pair. It seems only a matter of time . . .

What of the future? Are we going to see any new species being established artificially? It is agreed that, in general, man's interference in introducing species has been highly undesirable. This was recognised in our 1981 Wildlife and Countryside Act in that further spread of established aliens was prohibited except under licence. Licences would not be granted except possibly in the case of the Mandarin, in recognition of the precarious situation in China. Deliberate introductions of other aliens was made illegal and a code of conduct for aviculturists, if adhered to, will probably ensure that we will not again see aliens established artificially, though there is, of course, the slight possibility that some might achieve it without help.



Male Ruddy Duck displays to female: Picture Philippa Scott



The Carolina Wood Duck — male.

PRESIDENT'S REPORT ON 1983/84 OPERATIONS

The year under review was one when many New Zealanders' hopes and spirits seemed as depressed as the economy . . . when quite a few appeared to feel as if things were out of their control and nothing they could do would help. But this didn't deter Ducks Unlimited members. The past year has been an outstanding one for your organisation. Membership increased by some 25% and the magical 1,000 mark is very close to being achieved. For the first time DU funds were spent on habitat creation (at Pokono, to benefit Grey Teal) and a considerable sum was allocated toward Brown Teal research. The annual auction saw a record income, record attendance and the presentation of the

Wildlife Conservation Award by the N.Z. Wildlife Service to recognise DU's significant contribution to the conservation of the country's wildlife. A record number of Brown Teal was reared in captivity and subsequently released into the wild; large numbers of Grey Teal nest boxes were erected; the establishment of Canada Geese in the North Island progressed well and there are now some 2-3,000 geese in residence. Other highlights were impressive publicity in the form of a DU/'Country Calendar' television programme and the new-look flight magazine which is creating considerable interest in the organisation and its work.

Glancing at last year's figures — in spite of the dismal economy we raised more money for waterfowl conservation than in any of our previous ten years. Membership funds increased dramatically to \$8,500; specifically, Horrie Sinclair was responsible for enrolling 70 members and the Hamilton Chapter 254 members. The annual auction

income, at \$9,100, increased by a third compared with the previous year — a remarkable result. The Hamilton Chapter donated \$2,000 to swell the DU bank balance. Donations were an encouraging \$3,900. Among other notable donations and grants were those of the Ministry of Recreation & Sport (for Flight production); the Environmental Council (for a Brown Teal display unit) and the Department of Internal Affairs (Brown Teal release). Costs were held at realistic levels. Substantial funds were employed 'in the field' and some monies approved in the last financial year, primarily for Brown Teal research, were uplifted at the beginning of the new accounting year.

How was so much accomplished in such a difficult year? Through the hopes and dedication of DU members and supporters. Keeping one eye focused on the future, DU members donated more as a group than they ever have before because they are positive minded people confident they are supporting

a worthy cause. The fact that DU raised more money in 1983/84 than any previous year speaks well of the dedication and ingenuity of DU's national network of volunteers. That it achieved those milestones during a time when the economy was suffering from a variety of ills is even more impressive. Hard work in the field is the ingredient most critical to the conserving of waterfowl. And it is the main element that sets Ducks Unlimited apart from other conservation organisations.

Special, sincere thanks are due to Ducks Unlimited, Inc, U.S.A. who gifted items for the annual auction of a varied nature, from waterfowl art to porcelain, to books and wood sculpture — the major boost to auction income. We also thank Nga Manu Trust and the Mt Bruce Native Bird Reserve for their supportive attitude towards the Brown Teal programme; Brendan Coe our Printer for producing a brilliant members' magazine at very economic cost; Winchester New Zealand and the Wildlife Service for support with Flight advertising; and of course our friends at the N.Z. Wildlife Service and in the acclimatisation society movement with whom we have a close working relationship.

New opportunities to benefit waterfowl are occurring constantly and Ducks Unlimited plans to grasp these and make the most of its donated resources. To the dedicated volunteers and members who

championed DU's cause in the past year I say 'thank you' for another great year.

When I reflect on DU's astonishing growth over the past decade, I find my hope renewed that we will continue to expand until a healthy future for New Zealand waterfowl is assured. DU's approach to waterfowl conservation helps to ensure that the environmental quality of *all* our lives (and I mean ducks and people) will be enhanced and the legacy we can leave future generations will be a *living* one.

Project Reports

Full project reports will be given at the annual meeting, but briefly, in **Pateke**. The number of Brown Teal reared for the 1983-84 breeding season, which ended on April 30th, looks almost certain to set an all time record. Final figures are not yet to hand but could be as high as 130 birds reared. Over 80 are now in residence at the Mt Bruce Native Bird Reserve pending their shipment and release in Northland in late July.

DU has just financed the materials for fencing the Matapouri Estuary roost site in Northland (see last 'Flight') at a cost of \$827.

BRANTA

A small shipment of geese arrived from the

South Island in late March and were distributed to members in the North Island. We again failed to supply the demand by a large margin and apologise to those farmer members who missed out.

Tribute must again be paid to the Wildlife Service for supplying the geese and to Lawrence Piper of the North Canterbury Acclimatisation Society for pinioning and holding the geese and Peter McLeod for organising the boxes and air freighting the birds.

Aviculture

To combat the problem of the larger waterfowl on open pond waterfowl collections — geese, swans, shelducks, etc., — eating all the food, farmer member Ron Munro of Invercargill has come up with the ingenious device shown in the photo's below. The arrangement allows ducks and ducklings to feed at leisure, but prevents the larger birds from gaining access. The larger birds are fed separately in the recommended manner — from troughs and **not** by having their food scattered on open ground.

Ron's structure is highly recommended and in the breeding season ensures a high rate of duckling survival. It is most certainly a sound management technique.



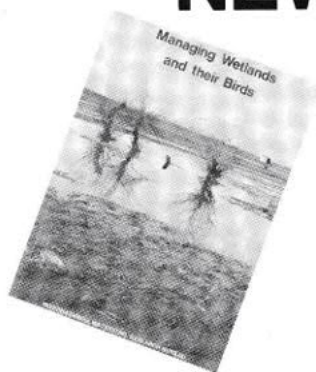
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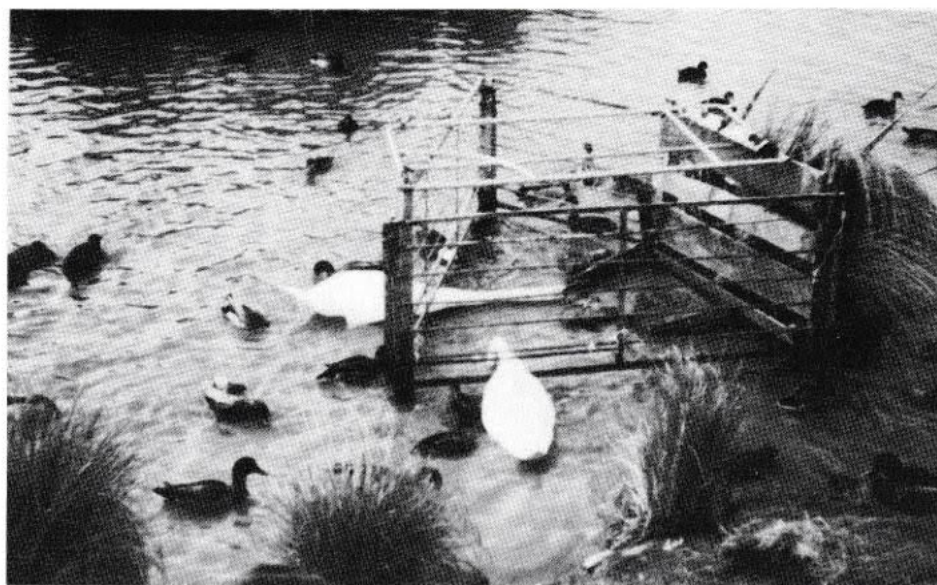
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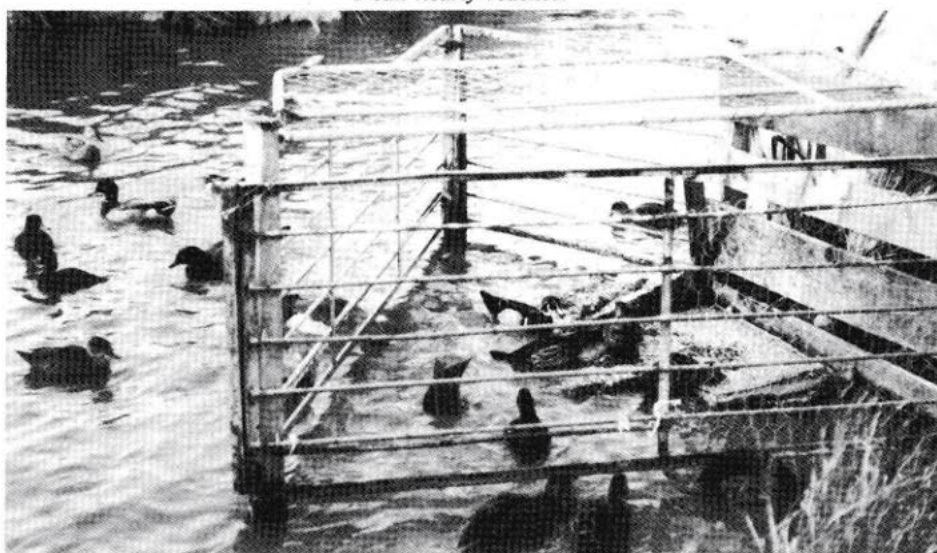
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HUNTERS AND CONSERVATION

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Whether he took a limit bag or merely received exercise, the sportsman has joined in step with tradition, a valued tradition which has preserved the sport of hunting in New Zealand for generations. Hunters have been making important contributions to the management of our back country and wildlife since pioneer days. They have been in the forefront of nearly every worthwhile conservation movement for over a century.

Today, the voice of conservation is louder than ever before. The crush of the cities has brought conservation to the attention of people who have never before been concerned with improperly managed forests, waters and wetlands. Keeping in step with these demands of the '80s, Government is taking an ever-increasing role in setting aside open spaces to assure future generations of room for recreation.

In the years ahead, as competition for open space increases, it is important that the general public be aware of the stake that the New Zealand hunter has in the out-of-doors; and the vital role that the sportsman has played in preserving this priceless land, and its wildlife, for the mutual benefit of all New Zealanders.



NEW ZEALAND WILDLIFE SERVICE
Department of Internal Affairs, Private Bag, Wellington

WORKING FOR YOUR SPORT

BROWN TEAL RESEARCH

The ecology of Brown Teal (*Anas aucklandica chlorotis*) on Gt Barrier Island

Set out below is the initial draft of the Ph D Research programme to be conducted by Grant Dumbell. Ducks Unlimited (N.Z.) Inc is supporting this research to the tune of a minimum \$2,000 per year and we are delighted to announce that the research commenced in June, and our first payment has now been made to the University of Auckland. While we can certainly claim some of the credit for getting the project off the ground, our grateful thanks must go to John Craig, Senior Lecturer in Zoology at the University of Auckland and Murray Williams of the Wildlife Service for setting the whole thing in motion. We wish Grant every success with the research and we are sure he will provide much essential information about Brown Teal in the wild.

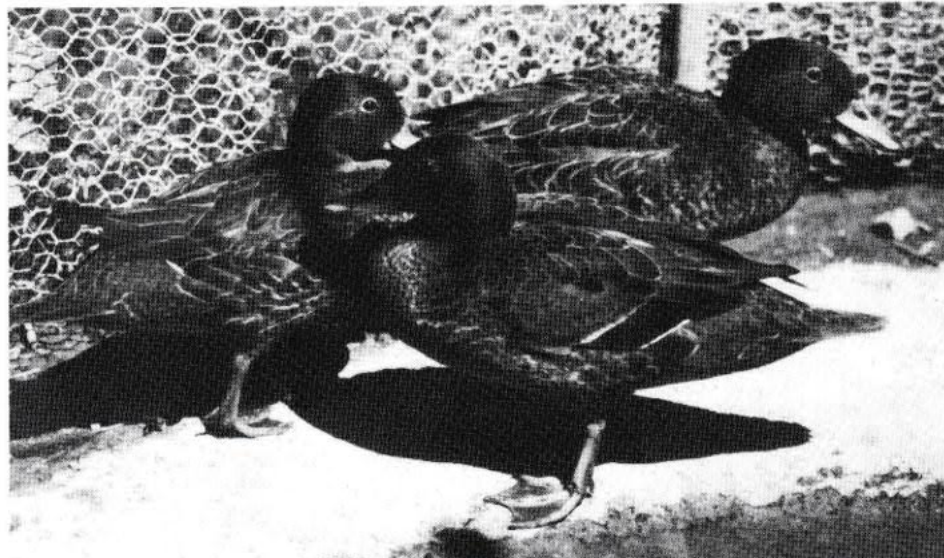
BACKGROUND

The endemic Brown Teal (*Anas aucklandica chlorotis*) is New Zealand's rarest waterbird and is included in the Red Data Book as a vulnerable species (King, 1981). The total number of birds is probably no more than 1500 and the species is continuing to shrink in both numbers and range (Fisher *et al.*, 1969; Hayes and Williams, 1983). This is in stark contrast to 100 years ago when Buller described the bird as being "distributed all over the country, being met with in every inland lake, and often in the deep freshwater streams that run into them". (Turbott, 1976:221).

In the South Island it is virtually extinct. Relict populations persist only in parts of Fiordland. It is now extinct on Stewart Island where it was recorded by Bull *et al.*, (1976).

In the North Island the species is largely restricted to Northland and Great Barrier Island. Small groups persist in the Waikato, Bay of Plenty and Coromandel but only the Great Barrier population can be considered safe in the short term. It is thought to number 800-1000 birds.

The species adapts well to captivity and successful avicultural techniques have been documented by Reid and Roderick, (1973), Hayes, (1981) and Hayes and Williams, (1983). Liberations of captive reared birds onto Kapiti Island, (Williams, 1969), The Manawatu lakes and Matakana Islands, (Hayes and Williams, 1983), have not been as successful as hoped due to pressure from



Captive Brown Teal.

existing waterfowl, disturbance from hunting, and predation.

There is now considerable concern about the future of this species. A recent joint meeting between the Wildlife Service and Ducks Unlimited, called to discuss the future conservation programme for the species, identified the need for a major research project to clarify:

(i) The birds habitat preferences, par-

ticularly those in the modified agricultural environment of Great Barrier Island and Northland.

(ii) The dynamics of the Great Barrier Island population and the potential for removing birds for release on the mainland and

(iii) The function of the communal roosting habit and identification of features common to roost sites.

This research proposal outlines an investigation which attempts to answer these questions for the Great Barrier Island population of teal. It is subdivided into three sections.

OBJECTIVES:

(I) To determine the habitat preferences of Brown Teal on Great Barrier Island. Here the main thrust will be to identify those habitat variables which correlate with Brown Teal distribution and density. These will be subdivided according to the birds use of the habitat.

- a) feeding areas and food preferences.
- b) breeding areas including territory, nest site and brood rearing requirements.
- c) roosting areas.

(iii) To determine the function of the roost. Currently little is known about the functions of the communal roost. It appears roost sites are traditional and may form focus points for a population. Should they be lost, the population may become more dispersed, leading to a decline. Many behavioural activities such as pair bonding, are connected with the roost

while juvenile and unpaired birds also use it. Detailed observation of the behaviour of marked individuals will indicate likely roles of the roost and allow hypotheses to be formulated and tested.

METHODS:

The principal study areas will be the Awana Flat, but birds will also be monitored at other known centres of concentration. In all areas it will be a priority to individually mark birds. This will be done using colour bands and possibly nasal saddles. Some birds in the main study area will be fitted with radio's to allow regular tracking and location. Mist nets, drift traps and possibly baited traps will be used to capture birds for marking.

Teal areas will be mapped quantitatively and qualitatively so habitat variables are known. Regular transects will be made through these areas to determine what proportion of the population is using each area

and for what. Areas used for breeding, feeding and roosting will receive extra attention. The transects will also reveal whether the island holds one population or several discrete sub-populations.

Permanent observation hides will be established in high use areas. These will allow territories, numbers, movements and behaviour to be monitored without disturbance. Feeding preferences will be investigated using fecal analysis.

The population structure will be determined by ageing birds and the disappearance of marked individuals will reveal mortality rates. Natality will be monitored by nest recording. Life tables may be used to analyse this data and clarify the population status. Population estimates may be made using capture — recapture techniques. However these will only be used if initial fieldwork suggests the assumptions of the various methods are satisfied.



DISCUSSION:

This project is designed to provide a large data base on the bird ecology on Great Barrier Island. It is the last sizeable teal population and although still largely in its native state the birds have partially adapted to the semi-developed pastoral environment. By understanding the birds use of this environment, other similar areas may be found so a stop can be put to the decline.

While the above is an outline of the project and how it will be carried out, the exact form will be finalised with Dr Murray Williams of the Wildlife Service. At all times the research will keep in mind the requirements of those who are engaged in the conservation of the species.

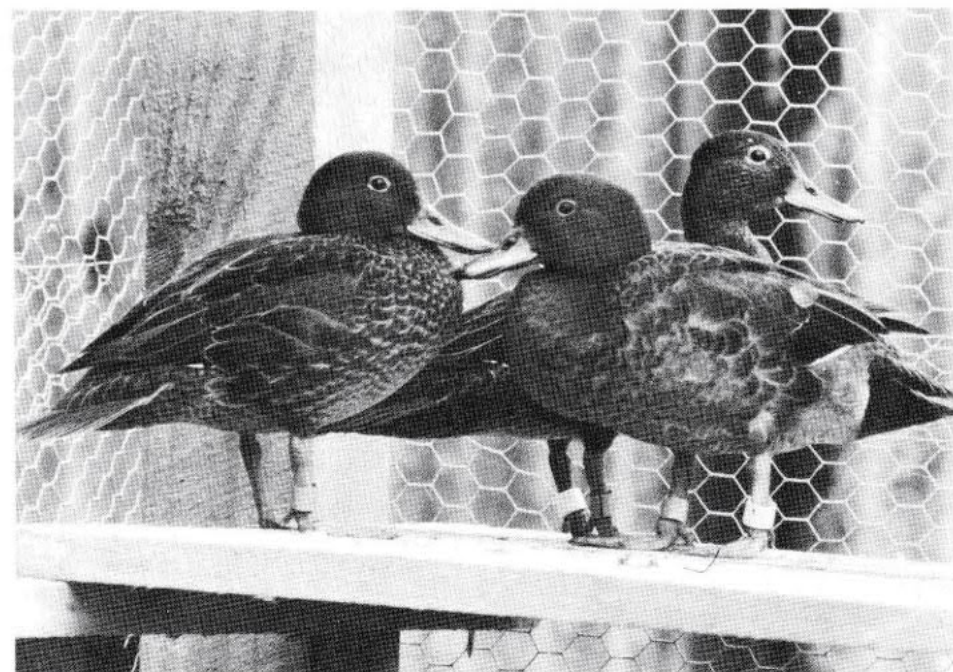
A timetable of three summers fieldwork and six months for final writing is envisaged. It is planned that fieldwork will begin by June 1984. Supervision will be given by Dr John Craig of the Zoology Department, University of Auckland.

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Research worker Grant Dumbell, B.Sc. Hons. (1st Class) Victoria University.
Estimated Expenditure Categories for 1984

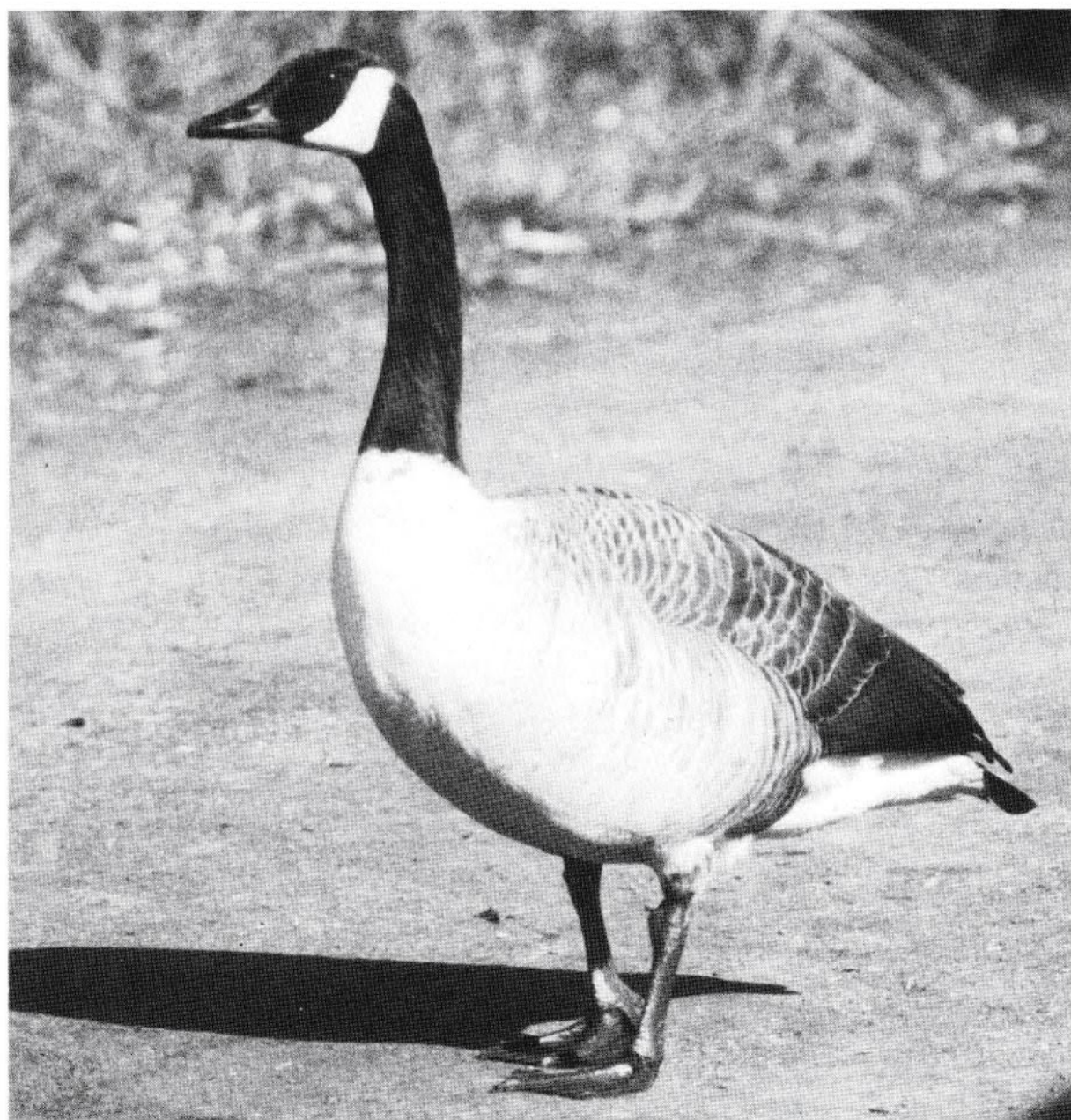
Grant towards purchase of farm bike for travel on Great Barrier Island	\$1,000
Bike operating expenses (petrol, repairs, etc.)	400
Travel to and from Great Barrier Island	100
Freight to Island	100
	<u>\$2,000</u>



Captive Brown Teal

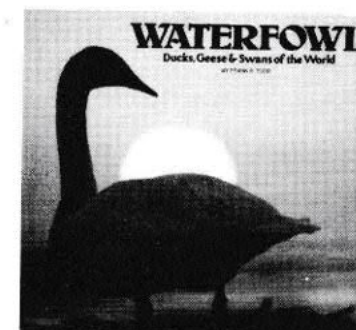


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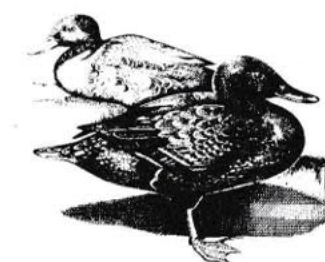
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