



"FLIGHT"

NEW ZEALAND REGISTERED MAGAZINE

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FLIGHT 3/81 ISSUE 29 SEPTEMBER 1981

J. CAMPBELL ESQ
"RAMESLIE"
R.D. 1
MASTERTON



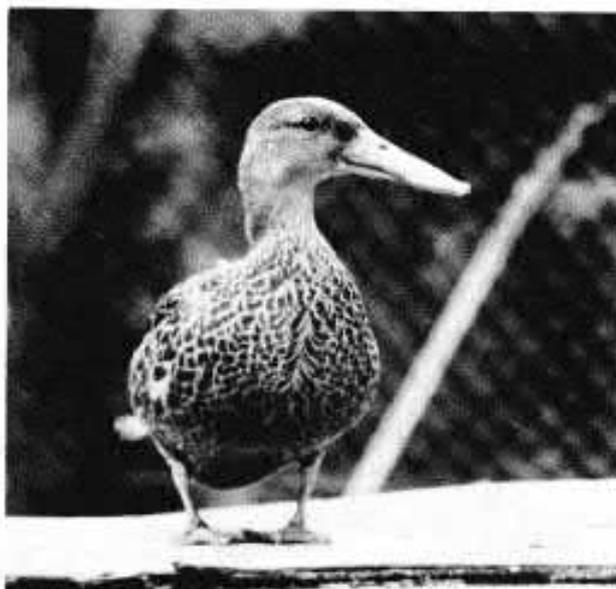
DU MEMBER, JULIAN HAYES, WITH A VALUABLE EXPORT

DU News

DU EXPORTS NZ SHOVELER

For the first time in twenty years the Wildfowl Trust, Slimbridge, received two pair of New Zealand Shoveler in August, sent by Ducks Unlimited. These shoveler were captive-reared birds kindly donated by Mr Bill Clinton-Baker of Masterton. The birds arrived at the Wildfowl Trust in excellent condition and after a short period in quarantine will be placed in the Trust aviary.

Our cover shows DU member Julian Hayes about to place the first of the shoveler into the export crate.



New Zealand Shoveler - Female
Photography: P. Neil Hayes

GREY TEAL TO NGA MANU TRUST

Ducks Unlimited recently donated 16 Grey Teal to the Nga Manu Trust, Wellington. The birds are to be released at the Nga Manu sanctuary near Waikanae which has a park-like setting with bush walks, swamps and ponds. June and Sig Bronger had a great year breeding Grey Teal and were happy to send 16 birds off to a good home and hopefully the birds will settle and breed this coming season. Nga Manu Trust have recently become DU members.

DU RECEIVES \$700 GRANT FOR "FLIGHT"

It is with some pleasure that Ducks Unlimited announces a grant has been received, for the fourth year in succession, for \$ 700 from the Ministry of Recreation and Sport - this year for the specific purpose of assisting with the cost of producing your newsletter, "Flight". Ducks Unlimited appreciates this valuable support which will assist in holding production costs.

THE FOLLOWING NEW MEMBERS JOINED DU THIS QUARTER:

Bernard G.M.	(F)	Hare, D.P.	(F)	Roxburgh, A.J.	(F)
Bennett, Fred	(F)	Hill, L.E.	(F)	Smith, J.H.	(F)
Bellamy, Terry	(F)	Hutson, Miss A.	(S)	Stacy, D.M.	(S)
Corballis, Neil	(F)	Lawson P.J.	(F)	Stewart, Murray	(S)
Counsell, Ron	(F)	Nga Manu Trust	(T)	Strang, D.D.	(S)
Gill, Miss Joanne	(F)	Mola, Peter	(F)	Manganui Acclimatization Society	(F)
Goodwin, S.J.	(S)	Reloaders Supplies	(T)	Wilson, David S.	(F)

(F) denotes Full membership
(S) denotes Supporter member
(T) Trade membership

WELLINGTON ZOO DONATES CANADA GEESE FOR OPERATION BRANTA

For the second year running the Wellington Zoo has most generously provided Canada geese for Operation Branta. In June, DU uplifted 3 captive-reared geese from the Zoo for placement in the Wairarapa. DU sincerely thanks Wellington Zoo Director, David Ellis, and Chief Birdkeeper and DU member, Ron Goodswaard for making these birds available.

A summary of Operation Branta appears in the Minutes of the Annual Conference elsewhere in this issue of "Flight".

SPECIAL BOOK OFFER FOR DU MEMBERS

"WILD GEESE OF THE WORLD"

BY DR MYRFYN OWEN

SPECIAL OFFER TO DU MEMBERS...
\$ 51 POST PAID (NZ RETAIL \$ 53)

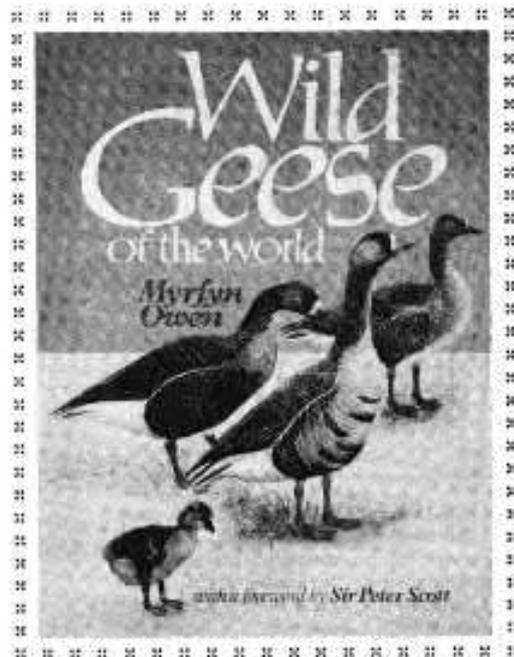
DU MEMBERS: ACQUIRE THIS VERY SPECIAL BOOK AND HELP BOOST DU FUNDS AT THE SAME TIME! AS WELL AS OFFERING A DISCOUNT TO DU MEMBERS, THE WORLD WILDLIFE FUND-NEW ZEALAND HAS OFFERED TO PAY DUCKS UNLIMITED COMMISSION OF 40% OF THE NET PROFIT FROM ORDERS ATTRACTED FROM THE PROMOTION IN "FLIGHT" (THIS IS APPROXIMATELY \$ 5 PER COPY). THESE COMMISSION EARNINGS WILL BE PLACED DIRECTLY "IN THE FIELD" TO BENEFIT NEW ZEALAND WATERFOWL.

The author, Dr Myrfyn Owen, is a Conservation Research Officer for The Wildfowl Trust at Slimbridge in Gloucestershire, where he has worked since 1967. Dr Owen has drawn widely on a multitude of sources including his own research to provide a comprehensive and systematic account of our present knowledge about wild geese, their life cycle and the ways which they adapt to the changing environment.

The species and their variations are fully described in the first part of the book, through summaries of the known details of, for example, summer and winter distribution, numbers, migration, breeding habits, food, plumage, identification and ageing. Many of these aspects are illustrated by the accompanying line drawings, maps and tables. The second part of the book synthesises and analyses such aspects as the social and sexual behaviour of geese, summer biology, population dynamics, conservation and exploitation. The species, and particularly the subspecies, are illustrated in the specially commissioned watercolour paintings by Joe Blosson.

Although some of the author's analyses are speculative they will stimulate interest in and work on the basic biological problems, on the understanding of which our attempts at goose conservation and management must depend. The book will be of particular interest to the keen amateur and professional ornithologist, wildfowler, wildfowl biologist and conservationist. It is an invaluable work of reference containing all the important information about geese and providing a fascinating account of the evolutionary and ecological basis for the major differences and similarities between species.

Orders may be placed with the World Wildlife Fund-New Zealand. Delivery can be expected approximately four (4) months from receipt of order - as the book is published in the United Kingdom. To other than Ducks Unlimited members, the U.S. retail price is \$ 53 per copy. The book is available only on order through the publisher's representatives i.e. it will not be sold in retail bookshops.



ORDER FORM: "WILD GEESE OF THE WORLD"

TO: WORLD WILDLIFE FUND-NEW ZEALAND
P.O. BOX 12-200 WELLINGTON NORTH

PLEASE POST ME COPY/COPIES OF
"WILD GEESE OF THE WORLD"
BY DR MYRFYN OWEN



I ENCLOSE MY REMITTANCE OF \$ (\$51 PER COPY)

NAME

ADDRESS

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REPORT ON OPERATION GRETEL (GREY TEAL)

Reports from.....

BARTON'S LAGOON, Wairarapa

Neil Hayes reports three clutches "on the go" following the first maintenance/straw replacement visit on 2 August 1981. He comments that at least 80 Grey Teal were using the lagoon.

WAIKATO

Dudley Bell has summarised the 1981 breeding season (to 6 September) as follows:

"Initial inspections were made on 1 August. One new area was inspected but found to be unsuitable. Three areas were inspected, totalling 66 boxes - 31 at Lake Ara Ara; 10 at Tangirau and 25 at the Moutley site.

Lake Ara Area produced no results for this its first season. New hay shavings were placed in a number of the boxes and the area left to the ducks.

Tangirau showed a one hundred per cent improvement on last year with 2 boxes of the 10 being utilised. Both boxes had 8 eggs being incubated tightly by the female.

Moutley showed its usual excellent results with 14 boxes being utilised and 119 eggs laid. Eleven eggs were already lost to flooding in the lower boxes. A promising start.

The next inspection was at the Moutley site only, on 6 September 1981. Here, this time, was outstanding success with 23 of the 25 boxes being used. 145 eggs were laid. 81 of the previous inspection eggs had hatched giving 68% success. There were 6 eggs lost for no apparent reason - being cold and disarranged in the nest. This left 32 eggs unhatched or infertile. Some may not have been removed on the 6 September inspection as new nests were under way. In some new nests it appeared that old infertile eggs remained - a crowding problem I believe. One nest had 6 newly hatched young and four ready to hatch eggs. Two broods of young Grey Teal were seen on the area in the open water. One of the broods was young and comprised 7 ducklings and the other almost fledged and comprising 6."



original sketch by Dave Chapple



AUCTIONEER, BILL WILKINSON, IN ACTION
ASSISTED BY PAUL PIRANI (R) AND DUDLEY BELL



Annual Report
1981



WELCOME TO.....
DUCKS UNLIMITED (N.Z.) INCORPORATED
ANNUAL DINNER/AUCTION
SATURDAY - 18 JULY 1982
SHAW SAVILL LODGE - WELLINGTON

Ducks Unlimited (N.Z.) 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 and prolific waterfowl as a national resource. The organisation was founded in May 1974 by a group of far-sighted conservationists and has flourished since - to the benefit of waterfowl in New Zealand. Each year members meet at the annual conference to discuss the past year's progress and to plan for the future. Dinner and a charity auction follow, the former being your opportunity to participate in raising funds for a pleasurable evening for waterfowl protection for the coming year, and aid on the magnificent auction items generously donated for the purpose.

We wish you a pleasant, enjoyable and profitable evening!

Ducks Unlimited (N.Z.) Inc
P.O. Box 76 Hamilton

REPORT ON 1981 ANNUAL CONFERENCE - WELLINGTON

Wellington showed the "windy" side of its nature on Saturday, 18 July, but this did not deter DU members and friends from enjoying the annual conference held at the Shaw Savill Lodge. Fifty-seven members from all parts of New Zealand attended and this number rose to 92 for the dinner and auction. Formal Minutes of the conference appear on other pages. Mr K.G.W. (Bill) Wilkinson, DU's auctioneer, whose enthusiasm and drive is infectious, was in top form and he persuaded those present to part with \$ 5,000 during the auction and sale proceedings. After all costs were accounted for, the net figure raised for the evening was some \$ 3,800 - a magnificent effort. Special thanks to Bill Wilkinson and the auction and sale table donors - items for sale were many and varied, appealing to all budgets, taste, interest and DU appreciates the support of the following:

Mr and Mrs G. Butts, Melbourne	3x Luxe Knife Sharpener
Mr and Mrs S. Bronger	"Life on Earth", carving,
	wine goblets and tray
Messrs F.S.S. Bailey and	Hand-carved Blue Duck "decoy"
M. Newcomb (N.Z. Field	(No 3 limited edition)
& Stream)	Collection early N.Z.
	fishing/hunting photography
Mr W. Clinton-Baker	Pair New Zealand Shovelers
Mr J. Campbell	"Solingen" Knife
Mr R.A. Denny	Rex Opal Buck Rabbit
Draws Jewellers, Wanganui	Two clocks
Ducks Unlimited Inc U.S.A.	Collection signed, numbered
	waterfowl art, cartridge case,
	DU cooler, DU limited edition
	"history books", T.J. Hooker
	Canvasback "decoy"
	Sportsman's torch
	"The Kokako", framed,
	waterfowl art
	Bourbon decanter "Red Head",
	waterfowl art
	"Waterfowl in Australia",
	collection art prints by J.G.
	Boulemans "N.Z. Waterfowl"
	Presentation pack "Forester's Fate"
	Buck Knife
	Series waterfowl art
	Waterfowl publications, pair N.Z.
	Scaup, leather shoulder bag
	Photography: Canada geese
	Waterfowl art
	Waterfowl art
	Waterfowl china, Gas B.B. Pistol
	"Ohakune" vegetables, waterfowl art
	Camouflage and wooden gun cases,
	brass duck hooks, waterfowl art
	"The World's Firearms" and
	"Guns & Rifles" publications
	Ohakune Potatoes
	Buck Knife, Indian Kukri Knife,
	Kukri & Display Board
	Pottery Bear Mugs
Reloaders Supplies Ltd	
"Sprout House" Ohakune	
Wellington Sporting Arms Co.	
Mr W. Wright, Reikorangi Pottery	
Anonymous Donors from Waikato	Waterfowl publications, outdoor
and Wellington (as many of	equipment, indoor games, puzzles,
these persons are unknown	electrical equipment, linen tea
please accept our thanks here)	towels



SPECIAL NOTE: auction and other purchases from Ducks Unlimited (NZ) Inc.

Members are unable to submit receipts for conference purchases i.e. auction and sale purchases, as part of their annual return to the Inland Revenue Department. Such sums do not qualify for tax exemption. Donations and subscriptions qualify only. Although purchases at DU conferences benefit waterfowl, the member or purchaser has received something tangible for his/her pleasure/use - therefore cannot claim a tax deduction. Please do not submit receipts to the Department other than those for membership subscriptions or donations as these are certain to be rejected. Ducks Unlimited accepts no responsibility, other than to inform members of the current position.

MINUTES OF THE SEVENTH ANNUAL CONFERENCE
OF DUCKS UNLIMITED (N.Z.) INCORPORATED

Held at Shaw Savill Lodge, Wellington, on
Saturday, 18 July 1981 at 2.00 pm

WELCOME

The President extended a welcome to all present and mentioned specifically Sir William Gilbert and Mr Maui Pomare, President and Trustee respectively of the World Wildlife Fund-New Zealand, and Mr A. Head of the Wellington Acclimatisation Society.

PRESENT

The President (Mr P.B.C. Pirani), Vice President (Mr D.G. Bell) and 55 members of Ducks Unlimited (N.Z.) Incorporated. Apologies read from a list provided by the Secretary were accepted on the motion of Messrs A. Elliot/ D. Pritt.

MINUTES PREVIOUS ANNUAL CONFERENCE

On the motion of Miss D. Pritt/Mr F. Bailey the Minutes of the Sixth Annual Conference held on Saturday, 12 July 1980 at Auckland, having been circulated to all members in "Flight" Issue September 1980, were taken as read and confirmed.

PRESIDENT'S ANNUAL REPORT

The President read his 1981 Annual Report which had been previously circulated to members and answered questions at its conclusion. After commenting on the figures, the President moved the adoption of the Accounts for the year ended 31 March 1981; seconded Mr P.M. McLeod.

AUDITORS

It was resolved that the Auditors, Messrs Hutchison Hull & Co., Hamilton, be reappointed for the 1981/1982 year. (Miss D. Pritt/Mr J. Gill)

ELECTION - BOARD OF DIRECTORS

The President recorded a vote of thanks to Mr P.M. McLeod who had retired from the Board and commented on his contribution to the organisation during his term of service.

The President announced that Miss Diane Pritt, who had represented members for several years as an elected representative, had been appointed to the Board.

The President announced that under the Rules of the organisation four persons could be elected from the floor to the Board, representing the interests of members. Mr G. Girvan was available and offered himself for re-election, which left three places to be filled, the maximum number allowable being four elected members. The President called for nominations.

Mr I.N. Pirani nominated Messrs J. Campbell, A. Elliot and M. Newcomb. No further nominations were received. The President called for a poll and as a result declared Messrs Girvan, Campbell, Elliot and Newcomb elected to the Board. He gave brief descriptions of the appointees, introduced them to the meeting and welcomed each to the Board of Ducks Unlimited (N.Z.) Inc.

RULES

The President stated that a copy of the Rules of Ducks Unlimited (N.Z.) Inc. was available at the meeting for perusal by any financial member present.

ANNUAL ACCOUNTS

The President advised that a signed copy of the Annual Accounts of Ducks Unlimited (N.Z.) Inc. as at 31 March 1981 was available at the meeting for perusal by any financial member present.

MINUTES ANNUAL CONFERENCE - CONTD

REPORT ON OPERATION PATEKE (Brown Teal)

Mr P.W. Hayes outlined the year's highlights - among them the first official recording of captive reared Brown Teal in the wild on the mainland; and the outstanding figure of 101 birds reared to maturity by DU members - expressing thanks to all concerned and particularly the N.Z. Wildlife Service and Messrs J. Gill, S. Bronger, J. Campbell, J. Glover and W. Clinton-Baker. Of the 101 birds reared, 64 were released on Matakana Island, 22 were retained for flock mating and 15 kept for release in August at Puke Puke Lagoon. Including the 25 birds reared by the N.Z. Wildlife Service, Brown Teal reared in New Zealand last breeding season numbered approximately ten per cent of the estimated world population. In the United Kingdom the Wildfowl Trust has reared 30 birds in the two seasons since Ducks Unlimited sent two females for its collection. It would be some time before the target of 50 breeding pair would be reached but the group was confident this figure would be achieved. The objective for the coming year was 40 pair held by 20 Ducks Unlimited members.

Mr Hayes advised that the Wildlife Service had paid Ducks Unlimited \$ 5 for each bird released to the wild - this was passed to breeder members, together with a further \$ 5 as a token reimbursement of cost for rearing to maturity. Favourable comments had been received concerning the Brown Teal booklet produced following the Brown Teal seminar in 1980 and thanks expressed to Mrs C.L. Pirani for assistance with production and Dr M. Williams of the Wildlife Service for technical assistance.

Mr Hayes concluded by stating Ducks Unlimited was confident the current season's record would be exceeded in the coming year and that the group was searching for further release sites. He answered questions concerning publicity on television and in scientific journals; population levels; fundraising for the project and stated that the aim was to maintain a stable population level for Brown Teal in the years ahead.

GUEST SPEAKER: SIR WILLIAM GILBERT, President, World Wildlife Fund-New Zealand

Mr Maui Pomare, Trustee of the World Wildlife Fund-New Zealand addressed the meeting briefly; introduced Sir William Gilbert and commented with pleasure on Sir William's appointment as Chairman and President of the Fund in New Zealand. He outlined briefly the history of the WWF-NZ from early beginnings in 1970/71 to the present.

Sir William Gilbert presented a stimulating, interesting and thought-provoking view of the Kakapo and the Giant Panda, both of which are the major interests of the Fund in New Zealand. (Sir William's comments are detailed elsewhere in this issue of "Flight")

Sir William concluded his remarks with the comment that these two practical projects are important and worth supporting by New Zealanders, and public relations activity was in hand to publicise the Fund's efforts. He mentioned collaboration with Ducks Unlimited in the sale of a book sponsored by the World Wildlife Fund "Wild Geese of the World". Ducks Unlimited is assisting with promotion and the Fund has undertaken to share proceeds with sales from that source. Sir William commented on the relationship with WWF members and particularly the support of several thousand children in New Zealand and said he valued the cordial relationship between the Fund and Ducks Unlimited as well. He said the WWF was only too happy to come to arrangements from time to time with DU for sharing proceeds of promotion and he looked forward to opportunities to work together where appropriate.

The audience showed its appreciation by acclamation. The President thanked Sir William and announced that Ducks Unlimited had made a donation to the World Wildlife Fund-New Zealand for the Kakapo project.

3.30 pm - the meeting adjourned for refreshment.

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SIR WILLIAM GILBERT, WWF-NZ ADDRESSES ANNUAL CONFERENCE



Sir William Gilbert, President of the World Wildlife Fund-New Zealand addressed the annual conference and in his opening remarks outlined the role of the Fund in New Zealand and said it had tried to avoid getting overly involved in emotional issues and confine activities as far as possible to doing things which would achieve something practical for conservation. With that in mind the WWF-NZ adopted this year a couple of projects.

"First, a project introduced to us by the Wildlife Service with whom we have a close and cordial association - a project to build a hut for the research team on the south end of Stewart Island who are studying Kakapo. Our aim is to raise \$ 25,000 which will go a long way towards the total cost which is necessarily high because of the inaccessibility and remoteness of the site. Secondly we have set out to make a contribution to the International World Wildlife Fund effort which is being conducted by the Fund around the world. Twentyseven international organisations in conjunction with the Chinese People's Government are endeavouring to secure the survival of the remaining Giant Panda population in Western China. Our belief is that our WWF members and the wider N.Z. public will give generously to this splendid conservation effort.

The Kakapo, a flightless, nocturnal parrot, is endemic to New Zealand. Its many extraordinary features make it perhaps the most unusual of the surviving endemic birds, and the numerous writings and sketches by early Pakeha travellers bear witness to its striking characteristics. It is not only the heaviest, but also the world's most aberrant member of the parrot family - such that it is scientifically categorised alone in a separate sub-family. A facial disc surrounded by sensory hair-like feathers give it an owl-like face. The moss green and greenish-yellow colouring of the plumage is unique for a nocturnal bird and results in what has been described as a cryptic appearance, the significance of which is not understood.

The Kakapo has a most unusual courtship behaviour involving displays from bowl-like depressions or "courts" and a deep, low amplified booming call that travels for a considerable distance - up to four kilometres. Booming birds (males) have well developed thoracic air sacs which can be inflated to a very large size. In addition to booming, the birds indulge in a range of other calls many of which are related to courtship. The curious range of courtship, and particularly the booming, is not known in any other parrot or any other New Zealand bird.

Formerly widespread in the North, South and probably Stewart Island, the distribution of the Kakapo is now restricted to a few small areas of Fiordland and in Stewart Island, and its numbers are probably no more than 100 birds. It is now seriously threatened with extinction.

SIR WILLIAM GILBERT - CONTD

Since 1958 the N.Z. Wildlife Service has conducted numerous expeditions in search of the Kakapo, concentrated mainly in the Milford area of Fiordland, the only area where fresh signs of the bird had been found, but fewer than 10 birds were found in 15 years. The use of helicopters for access to remote areas in 1974 and subsequently has given more positive results. Additional birds have been discovered and important progress has been made in the understanding of the birds' ecology and social behaviour. Birds were observed on booming sites at close range, and sound recordings were made of their territorial and communication calls. The most significant progress was, however, achieved in January 1977 when a population comprising at least 30 Kakapo was discovered by a N.Z. Wildlife Service team in a remote part of Stewart Island. This development greatly increased hope that this unique bird can be saved from extinction. Further impetus has been given by the discovery last year of several female Kakapo - all birds found in Fiordland in the past twenty years seemed to be males. Since then a Kakapo nest with two chicks has been found - believed to be the first this century. The Stewart Island population of Kakapo offers the first, and almost certainly the only, opportunity to study the bird thoroughly, to assess its feeding requirements and habits, and to evaluate the causes of its decline. Such research will provide the vital basis for future management.

It was with keen anticipation that in January of this year I accepted an offer by the Director of the Wildlife Service to visit the Kakapo study area in the southern part of Stewart Island. The only access to the area is by helicopter - half an hour's journey from Invercargill - a journey which offered a fine opportunity to view most of the Stewart Island landscape. Apart from the small community in strikingly beautiful Half-Moon Bay, there is virtually no human habitation - none at all in the large forest reserve in the south to which access is strictly controlled. The dense and beautiful native bush in the north gives way to more stunted vegetation in the south. The Kakapo area is totally covered by scrub - mainly Manuka, Dracophyllum, Bog Pine and Leatherwood and the surface of the ground is largely moss and spongy peat. Everywhere it is very boggy and one needs a stout pair of boots to keep out the ooze. The area is the catchment of a small river and is intersected with steep gorges which are most difficult to scramble across. In the gorges are taller trees including Rimu, Southern Rata and Beech. In the hinterland there are ranges rising to about 500 metres, with massive outcrops of granite.

Many years ago there was some prospecting for minerals. There are still a few rather pathetic signs of the miners' activities - heaps of tailings from an old sluice, a discarded home-made slasher now deeply encrusted with rust and a few very poor tracks, now largely overgrown. There are of course no roads in such a remote area. The old tracks are still of some help to the trapper who, in the main, must force his way through the scrub and the marshy peatland underfoot. Progress is everywhere difficult and results in badly scratched hands, arms and legs. The climate in this most southerly part of New Zealand is rigorous and verges on the sub-antarctic with high winds, frequent squalls of rain and sleet, grey skies, cold and general unpleasantness.

There are no accommodation huts and the base camp for the team engaged in the study of the Kakapo can only be described as rudimentary - a few tents and tiny shelters in the middle of the ubiquitous peaty swamp. It is a tremendous tribute to the enthusiasm and dedication of the Wildlife Service team and their willing helpers that they continue to carry out their duties in such conditions. The requirement for a hut which will provide tolerable, if basic living conditions, including opportunities to get warm and dry, is indisputable.

Hugh Best, the project leader, believes that there are at least 50 Kakapo in the area. During daylight hours I was shown several clearly defined tracks on ridges, which, together with the accompanying bowls are used by the Kakapo. Late at night Hugh and I tramped for an hour to the vicinity of one of these bowls. As we approached we began to hear the characteristic Kakapo booming sounds - a series of low resonant booms, not loud, but audible for a considerable distance. There would be a sequence of upwards of twenty booms roughly every 3 seconds, each sequence followed by about 5 minutes silence except, on this occasion, for a rapid sequence of louder "chinging" sounds. It would seem that both the booming and the chinging may be part of the Kakapo courtship ritual. However the significance of these unusual sounds is still not fully understood and is a principal subject for study.

After a lengthy and somewhat arduous tramp the next day to another Kakapo track and bowl system, we were able, through the use of a radio locating device, to find a Kakapo in daylight.

History v on Stewart Isl

For the first time in living memory, men watched while the Kakapo population increased by two.

The wildlife team on the island described the find as 'mind boggling'.

The N.Z. Wildlife Service team have good reason to pat themselves on the back. Since 1977, when they discovered a community of thirty of the rare birds on Stewart Island, they've been working hard to preserve the species.

The discovery of the two chicks was an indication of how important the team's work in eradicating pests, tagging and studying the birds has been.

The Kakapo needs your help too.

The wildlife team, whose good work became so evident recently, need somewhere to live while they study and protect the Kakapo. The World Wildlife Fund has set the Project Kakapo target at \$25,000 to build and equip a hut with basic living and research facilities.

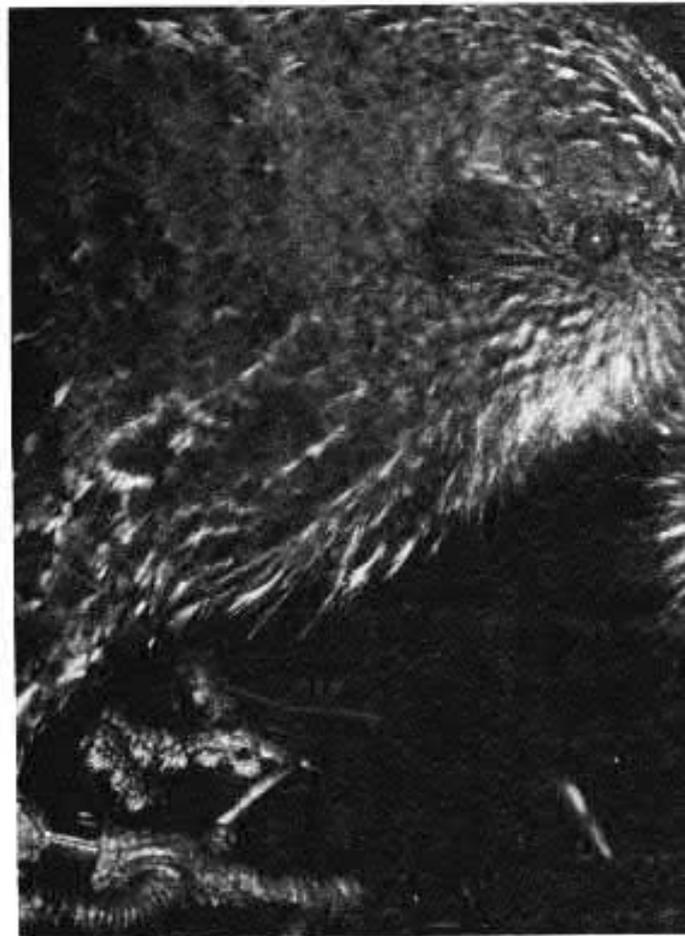
Because all materials must be flown into the remote and rugged regions of Stewart Island by helicopter, the cost of construction will be high. But it's the first step on the road to survival for this unique and delightful New Zealand bird.

Build the hut or see the Kakapo fade into myth — the choice is yours.

Support Project Kakapo.

Less than a hundred Kakapo remain — a bare few in Fiordland, and the small colony in almost inaccessible parts of Stewart Island.

The Kakapo's survival is dependent on your support.



The first Kakapo chick seen this century.

The World Wildlife Fund has committed \$25,000 to supporting the Kakapo, it needs your help to raise the money.

Without your help the Kakapo will die.

How much do you know about the Kakapo?

Probably next to nothing, because little is known even by trained naturalists and researchers, about its life cycle, its habits, its rituals, its young — even its lifespan.

The Kakapo is as big as a goose, booms like a bittern, climbs trees, digs holes and looks very like an owl. The bird remains one of nature's riddles. Flightless, nocturnal, the Kakapo is the world's biggest and strangest parrot, it has a separate sub-species classification all of its own.

was made and last March



Kakapo 'Nora' feeding her chick 'Snark'.

With moss green body feathers and bronze wings, the Kakapo waddles as it walks. It looks for all the world like a plump and stumpy Charlie Chaplin as it beats feeding tracks across dense scrubland in southern Stewart Island.

Tearing moss and grass roots from the boggy, peaty ground, its food is held in long claws and nibbled with a powerfully hooked beak.

But for all its apparent armament, the Kakapo is a placid, docile creature, certainly no match for the killers of the bush.

Wild cats and dogs maintain a reign of terror.

Mauled skeletons of members of Stewart Island's Kakapo community are sad relics of the havoc caused by predators imported by the early Pakeha settlers.

Dogs hunt, kill and eat Kakapo. But the biggest threat comes from the wild cats, whose agile speed makes the slow-moving Kakapo easy prey.

The New Zealand Wildlife Service team will send their specialist in wild cat eradication, to Stewart Island — but like other members of the team, he needs shelter. The donation *you* make will house this man and others like him, who may need to spend up to ten years studying, learning and keeping the last Kakapo colony in New Zealand alive. The current research team is living under canvas in conditions of extreme hardship in the same remote corner of the island where the Kakapo have been herded.

To keep the research team the Project Kakapo hut must be built. *Otherwise the Kakapo cannot be protected.*

Where do I send my donation?

Please help save the Kakapo by sending a cheque, postal note or money order to:



Project Kakapo
World Wildlife Fund
P.O. Box 12-200
WELLINGTON NORTH

A receipt will be posted to you — and all deductions of \$2 or over are *tax deductible* within the prescribed limits. The money you give to Project Kakapo will be used *only* for Project Kakapo.

*The Kakapo will live —
with your help — if given now.*

SIR WILLIAM GILBERT: THE KAKAPO - CONTD

The bird was in the branches of a Rimu tree growing out of the cliffside of a steep gorge. Our expert guide could see the bird, but I had considerable difficulty picking it up. Finally I realised that my difficulty came from the near-perfect camouflage offered by the bird's moss green and bronze plumage, and, surprisingly, by its sheer size. I had in my mind's eye a large parrot like a kea or kaka, but instead I saw eventually a giant of a bird, seemingly as big as a goose or turkey. It was surprisingly docile and permitted heavy branches to be moved the better to film him. (We were accompanied by a crew from the TVNZ National History Unit filming a programme in The Wild South series.) As well as his beautiful but subtly coloured plumage, the Kakapo had a powerful beak and strongly developed hands and feet. Its owl-like facial appearance was very noticeable.

There are two points I would like to mention at this stage - the particular bird we saw has since been killed - he suffered from the introduction of predation and in that part of the South Island the main risk appears to be coming from feral cats. This particular bird was killed, as have several others, by a cat. Control of cats is a critical problem and will continue to be for some time to come. Other predators are rats; not a very great number. The cat population, although not great in numbers, is great in magnitude and the Kakapo is no match. However, with the exercise of control, the Kakapo may survive but the work of protecting this species will take considerable time, maybe 10 years or even longer. The other factor which shocked me is that the workers involved in this task, very dedicated people including the Wildlife Service and University people, volunteers etc, are living in little more than a tent camp. This is probably the most rigorous climate in New Zealand and how they do it other than through their motivation that they have to work for the survival of this bird, I just don't know!

The Kakapo is highly unusual, and remarkably little is known about it. This is borne out by the paucity of scientific information about the bird even in the classical writings of the early Pakeha naturalists such as Dieffenbach, Buller, Reischek and Sir George Grey. A great deal of study over a considerable span of years will be needed before the life cycle of this bird and its many behavioural curiosities can be fully understood. The remote Stewart Island habitat could be the only refuge in which the bird will be able to survive - providing the isolation of the area can be safeguarded and the introduction of further predators, particularly dogs, cats and rats can be prevented. It is in this context that WWF-NZ has undertaken to help the Wildlife Service, whose budget is strictly limited and does not extend beyond limited essentials. We owe it to the dedicated band of scientists in the Wildlife Service to give them help in a practical way."

Sir William went on to discuss the Fund's second priority. WWF-NZ is to make a contribution to the international effort to save the Giant Panda in Western China. He gave details of the early days of the WWF begun by Sir Peter Scott and others in 1961 and displayed large coloured posters of the Giant Panda located at Peking Zoo.

"The Giant Panda was formerly fairly common throughout S.E. Asia but is now found in the wild only in two or three provinces in western China. Natural food is a type of bamboo, and a particular bamboo which flowers once in a hundred years and then dies off. Scientists in China estimate the population in the natural environment has dwindled from 1,000 in 1970 to 300 today and the reason for the decline seems to have been the onset of the flowering cycle in bamboo and secondly reduction in food supply. In the wake of a flowering of bamboo in the area in the mid 1970s Chinese observers found the bodies of more than 140 Giant Pandas which had died of starvation. Ecologists fear that a widespread die-off of bamboo could reduce the Giant Panda numbers to the point where the species might become extinct in the wild.

WWF International has pledged US\$ 1 million against a total of some \$ 4.5 million needed by the Chinese Government to mount a Panda conservation programme which will include construction of a research and conservation centre in the Wolong Natural Reserve in Sichuan Province. A team of WWF-appointed scientists headed by Dr George Schaller, Director of the Animal Research and Conservation Centre at the New York Zoological Society, is already in Wolong working with top Chinese scientists in an in-depth study of the Panda's requirements for survival in the wild. Part of WWF's contribution to the Wolong project will be a programme to track Pandas in the wild by fitting them with collars containing radio transmitters. The use of radio telemetry will enable scientists to track animals more easily and thus learn more about their habits and habitat needs. The Chinese are already experimenting with captive breeding programmes and their efforts recently paid off in the birth of the first Giant Panda by artificial insemination. The WWF-China joint programme will intensify research into captive breeding techniques.

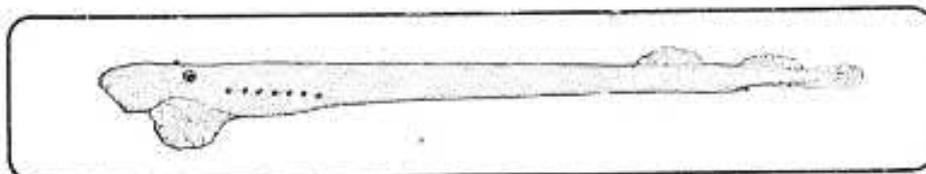
concluded on page 19

NEW ZEALAND FRESHWATER FISH A SHORT SERIES

DUDLEY BELL HAS PREPARED A SERIES OF ARTICLES ON SOME OF NEW ZEALAND'S FRESHWATER FISH. YOU MAY SEE THESE EXAMPLES IN OUR WATERWAYS.

GEOTRIA AUSTRALIS (the Lamprey)

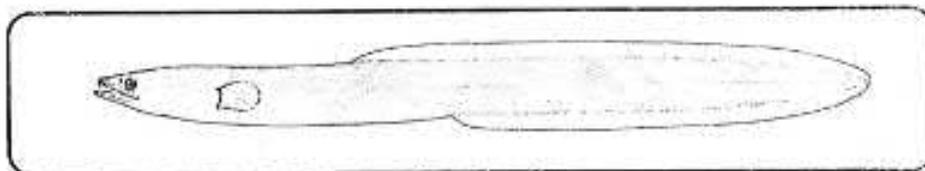
Widely distributed in all rivers and streams, upstream as far as it can swim. It is unable to penetrate falls or rapids. Distinguished from eels by its round sucking mouth, seven pairs of external gill openings and absence of paired pectoral and pelvic fins. Usually grows to 400-500mm. Life begins in fresh water as a larval stage after the egg, called ammocoete (has no eyes). Late summer and autumn, young lamprey (now sighted and having developed fins) disappear downstream to sea. Duration in the sea is unknown but adult lamprey re-enter fresh water in the spring, to spawn. During this time they do not feed or seem likely to fall prey to other predators.



Lamprey (*Geotria australis*), 465 mm T.L. adult male; note baggy pouch below head - this is absent in females.

FAMILY ANGUILLAE (the eels)

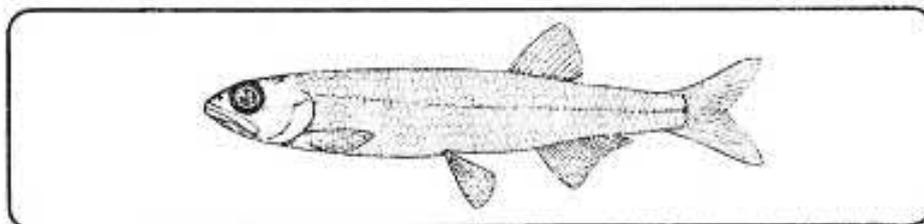
The cosmopolitan freshwater eel family has two New Zealand representatives. *Anguilla dieffenbachii* (long-finned) is endemic to New Zealand and is found throughout the country. *Anguilla australis* (short-finned) is found in Australia and in the north of New Zealand. Both have similar life cycles. Their breeding grounds are still unknown.



Long-finned Eel (*Anguilla dieffenbachii*) 1450 mm T.L.; large adult female

RETROPINNA RETROPINNA (the Smelt)

Found in coastal seas and in rivers, streams and lakes it can reach from the seas. Its inability to ascend swiftly flowing, turbulent rivers has resulted in little inland penetration. Land locked populations are now quite widely spread due to man's influence. Originally lacustrine populations were probably limited to a few small coastal land locked lakes and a couple of central north island lakes. Lacustrine populations have adults that live in lake tributaries and larval and juvenile stages that live in the lake.



Lake example of Common Smelt (*Retropinna retropinna*), 54 mm L.C.F.; note large eyes.

MINUTES ANNUAL CONFERENCE - CONTDGUEST SPEAKER: MR A. HEAD, Wellington Acclimatisation Society

Mr A. Head addressed the meeting on his recent visit to North America where, as well as other business, he called on Ducks Unlimited (Canada) and employed slides to illustrate his remarks. He praised the overwhelming hospitality of the Ducks Unlimited Canadian officers and their assistance and co-operation which made his tour of some of their operations enjoyable and informative - and he shared his experiences with those present. At the conclusion of his address the President thanked Mr Head for his comments and the audience showed their appreciation.

REPORT ON OPERATION GRETEL (Grey Teal)

Mr D.G. Bell reported another successful year for Grey Teal breeding - for the birds and in specific cases for the DU nest boxes. Highlighted areas were Pokeno, Ngaruawahia and Martinborough which enjoyed maximum performance from nest boxes; the "hard-luck" story of the year was at Dunedin where above normal water levels left boxes submerged with disastrous results. Pokeno boxes achieved excellent results with 1,185 eggs laid, 621 hatched from 801 incubated - the average clutch size was 11 eggs. Mr Ian McPadden, Wildlife Service Officer on the site at Pokeno has prepared a comprehensive report on this two year study from which much valuable information will be obtained. At the nestbox site in Ngaruawahia 18 of the 25 boxes were utilised and the area was "alive" with Grey Teal, 130 eggs being incubated from 156 laid. This lagoon is about a quarter hectare in size and adjacent willow swamp is no more than one hectare which provides a totally utilised situation for the Grey Teal. Barton's Lagoon in the Wairarapa recorded an "amazing performance" for a small area - 300 eggs laid in 18 of the 30 nest boxes. Most recent observations have been of 50 Grey Teal inhabiting the area compared with 2 or 3 pairs seen before box establishment. During the year 131 Grey Teal nest boxes were erected in many parts of the North and South Island. A grant of \$ 500 was received from the Ministry of Recreation and Sport and enabled box work to be accelerated.

Special thanks were given to the N.Z. Wildlife Service for valuable participation, especially in the monitoring of the Pokeno production, and to members and friends who took part in the erection and monitoring of nest boxes around the country. Owners and controllers of wetlands also received a special vote of thanks as without their co-operation the project would not exist. Mr Bell answered questions concerning the accidental shooting of Grey Teal during the season and comments were received from the floor that this would continue to be a problem in future because of confusion over identification.

Mr Bell concluded his remarks with the comment that it was most encouraging to see acclimatisation societies, with their large voluntary and enthusiastic workforce supporting the DU project; and that Ducks Unlimited would like to see an even greater awareness by waterfowl enthusiasts in New Zealand toward Operation Gretel and its objective to improve Grey Teal numbers.

REPORT ON OPERATION BRANTA (Canada Geese)

Mr F.N. Hayes re-stated DU's objective to permanently establish the Canada goose in the North Island, which is being achieved by transferring geese from the South Island and releasing them in a pinioned state on to suitable dams and lagoons. He outlined the history of the project, since 1977, concerning geese supplied from the South Island and also those bred by North Island DU members and zoological societies and supplied to the project. The majority of geese have been distributed to farmers in the Wairarapa in groups of 6-8 birds per lagoon. The Wellington Acclimatisation Society Senior Field Officer has been largely responsible for distribution of geese in the Wairarapa district and DU's appreciation was extended to Mr Ian Buchanan and to the Society for its co-operation. Thanks were also expressed to the North Canterbury Acclimatisation Society. Mr P.M. McLeod received special thanks for his part in arranging shipments of geese to the North Island since 1977 - also Mr L. Piper of the North Canterbury Society's game farm for his outstanding assistance.

The establishment of the species in the North Island was progressing well and apart from the good breeding results in the Wairarapa, very healthy populations were being established in the Bay of Plenty where approximately 200 birds exist, and in Hawkes Bay where there is about the same number. These populations have grown from Wildlife Service releases in the 1960/70s.

continued - page 17

MINUTES ANNUAL CONFERENCE - CONTDREPORT ON OPERATION BEANTA - continued

Concern was expressed at recent moves in the South Island to return the Canada goose to a non-protected status there. Canada geese are partially protected at present and DU considered a change in this status (achieved only last year) would ultimately lead to the species' annihilation in the South Island. Comments were made from the chair and the floor that the Canada goose in New Zealand has been and possibly still is one of the most maligned and abused forms of wildlife. A decision had to be made whether to manage the goose constructively or destructively while, at the same time, acknowledging all viewpoints commented Mr Hayes. These remarks were followed by comments from members on the need to keep in perspective the whole question of Canada Geese in New Zealand and the President confirmed that Ducks Unlimited would be closely monitoring the situation.

REPORT ON OPERATION "WHIO" (Blue Duck)

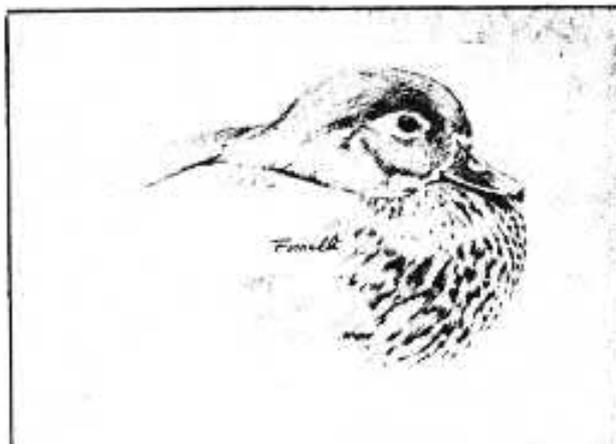
Mr David McNeil opened his remarks commenting that the decision by the Wildlife Service to capture and supply Ducks Unlimited with 10 pairs of birds was received with great enthusiasm as DU had long considered that the development of expertise with this species (before numbers in the wild are affected by habitat reduction and other causes to a dangerously low level) was a logical move.

Mr McNeil outlined background to the project and gave details of experience achieved in adapting the birds to new diet and conditions during acclimatisation. Praise was given to Mr and Mrs I.M. Pirani and Mr M. Powell for their efforts in rearing the birds under aviary conditions - he said it would be difficult to imagine a greater change from conditions in the wild but commented that those involved with rearing had been astonished at the birds' natural quietness and lack of concern when approached closely - perhaps a fatal flaw in their nature. Pair bonding was discussed and experiences with natural pairing shared with the audience.

Overall it was felt that a great deal of progress had been made and Mr McNeil said he hoped the Wildlife Service could catch the balance of their agreed total as a permanent nucleus of captured birds was essential to the survival of the species. The Wildlife Service was being kept fully informed of Ducks Unlimited's progress. The only disturbing factor had been the recent reports of poaching of Blue Duck and other wildlife species for overseas markets, and Mr McNeil said Ducks Unlimited would assist with publicity and conservation of this unique species. A member requested that a remit be presented by Ducks Unlimited to the Minister of the Environment inquiring if anything had been done concerning alleged poaching recently reported in the press. The President reported that he understood a special task force had been set up by the Wildlife Service to investigate the matter of poaching Blue Duck and other species and undertook that a letter would be written to the Minister expressing the organisation's concern and seeking clarification of the position.

GENERAL BUSINESS

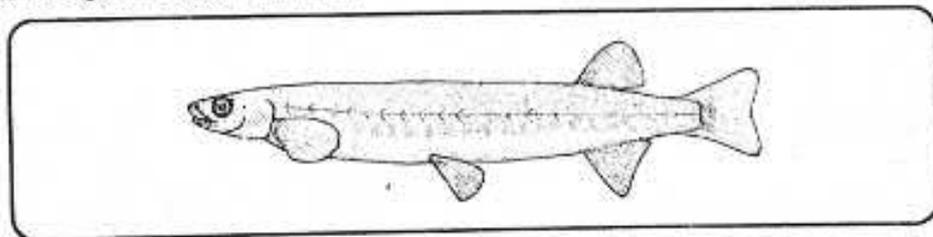
Mr F.W. Hayes proposed a vote of thanks to Mrs C.L. Pirani for production of "Flight" following which, there being no further business, the meeting concluded at 5.10 pm.



NEW ZEALAND FRESHWATER FISH - CONTD

GALAXIAS MACULATUS (the Inanga)

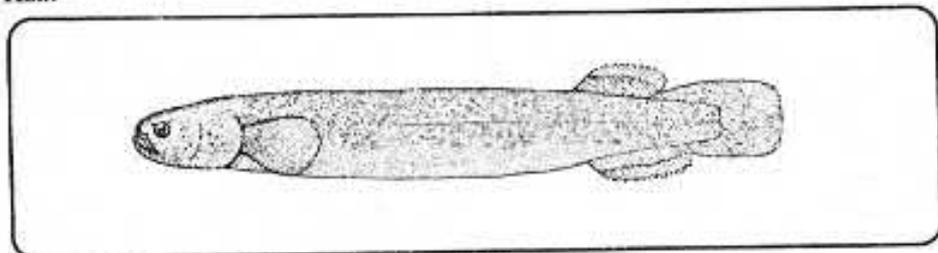
Found in S.E. Australia, Tasmania, New Zealand (including Chatham Islands), Chile, Argentina and Tierra del Fuego. It is probably amongst the most widely dispersed fish of the world. It is abundant in lowland and coastal lakes with easy access to the sea. It enters the lakes as the upstream migrating juvenile, remaining in the lakes to mature in about six months, and migrates downstream to spawn in river estuaries.



Inanga (*Galaxias maculatus*) 94 mm L.C.F.

NEOCHANNA DIVERSUS (the Black Mudfish)

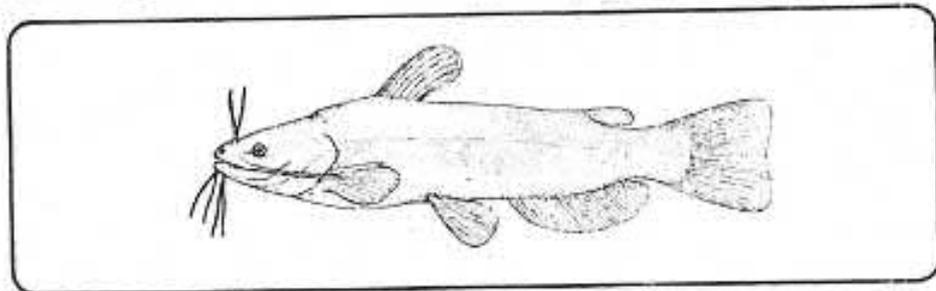
The black mudfish has been found in few areas - around Kaitia, near Whangarei, Te Kauwhata, Pirongia and Rukuhia near Hamilton. It is probably widely distributed in Northland, especially in 'kauri gum' swamps. Like other mudfish it is likely that it can aestivate in mud or swamp debris when the water dries up. However little study has been carried out on the rare and elusive fish.



Black Mudfish (*Neochanna diversus*) 110 mm T.L.

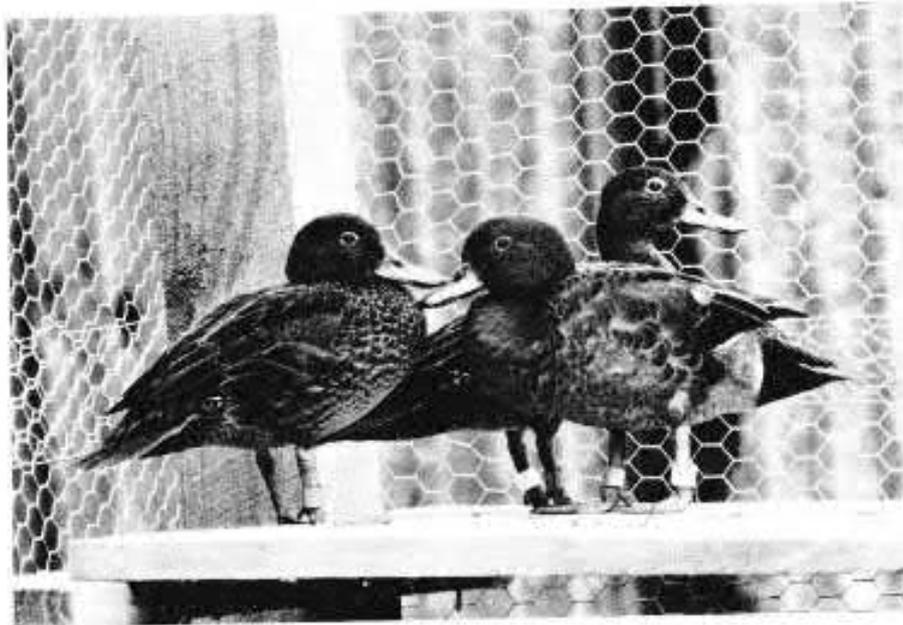
ICTALURUS NEBULOSUS (the catfish)

First introduced into St Johns Lake, Auckland in 1876. More were imported in 1877 and liberated in several areas of northern New Zealand. The species now seems to be confined to the northern half of the North Island, except for a population in Lake Mahinapua. It inhabits mud bottomed lakes and rivers and grows to 300-400 mm.



Catfish (*Ictalurus nebulosus*)

REPORT ON OPERATION PATEKE



Brown Teal released at Puke Puke Lagoon: On 9 August 1981 DU released 12 Brown Teal at Puke Puke Lagoon, Foxton - 8 females and 4 males. This is the first time DU has released birds at this time of year and the resident Wildlife Service technician at Puke Puke Lagoon will be keeping a close watch to see how the birds adapt. All 12 birds were those reared towards the end of last breeding season, too late for release during last summer. Thanks to Mr J. Glover for holding most of the birds during the winter. The latest release brings to 76 the number of Brown Teal released during 1981.

Brown Teal at the Wildfowl Trust, Slinbridge: The Wildfowl Trust reports an excellent 1981 breeding season. Slinbridge reared 25 and the two other centres, Martin Mere and Peakirk, have also done well but no figures are available as yet. Overall this indicates that over 50 Brown Teal have been reared in the United Kingdom since DU sent two females in 1979. The Trust now plans to distribute pairs to their other two centres, to leading aviculturists in the United Kingdom, Europe and possibly the United States. The Wildfowl Trust and Ducks Unlimited feel that this is a very important safety aspect should anything unforeseen occur with the species in New Zealand.

1981/82 breeding season: Several breeders have reported eggs being laid during August and hopes are high that DU will break last season's record of 103 Brown Teal reared. This season we will have 40 pair of Brown Teal held by 18, possibly 20, members - well on the way to the 50 breeding pair target. The Wildlife Service will have 10 pairs for the coming season.

SIR WILLIAM GILBERT: THE GIANT PANDA - CONCLUDING REMARKS

From page 14

The Giant Panda is a shy, solitary animal (he is a big chap, averaging 150 kilograms) inhabiting dense bamboo forests and is so seldom seen that a team of Chinese researchers which has lived in Panda territory since 1978 reports sighting these reclusive creatures on only 16 occasions. The Chinese have established ten special Reserves to protect significant concentrations of Giant Pandas as well as a system of some 65 other natural reserves which provide protection for many species of endangered mammals, birds and plants. The agreement which WWF and China signed last year in preparation for their historic scientific collaboration in Wolong acknowledges the Panda as "not only the precious property of the Chinese people, but also a precious natural heritage of concern to people all over the world". WWF International chose the Giant Panda as its symbol when it was founded in 1961. The Panda has since become the symbol of efforts to protect all the earth's threatened species and the WWF is confident that people everywhere will want to join us in this endeavour to secure the future of the Giant Panda. In New Zealand we would like to make a contribution and have as our objective a figure of \$ 1,000 this year and a similar amount next year."

DUCKS UNLIMITED SALES OFFERS

WE HAVE COPIES OF THE FOLLOWING AVAILABLE:

- * "WATERFOWL: DUCKS GEESE & SWANS OF THE WORLD" BY FRANK S. TODD \$ 42
This book is a "must" for all DU members. This magnificent publication contains 400 pages covering the status of the world's waterfowl, their aviculture and general management. Also has excellent chapters on the hunter/conservationist and on photography
- * "THE INCUBATION BOOK" BY DR A.F. ANDERSON BROWN \$ 32
246 pages detailing all aspects of gamebird and waterfowl egg incubation
- * "A COLOURED KEY TO THE WATERFOWL OF THE WORLD" BY SIR PETER SCOTT \$ 10
This publication enjoys wide popularity
- * "THE AVICULTURE, RE-ESTABLISHMENT AND STATUS OF THE N.Z. BROWN TEAL" BY F. NEIL HAYES - this is Ducks Unlimited's first major publication. \$ 6
It is an excellent, informative, easy to read reference book demanding a place on the bookshelf of members

WE HAVE STOCKS OF THE FOLLOWING AT DU HEADQUARTERS:

- * DUCKS UNLIMITED "T" SHIRTS (all sizes) \$ 6
- * DUCKS UNLIMITED LAPEL BADGES \$ 5
- * GREY TEAL NEST BOXES (KITSET, EASY TO ASSEMBLE) \$ 10

REMINDER

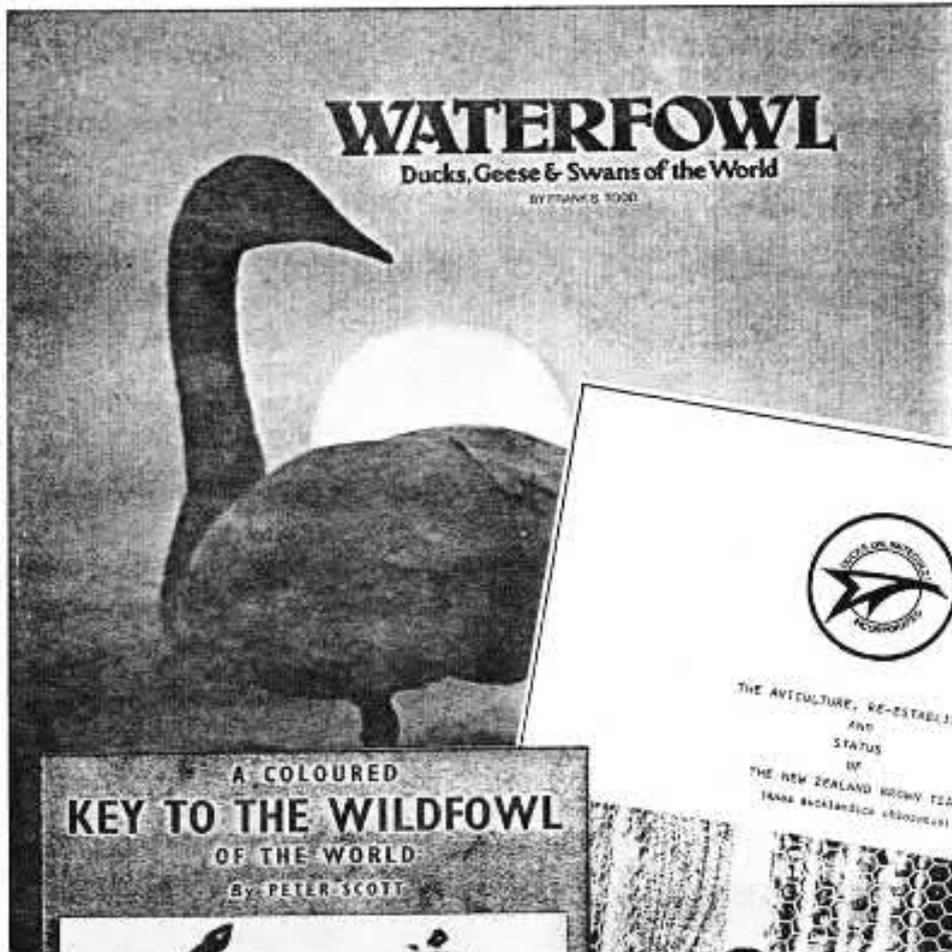
PACKS OF GIFT NOTES/CARDS AND WORLD WILDLIFE FUND-NZ PUBLICATIONS ARE DETAILED ELSEWHERE IN THIS ISSUE. PLEASE ORDER DIRECT WITH THE APPROPRIATE ORGANISATIONS.

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DUCKS UNLIMITED SALES OFFERS



HAMILTON 'HOOTNANNY'

Following a recent 'hootnanny' organised by Hamilton members, Ducks Unlimited received a cheque for \$ 600. DU congratulates and thanks the Hamilton Chapter members for its tremendous achievement and special thanks, too, to the many Waikato businesses and supporters who made this regional effort such an outstanding success. The Hamilton Chapter is a fund raising group within Ducks Unlimited whose sole purpose is to raise funds for DU programmes (and have fun!) Some 300 persons attended the function and all claimed they would be back next year. Featured on this page are photographs of this "fun" event in DU's calendar.

WEAR A DU SPORTSMAN'S CAP!



The Hamilton fundraising chapter of DU has produced a sportsman's cap every member will want to wear! Sturdily constructed from cotton in three colourways, this cap is useful for all year round wear. The crown is brown, sides are tan with the words "Ducks Unlimited", flanked by leaping mallards, and the "visor" brim is olive green. DU caps are \$ 4 each and available from:

Mrs Gail Barclay, DU Chapter Secretary
37 Fairview Street, Hamilton

One size fits all - made in New Zealand.



"How's that!" - the smile of a champion duck plucker Trevor Rouse



"Going-going-gone" - auctioneer John Forzeman taking the last bid. Supported by DU members Murray Christofferson on right and Lindsay Lyons



Big smiles when Gordon Randall (seated right) was announced winner of the best dressed duck shooter contest - Gordon went to considerable trouble "making" his shotgun and was a clear winner.

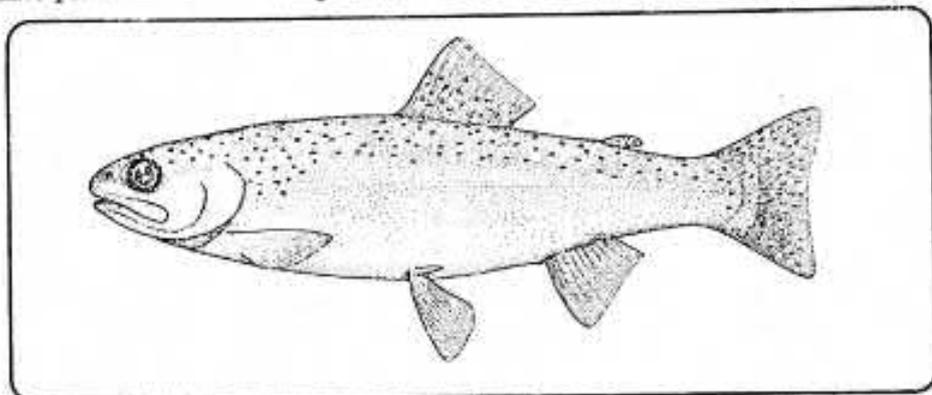
NEW ZEALAND FRESHWATER FISH - CONTO

FAMILY SALMONIDAE (the trout and salmon)

The family is represented by these imports

Salmo gairdnerii (rainbow trout) 1883 from Russian river stock in California
Salmo trutta (brown trout) 1867 from Tasmania
Oncorhynchus tshawytscha (quinnat salmon) 1870s from California
Salmo salar (atlantic salmon) 1868 from England
Oncorhynchus nerka (sockeye salmon) 1901-2 from Canada
Salvelinus fontinalis (brook char) 1877 from U.S.A.

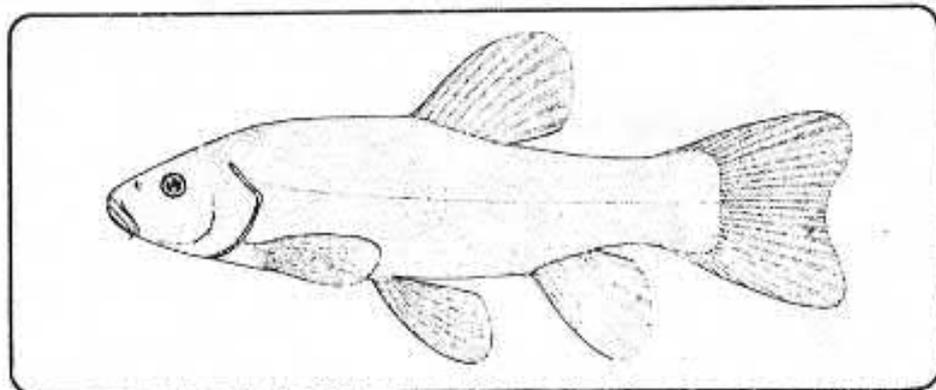
The family has representatives virtually countrywide except in the far north and offshore islands. They have proved themselves an important asset.



Rainbow Trout (*Salmo gairdnerii*) adult female 560mm L.C.P.

TINCA TINCA (the tench)

First successfully imported 1867-68 from which existing stocks are descended. They are now, through various illicit liberations, found in many lakes and ponds of Northland and Auckland provinces. They are also known in Lake Kopureherehe near Otaki and Waiareka River near Oamaru. They live in lakes and quiet waters of streams, have high tolerance of warm and poorly oxygenated water and are feeders on aquatic bottom fauna. They may grow to 300mm.



Tench (*Tinca tinca*) 205mm L.C.P.

...series concludes next issue

**DU MEMBERS!
PURCHASE ENCHANTING GREETING CARD/NOTES AND BENEFIT DUCKS UNLIMITED.**

Joan Taylor, art teacher and well known member of the Hutt Art Society has produced reproductions of her larger etchings of natural subjects in greeting card and note form for sale. These gift packs were a "sell out" at the annual conference. Packs contain 6 cards with envelopes, either assorted pack of 6 individual bird or floral studies, or 6 of one type of floral or bird study - depending on your preference. Cards are blank inside for you to write your own message. These delightful notes, in subtle colours, also make fine gifts.

Bird cards are \$ 2.50 for pack 6
Floral studies are \$ 2.00 for pack 6

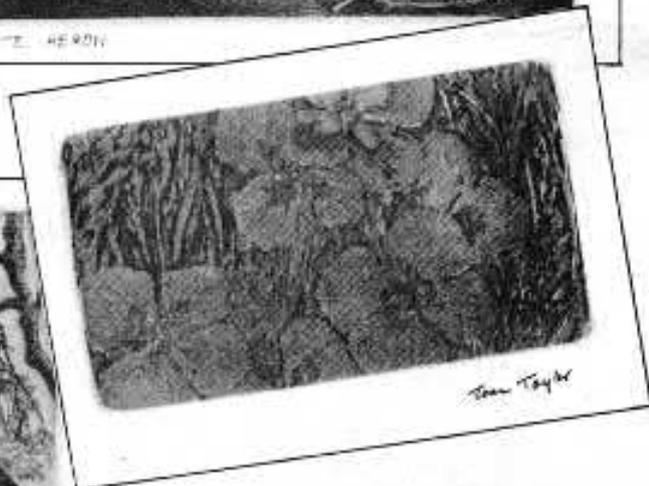
Orders can be placed directly with

Joan Taylor
66 Lake Road
Devonport
Auckland 9

A percentage of Joan Taylor's earnings from the sale of these delightful cards to DU members will be donated to Ducks Unlimited to benefit waterfowl.



W.P.T. 4890N



T.11

Joan Taylor

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