SCIENCE AND RESEARCH INTERNAL REPORT NO. 54

SUMMARISED NOTES OF THE BLUE DUCK LIAISON GROUP MEETING HELD AT OHAKUNE, 6-8 JUNE 1989

compiled by

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Summarised notes of the Blue Duck Liaison Group meeting held at Ohakune, 6-8 June 1989

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AGENDA

1. Regional, District, and Research reports

2. Conservation Strategy - review of value and contents

3. Captive breeding programme review

4. Sponsorship - how to achieve and apply

5. Database management - regional and central needs

6. Inter-regional activities

7. Liaison group - convener, form and function

8. General business:

    1. Selection of monitoring sites
    2. Lone Egmont female
    3. Tararua birds
    4. Use of isolated loners
    5. Blue duck video
    6. Field card content
    7. Mohaka River conservation order

PREAMBLE:

The meeting reported here was the first gathering of the Blue Duck Liaison Group. This body, comprising representatives from all Department of Conservation conservancies in which blue duck occur, relevant directorates and other conservation agencies or individuals, was established as part of the Blue Duck Conservation Strategy for the purpose of co-ordinating research and management activities nationwide. It will function as a national forum at which all issues relevant to the conservation of blue duck can be raised and discussed, experiences and techniques shared, guidance and direction given, and activities and accomplishments reported back.

I. PARTICIPANTS

Massey University:	Clare Veltman
Ducks Unlimited:	Grant Dumbell (Executive Director) Dianne Pritt*
Royal Forest and Bird Protection Society:	Basil Graham
Department of Conservation:	
Eastern Region	Sandy Bull, Keith Hawkins, Paul Jansen, Keith Owen
Waikato Region	Lee Busby, Cam Speedy, Rick Thorpe, Lysle Irwin*, Rob McCallum*, Alan Saunders
Wanganui Region	Martin Bell, Wayne Hutchinson, Hans Rook, Bryan Williams, John Heaphy*
Head Office	Don Merton (Protected Species Division), Duncan Cunningham, Murray Williams (Science and Research Division)
Nelson Region	Ian Miller
Canterbury Region	John Andrew
West Coast Region	Rob McLay
Southern Region	Bruce McInlay, Nick Torr

* Part attendance

II. REGIONAL ACTIVITY REPORTS

1. WANGANUI REGION (Wayne Hutchinson)

Last year was reasonably eventful for blue duck in this region with the discovery of a wild male in the Tararua Range, the first sighting of this species here for about 20 years. Taranaki staff have also relocated three of the six Mt Bruce birds released on Mt Egmont in 1987. A pair was found in the Manganui River with a juvenile of the year while one further bird was discovered on Lake Dive with an unbanded female. Further releases are envisaged.

The rediscovery of blue duck in the Tararua Range is indeed encouraging as it has been difficult to fathom why blue duck disappeared from here in the first place.

The bird (male), was discovered on farmland in the MangatarereStream, which eventually joins the Waiohine River further to the south. It was co-habiting with some Khaki Campbell ducks.

It was decided to take the wild male and relocate it with a captive-reared female from Mt Bruce into the Park River within the Tararua Range. This took place in early April 1989 but within six hours of release the wild male had returned to the company of Khaki Campbells on the Mangatarere Stream.

Taranaki District - Egmont National Park (Bryan Williams)

(1) Manganui River

During April 1987 six captive-reared blue ducks were transferred from Mt Bruce Wildlife Reserve to the Manganui River, Egmont National Park.

All six birds were fitted with radio transmitters at Mt Bruce but only two were released with transmitters. Four came off the birds within the first two days. Transmitters were fitted to the tail feathers of the juvenile birds which it would appear were not strong enough to hold the transmitters. In three cases the tail feathers pulled out with transmitter still attached.

All six birds were held in a pen close to the river for four days prior to release. Fenn traps were set in the area surrounding the pen. No predators were caught. The purpose of holding the birds was to acclimatise them to their new surroundings. While being held they were fed on the same food as was supplied at Mt Bruce.

On release all birds appeared to start feeding within the first hour. During the first two weeks their droppings were green which indicated that they were feeding predominantly on river algae and mosses.

After release the birds were followed for some two weeks before they disappeared. Although several searches were made over the next six to twelve months no sign of the birds was found. A sighting of three blue ducks in the Te Popo Stream was reported about nine months after the release. Several searches of the stream were made by DOC staff but no sightings of the birds were made.

A sighting of three blue ducks on the Manganui River was made by a member of the public in December 1988. This sighting was confirmed on 5 March 1989. A juvenile female was the first bird sighted. It was approximately 1 km below the gorge, grid NZMS 1, N199 722625 (2 km above liberation site). This bird was identified as a female by its call. Two adult birds were then located approximately 1 km above the gorge, grid N119 718625. The male was banded red/blue while the female had lost her colour bands. When the tramper saw the birds all three were together and he thought the female had a yellow band.

It is now my intention to monitor the juvenile, establish the extent of her territory and release a male into the territory before the 1989/90 breeding season.

(2) Lake Dive.

During April 1989 two blue ducks were sighted on Lake Dive. One is a banded male with a colour band, lime green. This bird is from the 1987 liberation, Manganui River. The second bird is a female unbanded. We can only assume she was produced during this last breeding season, 1988/89. Lake Dive is approximately 8 km from the Manganui River. We intend to continue to monitor these two birds and will band the female next summer when she moults.

We have had two other sightings of blue ducks on Mt Egmont but neither have been confirmed as yet. One is in the upper Makatawa River while the other is in the Waiwhakaiho River.

If these two sightings are confirmed we will have five of the six ducks released still alive after two years with two juveniles produced.

This proves that captive reared blue ducks can survive when liberated into the wild.

Hawke's Bay District (Hans Rook)

Over the past year, Hawke's Bay staff have been particularly active in assessing the distribution of blue duck throughout the Kaweka Forest Park. From returned survey cards and reports from groups such as Forest and Bird, NZ Deerstalkers, and Tramping Clubs they have been able to piece together the distribution of blue duck in the Kawekas.

Hawke's Bay have also suggested the Ikawatea/Makaroro catchments as a possibility of population monitoring. The blue duck population here has declined significantly over the past few years and is now at about two pairs.

Rangitikei District

Over the past 12 months Rangitikei District staff have been working in several areas of blue duck management.

1. Updated all sightings as they occur (all put on NZMS 260 maps) with Regional distribution cards also completed.

2. Initiated a systematic survey starting with the Pohangina (southern most) catchment in March 1989. Plan to look at Oroua system in a couple of weeks time (July). The programme is designed to find out what birds we are dealing with and where.

Rangitikei District is also keen to select a population in which they can band birds to gain information on dispersal and survival.

Whanganui District (John Heaphy)

Apart from a few scattered pairs and one lone male in the Mangatiti Stream, there are two main populations within the District. One in the mid Manganui a te ao River and the other in Whanganui National Park centred on the Omaru Stream.

The District has a card-based fauna survey scheme operating which one day is planned to fit on to a computer database. The objective was to allow field staff to fill in one card with details as required simply and quickly without having to fill out a multitude of specialist cards.

Management work has just started centered on the Manganui a te ao River in conjunction with the research programme. At this stage there are two areas of work:

1. Concern over increased numbers of people using the river after the Water Conservation Order led to a rafting pact being signed voluntarily by all current and potential commercial rafting companies. This stops all commercial rafting above the Bridge for the breeding season only.

2. Riparian management and protection. Lincoln student, John Rich, did his thesis on a survey of the riparian habitat last year and as a result has won a scholarship from DOC to extent this work. The end result for DOC will be a list of priority areas for protection and fencing. Discussion has commenced on the best approach and 'package' for landowners, finance being the block. It is hoped to

arrange local corporate sponsorship for this work and perhaps a community involvement as a lot more than just blue duck will benefit from riparian protection (and possibly enhancement).

It is hoped to get at least one paddock fenced this coming year, the magnitude of the task being that some 20 km of fencing is required eventually.

Wairarapa District (Tim Harrington)

A pair of ducks were released in the lower Park River in the Tararua Forest Park on 13 April 1989. The Minister of Conservation assisted in this release. The pair were made up of the Mangatarere male and a captive reared female from the National Wildlife Centre of about six months old. The release site was at grid reference NZMS 260, S25-133427.

The male had been caught the afternoon before and kept overnight in a holding box and the female was brought down from the National Wildlife Centre in the morning.

The male returned to the Mangatarere Valley almost immediately. Although he was observed to be fraternising well with the female until we left the release site at approximately 2.00 p.m. Mr Standish, from whose property the bird was caught, noticed it back at around 6.00 p.m. that evening. The released birds were banded as below.

	Left leg	Right leg
Male	Red	L-18949
Female	L-18950	Yellow

No sightings of the female have been made since the release, though it is hoped that a search for this bird will be made in the near future.

Two further birds have also been sighted at Park Forks ref S25-117414. It would appear that one of these was a male and neither appeared to be banded. There may even be a third bird (unbanded) approximately one kilometre downstream.

It is now proposed to leave the Mangatarere bird alone and monitor his movements. For the other three/four birds, we will monitor them and if the National Wildlife Centre female teams up with them then we will let them be, if not we shall attempt to catch her and return her back to the National Wildlife Centre for inclusion with the captive rearing programme.

National Wildlife Centre Mt Bruce) (Martin Bell)

The National Wildlife Centre participated in a captive breeding programme set up by the blue duck Captive Breeding Group. During the last 12 months Mt Bruce has had 4 potential pairs and five surplus males. Three of the pairs attempted to breed but only one pair successfully produced offspring.

The very productive pair had two clutches of eggs, the first of five being incubated by a surrogate mother, a paradise shelduck. The second clutch of two eggs were partially incubated by the blue duck but the later part of incubation was carried out artificially. All eight ducklings produced were reared artificially in brooders. One (young female) was liberated on the Park River.

Six young blue duck now remain to be distributed to other potential breeders. They three males and three females.

The blue duck captive breeding group are aiming to establish 18 captive pairs to breeding potential.

2. WAIKATO REGION (Rick Thorpe)

(1) Annual survey of the Tongariro River.

Annually since 1983, surveys of blue duck numbers have been carried out between Rangipo Intake and the Waikato Falls on the Tongariro River.

Since the de-watering in 1984 blue duck numbers have dropped from 32 to 5 (December 1988).

We plan to continue monitoring with an annual count around November-December.

(2) Survey of the Ongarue River, Pureora.

In February of this year we conducted a survey down the Ongarue River. We saw a total of 7 blue ducks in the 8 km stretch of river. We were hoping to use this river as a monitoring river from category 3 - small isolate population - however we may have to change our minds due to moderate numbers of birds seen and the close proximity of other populations.

(3) Survey of the Wanganui Rivers headwaters

In March we surveyed the majority of the Wanganui River headwaters above Taumarunui in order to collate information for the Wanganui River Conservation Order.

Comments:

- We have real problems with access to most of our rivers.
- We have not yet selected our three monitoring rivers.
- We have spent time trying to sort out our captive breeding permittees.
- We have completed a Regional distribution map (based on presence only)

Tongariro District (Lee Busby)

District activity has concentrated on blue duck survey for hearings on Wanganui River flows.

In two periods (early December 1988 and early March 1989) most of the Wanganui River catchment above Taumarunui was checked for blue duck for the river flow hearings.

Observation cards were filled out for all sightings and the locations marked on maps to indicate population locations.

As well as the programmed counts, additional unsolicited reports have been received during this period from two rafting trips a few days apart down the Whakapapa River and other casual visits to the Tongariro State Forest.

These surveys indicate that a minimum of 50 pairs of blue ducks reside on the upper Wanganui River and its headwater tributaries. This is a major revelation which suggests this population may be the equal of that within the Motu River catchment, and larger than that on the Manganui a te ao River, previously considered the second largest in the North Island.

3. EASTERN REGION (Keith Owen)

(1) Survey of distribution.

Eastern Region holds a detailed record of all blue duck sightings collected in the region (and further afield) since 1982. These have been mainly collected by staff of the former Wildlife Service through Paul initiative. The details of each sighting are placed on individual cards and the information added to topographical maps held in regional office.

Data on each of the cards is forwarded on to Duncan Cunningham, Science and Research Division, (S & R) to be added to the national database.

(2) Population monitoring.

(a) Motu, Waioeka and Waikohu Rivers.

A population monitoring programme based upon the Conservation Strategy has been set up. The proposal was to select three populations of differing size and security in the region and survey these twice annually according to standard techniques set out in the Conservation Strategy.

The rivers and streams in the Matawai District of the region were chosen for this exercise based upon our knowledge of the region's blue duck populations. The Matawai District contains the rivers and head water streams of the Motu, Waioeka and Waikohu River catchments, the Motu river and tributaries being regarded as a Category A population (12+ pairs), Waioeka River as a Category B population (6-12 pairs) and Waikohu River as a Category C population (3-5 pairs). Although the Waikohu River is currently regarded as a Category C population, until 1985 it supported 15+ pairs.

Between 21-25 November 1988 the 3 populations were monitored by a joint Eastern Region and Science and Research Division team comprising Sue Triggs and Kevin Collier and Keith Owen, Paul Jansen and Sandy Bull (Eastern Region). The majority of the waterways surveyed were floated down on tubes.

The result of the survey are set out below:

Motu (Category A)	Waioeka (Category B)	Waikohu (Category C)
Takaputahi River, Whitikau Stream, and Nga Upoko Tangata Stream	Waioeka River, Moanui Stream, Opata Stream, Koranga Stream	Waikohu River
27 km surveyed	17 km surveyed	11 km surveyed
14 adults and 24 juveniles seen	3 adults and 5 juveniles seen	1 adult seen
11 adults and 4 juveniles banded	1 adult and 5 juveniles banded	

A total of 18 adults and 31 juveniles were observed of which 14 adults and 9 juveniles (class 4 and 5) were individually banded with colour combinations and metal bands. The size broods observed contained and 6 juveniles respectively.

It is hoped that by individually marking birds we are able to gain important information on any inter-catchment movements that may occur.

(b) Te Hoe River.

An additional survey of the Te Hoe River (Mohaka River catchment) was undertaken by Keith Hawkins, our Wairoa Officer, to ascertain numbers of blue duck present.

The three day survey of the 37 km of the river was carried out in November 1988. A minimum of 16 birds were recorded, the majority being flushed out of log jams by the use of trained dogs.

Keith has also distributed a postage paid blue duck survey information sheet to back country huts so that trampers, hunters and fishermen can provide additional information on sightings.

(c) Research.

As part of the monitoring programme Sue Triggs (S & R) took blood samples for DNA analysis from 17 individual birds in an effort to determine the genetic structure of representative populations in the 3 populations sampled and to assist in determining the nature and extent of blue duck dispersal between adjacent populations. A report outlining the results of this analysis is currently being prepared.

In addition to the above, but part of the scientific assessment, Kevin Collier (S & R) collected a number of invertebrate samples from all the waterways visited. Initial results from the 12 sites surveyed have been circulated. These include a list of species recorded and their relative abundance. The final report is still being prepared.

(3) Habitat protection and enhancement.

Whenever appropriate, the protection of existing populations and their habitat is advocated. For example, the protection of riparian vegetation on the banks of the Motu River and its tributaries, covered by the National Water Conservation Order, was advocated by Eastern Region and accepted by the Opotiki District Council and included in their District Scheme Review.

(4) Public education.

Regional or district press statements have been released to the media on several occasions, usually before and after specific events such as the population monitoring survey.

(5) Population establishment and enhancement.

Eastern Region has not yet specifically identified populations for enhancement nor unoccupied habitat but can do so without too much extra work.

A Ducks Unlimited representative, D. Johnson, Reporoa, has recently been authorised to breed blue duck in captivity as part of the captive breeding programme. He has yet to be provided with birds.

4. NELSON/MARLBOROUGH REGION (Ian Miller)

Activity has been slow getting underway in the Region, largely due to the severe financial cuts experienced in the last financial year. During that period an initial assessment was made of part of the Waingaro River (North-west Nelson Forest Park) by Kaye Stark, a report on which was given at the Mt Bruce gathering last year, and Derek Brown began an assessment of the Wakamarina River (Mt Richmond Forest Park).

We are hopeful of getting considerably more achieved in the present 15 month period. Presently a reply-paid field record card is being printed which should be available to District Offices and Field Stations by the end of June. In the past three weeks the Flora Stream (North-west Nelson Forest Park) has been assessed as a survey site by Kath Walker and Graeme Elliott, and Kath, Graeme and Derek Brown have further examined the Wakamarina in the vicinity of the park boundary.

The Flora Stream is one of the more accessible streams in North-West Nelson and appears to be ideal as a study pairs of blue duck have been sighted in six kilometres of stream, between the stream's head and its junction with Balloon Creek. This is presently assumed to be part of a larger (12 plus pairs) population, an assumption which will be checked later this year with surveys of Balloon Creek, some of the larger tributaries, and downstream of the junction.

The Wakamarina results were disappointing with no ducks or sign being seen, and the river proving to be a more difficult survey prospect with lengthy sections of deep gorgey water. The lengths surveyed included a least three sites where blue duck have been seen previously. This river will be assessed again in summer.

A problem in selecting sites for study in this region has been the lack of sites which readily correspond with categories (b) and (c) as outlined in the Conservation Strategy. Through most of the region and river/habitat pattern is one of rivers having headwaters in steep country, usually in 'untouched' forest habitat, often within the Department of Conservation estate, and lower reaches of comparatively short length, usually outside the Department of Conservation estate and most heavily modified, with blue duck no longer present. Therefore, rather than having fragmented river habitat, as category (b) appears to require, there is simply increased confinement to the upper reaches. Invariably the headwaters of these rivers lie adjacent to those of other similarly suitable blue duck rivers and streams, and the degree of isolation of individual stream/river populations depends on the powers of dispersal between watersheds.

In summary:

1) Selection of survey sites is proceeding and we should have these organised for the first 'national' census.
2) We hope the Ohakune meeting may produce some degree of resolution of the dispersal question. This could make site selection a simpler task.

5. CANTERBURY REGION (John Andrew)

This report is a collation of work undertaken by Mike Harding (Arthur's Pass) and Graham Crump (South Canterbury).

(1) Survey cards.

An information folder and survey cards with "freepost" have been sent to 30 outdoor clubs and organisations within the Canterbury Region.

The Canterbury Mountaineering Club published the blue duck survey advertisement, Murray Williams text and survey card in their CCC News, Oct/Nov/Dec 1988 so some 500 subscribers contacted, 67 cards returned. A further 90 sightings within Arthur's Pass National Park by the public and staff have been recorded since July 1988.

All cards have been forwarded to Duncan Cunningham, Wellington for adding to the national distribution database.

(2) Monitoring

Blue duck are being monitored in the following areas:

(a) South Canterbury

- Lynn Creek, Hae Hae Te Moana, Orari and Otaio Rivers.
- Single male located in upper reaches of Otaio River, first sighting for several years.
- Hae Hae Te Moana and Orari River adults and juveniles were located too late to band.

(b) Arthur's Pass National Park

- Otira valley:

  A sub-population of three blue duck pairs has been formally monitored by monthly river surveys and habitat use observations since August 1988. All six birds were colour-banded in January/February and blood samples taken by Sue Triggs.

No breeding occurred Otira River this season. A total of 2378 detailed habitat use observations have been collected to date on a standardized form.

- Bealey catchment:

  Initiated in April, this project aims to study the dispersal of young birds within the whole catchment of the Bealey River by colour-banding family groups before the young disperse. At least 10 pairs of blue duck occupy this area and have fledged young every year recently. Banding occurred too late this year to capture young, though three adults were colour-banded in the Mingha Valley. Observations of fruit feeding by blue duck were quantified and written up.

(3) Future Work.

(a) Arthur's Pass

Some $6,400 allocated to:

- Otira River

  Continue monthly river surveys and habitat use/time budget data collection; closer monitoring of birds during breeding season including nest success and brood survival; banding of any new recruits.

- Bealey catchment

  Produce displays and publicity to explain project to public and to encourage reporting of banded birds; annual survey of catchment tributaries to identify breeding pairs; banding of all new recruits; banding of adults if resources permit.

- Distribution

  Continue publicity and collection of public sightings; print and distribute blue duck sighting cards.

- Other activities (if further resources become available)

  Process habitat use data (2378 observations); write up distribution survey data as a paper or report; re-survey critical eastern valleys at edge of present blue duck distribution; research historic records for early sightings; analyse faecal samples; undertake invertebrate sampling in Otira River.

(b) Wilberforce River

Survey of Wilberforce, Cronin, and North Stream in June 1989.

(c) South Canterbury

Finance allocated to undertake the banding programme in the rivers already named (see Monitoring [a]).

6. WEST COAST REGION (Rob McLay)

(1) Survey.

One organised survey was carried over the period of a week in mid December 1988 and focused on catchments within the Paparoa Range. The exercise involved 15 people (including some volunteers) and covered parts of and in some cases, the whole of ten different catchments. Very few birds were seen and all of these (n = 4) were within the same river system. Of concern was our failure to locate birds which were known previously to be present. Subsequent reports however have confirmed the presence of at least some birds which were missed in the survey.

(2) Recording cards

A 'freepost' recording card system which was implemented just prior to Christmas has been successful in providing details of blue duck sightings by both staff and members of the public. To date, >100 cards have been returned (some records relate to pairs and family groups) and they are still drifting in on a regular basis.

(3) Publications.

Preliminary progress toward the publication of a "coffee table" book on blue duck is on track. The project is incorporated in the Region's recently developed business plan and will be the major publication undertaken by our information and publicity section in 1990/91. In addition, plans are in hand to produce an information pamphlet during the same period.

(4) General impressions.

Birds were very difficult to find mid December to mid January. I personally located birds in full wing moult at Christmas and these were hiding by day and emerging after dark. This behaviour may explain the lack of observations made during the Paparoa survey. Small ducklings were observed in late January and early February. I am not aware of any fledged juveniles being sighted this year. Behaviour seemed to be very variable this summer. It is not known whether this is normal for West Coast populations or a result of the unusually harsh (rainfall) winter/spring of 1988.

(5) Forward planning.

Money has been set aside in the regional establishment as well as in each of the four West Coast districts for work on blue duck. Specifically, it is intended to select up to three separate populations and embark upon intensive monitoring of these to establish trends.

Staff throughout the region are aware of the plight of the bird nationally and are enthusiastic about conservation of the species. Proficiency in recording the presence of the bird is improving and as a result the rate of observations appears to be increasing. Also, there appears to be increasing awareness of the presence and status of blue duck within the public community and this too is generating sighting records. This augurs well for our development of an understanding species distribution and density within the region.

7. SOUTHERN REGION (Bruce McKinlay)

No new work was initiated subsequent to the production of the Conservation Strategy in September of last year.

Most activity has concentrated on adding records to the database. There are now 205 records on the database covering southern region.

In Murihiku District as part of Project Conservation a survey was undertaken of the Catlins River. Some 50 km of river was surveyed but no birds were seen.

There were problems with survey technique involving a new intake of Conservation Corps, that probably meant that the survey was not as authoritative as would have been expected.

Takitimu District (Nick Torr)

We have established blue duck monitoring as a project in our district and have money for it in the present budget. We have set up a local database for our district on the computer and have started to gather together some records that may not already be on the national database from old files and reports etc. We have put a bit of thought into suitable sites for population monitoring but have come up with nothing certain. Hoping to get some ideas and guidance about this at the meeting at Ohakune.

III. CAPTIVE BREEDING GROUP REPORT

(1) Activities report.

The Blue Duck Captive Breeding Group is formed from representatives of Ducks Unlimited, and the Department of Conservation, to oversee the development of a captive breeding programme for blue duck. As such, it forms an integral part of Ducks Unlimited's "Operation Whio" in addition to functioning within the guidelines of the Department of Conservation's "Conservation Strategy for Blue Duck". The members of this group are:

- F Neil Hayes, Convener, Ducks Unlimited.
- Grant Dumbell, Biologist, Ducks Unlimited.
- Eric Fox, Participating Breeder, Ducks Unlimited.
- Martin Bell, OIC, National Wildlife Centre (DOC).
- Raewyn Empson, Protected Species Division, DOC.

This group met for the first time on 5 May to discuss the objectives and mechanics of establishing an effective blue duck captive breeding programme. A draft policy document had been circulated previously, and this was adopted with minor modification.

The objectives of the captive breeding programme are:

1. to propagate the New Zealand Blue Duck in captivity.

2. to establish amongst Ducks Unlimited breeders, other approved persons, and wildlife establishments, at least 10 captive breeding pairs of blue duck. This may mean at least 20 captive pairs.

3. to maintain strict records of birds held in captivity, and birds reared in captivity.

4. to set annual and overall goals for captive breeding productivity.

5. to work within the Dept of Conservation's "Conservation Strategy for Blue Duck", and to liaise with the Blue Duck Liaison Group.

6. to assist with the release of captive reared blue duck into suitable wild areas.

7. to assist the Blue Duck Liaison Group in educating the public to a greater appreciation of blue duck, and about the need to preserve blue duck habitat.

To meet these objectives, the meeting also discussed the conditions governing participation in the project, guidelines for aviary construction, the distribution, and re-distribution, of birds, the potential for flock mating, and the release of captive reared birds.

It was felt that in the short term, no further captive birds should be considered for release to the wild as this will only delay the programme's ability to annually produce the 30 captive reared birds called for in the conservation strategy. In fact, with the current captive stock including seven unpaired males, five of which are birds younger than three years old, it was felt that the Liaison Group should give serious consideration to providing additional wild caught females for the captive programme. These should be young birds so could be cropped from the wild as ducklings or late term eggs.

(2) Draft of "Operation Whio"

The objectives of Operation Whio are:

1. to propagate the New Zealand Blue Duck in captivity.

2. to establish amongst Ducks Unlimited breeders, other approved persons, and wildlife establishments, at least 10 captive breeding pairs of blue duck. This may mean at least 20 captive pairs.

3. to maintain strict records of birds held in captivity, and birds reared in captivity.

4. to set annual and overall goals for captive breeding productivity.

5. to work within the Dept of Conservation's "Conservation Strategy for Blue Duck", and to liaise with the Blue Duck Liaison Group.

6. to assist with the release of captive reared blue duck into suitable wild areas.

7. to assist the Blue Duck Liaison Group in educating the public to a greater appreciation of blue duck, and about the need to preserve blue duck habitat.

The project will be supervised by a Captive Breeding Group, which will comprise:

1. Three members of Ducks Unlimited, one of whom shall be the Convener and shall be the DU nominee on the Blue Duck Management Liaison Group, and one of whom shall be a participating breeder.

2. The Conservation Officer, Protected & Endangered Species Section of the Dept of Conservation

3. The officer-in-Charge at the National Wildlife Centre.

The project objectives will be achieved by:

1. The production of plans and specifications for captive blue duck enclosures.

2. Where possible, the inspection of aviaries, prior to DOC inspection, to determine their suitability.

3. Determining the availability of birds for captive breeding.

4. Selecting and supplying birds to persons or establishments with approved facilities and with the necessary DOC permit.

5. Compiling readily retrievable data on:

    - all persons and establishments holding blue ducks in captivity;
    - ages and all relevant details of blue ducks held in captivity;
    - annual breeding figures - eggs laid, eggs hatched, number reared, deaths and the reason for deaths, and all other important information -very much as already done for operation PATEKE;
    - the transfer of birds;
    - banding information;
    - release of birds into the wild and follow-up observation information.

6. Constant liaison with all holders of blue ducks.

7. Establishing sites for the flock mating (natural pairing) of blue ducks.

8. Re-arranging the pairing of birds when successful breeding has not occurred.

9. Identifying areas for the possible release of captive reared blue ducks into the wild.

10. Doing all things that will ensure that satisfactory numbers of blue ducks are reared annually in captivity.

Conditions governing project participation:

All persons or establishments wishing to join operation should approach the Blue Duck Captive Breeding Group through Ducks Unlimited. Participants will need to comply with the following conditions:

1. Maintain their aviary facilities in prime condition at all times.

2. Ensure that the birds have an adequate supply of high protein food and fresh water at all times.

3. Produce an annual report –Appendix "A"

4. Be prepared to improve their aviary facilities when necessary.

5. Be prepared to make their aviary facilities available for inspection at all reasonable times.

6. Transfer all progeny to the Captive Breeding Group.

7. Be prepared to return birds for re-pairing when necessary.

Aviary requirement guidelines:

The following points cover the minimum requirements necessary to retain one pair of blue ducks in captivity:

1. Each pair of blue duck held for captive breeding must be confined in their own aviary.

2. The aviary must be totally enclosed and predator proof.

3. The aviary should be at least 20 square metres in size, e.g. 5m x 4m, and the wire should be 18 mm heavy gauge chicken wire or 18 mm square welded wire.

4. A pool which is at least 4 square metres in size (2m x 2m) and around 50 cm deep at one end. Sides of the pool must slope to allow ducklings to get out easily.

5. A pile of steep rocks to educate duckling in rock climbing.

6. Lots of plant cover - to provide shelter from the elements and to make the aviary aesthetically pleasing to the birds.

7. A number of nest sites -tunnels in the rocks, nest boxes, etc.

8. A feed station which is adequately protected from the weather, and which is full at all times.

9. A brooding area which is well protected from the elements.

10. Facilities whereby the pond is easily drained and replenished with fresh water.

Aviaries which are constructed with rocks and flowing water are highly desirable as such a facility could ideally provide means by which ducklings could be 'educated' to feeding in flowing water -prior to their release. Two ponds at different levels, with circulating water flowing between them is also worthy of consideration when aviary design is being contemplated.

(3) Captive breeding discussion (Grant Dumbell)

Grant explained the difficulty of achieving the target of 30 pairs of captive blue duck by 1990 when there are only 11 pairs available at present. Build-up to the desired number of breeding pairs will be very slow particularly as only two pairs have bred so far and policy recommends a two-year wait to prove or disprove the pairing. Essential to build up numbers to 18 pairs by next year by introduction of an additional seven females to pair with the seven spare males.

A proposal to use ducklings or late-term eggs from the wild to boost the numbers of breeding pairs was discussed and accepted.

Questions about DU members' facilities for breeding blue duck were raised. DU is satisfied that it can meet the demand for increased space and that they do have control over the quality of the facilities and licenced breeders.

> **Conclusion:** The need to increase numbers of breeding birds to 18 pairs by next year was accepted. This will be achieved either by taking late-term eggs or capturing juvenile females from the wild.

There was some discussion on the lone female on Mt Taranaki. All other birds in the population had paired up.

> **Conclusion:** A spare captive male (one of seven) to be located with the lone Mt Taranaki female as he is likely to be of more use there than in captivity.

The fate of the single male and the now lone captive-bred female in the Tararuas was discussed. The male had immediately flown back to the Mangatarere Stream (out in farmland) after relocation in the Park River (central Tararuas). There has since been a report of three other blue ducks on the Waiohine River, a few kilometres downstream of the relocation point in the Park River. It is not yet known if the captive-bred female is one of the three new birds.

Conclusion: The status of the captive-bred female should be assessed and the following action taken:

a) If paired with one of the new, wild birds in the Waiohine River, leave.

b) If alone (unpaired), take back into captivity for use in captive breeding programme.

ACTION: Tim Harrington to carry out inspection of captive-bred female in the Tararuas and take appropriate action as soon as reasonably possible. See Wairarapa District report above.

IV. RESEARCH REPORTS

1. NATIONAL DISTRIBUTION SURVEY OF BLUE DUCK (Duncan Cunningham)

Summary:

In 1976 Fordyce published the final results of a survey of blue ducks in the South Island. The results showed a patchy distribution closely associated with hilly country and inversely related to alluvium deposits.

This investigation was started as a private project in 1983 by a personal desire to know more about overall distribution and status of blue duck. A database of all records is now well established and is contributed to, and regularly used by DOC staff. All populations have been mapped and described. It is now possible to suggest models for dispersal and their implications for management.

Objectives:

(1) Establish present distribution

(2) Establish national database

Methods:

Information on sightings was solicited from a variety of outdoor recreational groups, mainly trampers, climbers and hunters. Since the blue duck seminar held at Mt Bruce in April 1988 the bulk of the information has come from DOC staff.

All information is translated into map-based records and entered onto a database held on a Science and Research Directorate personal computer using dBASE III+.

Table 1: Stock of captive birds at 1 June 1989

Band	Sex	Hatched	Mother	Father	Held	Mate	Bred	Died	F
L-18097	F	- -	-	Mt Bruce		L-19063	Yes	-	?
L-18913	M	86-10-10	L-19064	L-18993	Nga Manu	L-18934	No	-	0
L-18933	M	86-11-00	Mixed	Mixed	M. Pike	L-19836	No	-	0
L-18934	F	86-11-00	Mixed	Mixed	Nga Manu	L-18913	No	-	0
L-18935	M	86-11-00	Mixed	Mixed	Mt Bruce	-	No	-	0
L-18936	F	86-11-00	Mixed	Mixed	M. Pike	L-18933	No	-	0
L-18946	M	87-10-22	L-18097	L-17062	Mt Bruce	-	No	-	0
L-18949	M	88-12-00	L-19092	L-19058	Mt Bruce	-	No	-	0
L-18992	M	83-12-28	L-18097	L-17062	Mt Bruce	L-19062	Yes	-	0
L-18993	M	83-11-10	L-18097	L-17062	Mt Bruce	-	Yes	-	0
L-18994	F	83-12-28	L-18097	L-17062	Mt Bruce	L-19057	No	-	0
L-18995	M	83-11-10	L-18097	L-17062	Mt Bruce	-	No	-	0
L-18997	M	Gisborne	-	-	R. Munro	L-18999	No	-	?
L-18999	F	84-10-01	L-18097	L-17062	R. Munro	L-18997	No	-	0
L-19057	M	Wng 84-10	WF.2	WM.2	Mt Bruce	L-18994	No	-	?
L-19058	M	Wng 84-10	WF.2	WM.2	Mt Bruce	L-19092	Yes	-	?
L-19062	F	Wng 84-11	WF.1	WM.1	Mt Bruce	L-18992	Yes	-	?
L-19063	M	Wng 84-11	WF.1	WM.1	Mt Bruce	L-18097	No	-	?
L-19090	M	??????	-	-	Hilldale	-	No	-	?
L-19091	M	84-11-29	L-18097	L-17062	Mt Bruce	-	No	-	0
L-19092	F	84-11-29	L-18097	L-17062	Mt Bruce	L-19058	Yes	-	0
L-19094	M	84-11-29	L-18097	L-17062	Otorohanga	?	No	-	0
L-19751	F	88-12-00	L-19092	L-19058	Mt Bruce	-	No	-	0
L-19752	M	88-10-00	L-19092	L-19058	Mt Bruce	-	No	-	0
L-19753	F	88-10-00	L-19092	L-19058	Mt Bruce	-	No	-	0
L-19754	F	88-10-00	L-19092	L-19058	Mt Bruce	-	No	-	0
L-19755	M	88-10-00	L-19092	L-19058	Mt Bruce	-	No	-	0
unband	M	- -	-	-	Otorohanga	?	No	-	?
unband	F	- -	-	-	Otorohanga	?	No	-	?
L-19000	M	84-10-01	L-18097	L-17062	-	-	No	85-10	0
? L- 6714	M	Wairoa	-	-	-	-	Yes	85-04	?
L-19071	M	85-10-25	L-18097	L-17062	-	-	No	86-04	0
unband	F	85-12-25	L-18097	L-17062	-	-	No	87-03	0
L-19064	F	Wng 84-11	WF.1	WM.1	-	-	Yes	87-06	?
L-19060	M	84-10-01	L-18097	L-17062	-	-	No	87-08	0
L-17061	F	-	-	-	-	-	Yes	88-06	?
L-17062	M	77/78	L-17061	L-6714	-	-	Yes	88-07	0
L-18919	M	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18920	M	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18921	F	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18922	F	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18931	F	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18932	M	86-11-00	Mixed	Mixed	Released	-	-	Out	0
L-18950	F	88-10-00	L-19092	L-19058	Released	-	No	Out	0
L-18998	M	84-10-01	L-18097	L-17062	Arundel UK	?	?	Out	0
L-19093	M	84-11-29	L-18097	L-17062	Arundel UK	?	?	Out	0

Interim results:

(1) The database now holds about 2,000 records, 1,000 for each island. Many records are repeat sightings from popular tramping routes and hunting areas.

(2) Repeat records have boosted the overall number of records making it difficult to assess the numbers of blue duck nationally.

(3) Records are clumped around high ground comprising, in most cases, many catchments. I am now treating these as whole populations based around a watershed.

(4) Records from rivers between populations suggest that some rivers may be important for maintaining links between populations.

(5) Sightings of single birds occur most frequently in the period January-April. Many are at locations distant from established breeding rivers and may be mountain tarns, lakes, or rivers surrounded by farmland or other open country.

(6) Distant records confirm that blue duck are capable of dispersing over land and over much greater distances than previously thought.

Conclusions:

(1) The discontinuous distribution shown by Fordyce in 1976 for the South Island is still true in the 1980s and is also true for the North Island.

(2) Populations appear to occupy watersheds with two or more catchments rather than single catchments (although the latter may be true for small, remnant populations).

(3) Populations in both islands are clumped around high ground where the under lying rock-type is hard. Rivers on sloping ground have a high proportion of riffle systems which in combination with low silt loads provide optimum habitat for aquatic invertebrates on which blue ducks feed.

(4) Rivers with only a very few birds may serve as important links between populations. The number of birds that a river supports may be less important than its location.

(5) Blue duck appear to have a much greater dispersal ability than previously thought. The database holds records of birds seen up to a hundred kilometres away from the nearest population.

Comments:

(1) The database is proving to be a desirable and useful management and research tool. It is vital that this database continue to operate and expand where necessary and be more available to regional staff.

(2) This survey highlights the need for more research work to improve our understanding of:

(a) dispersal between and within populations.
(b) the importance of small groups between populations.
(c) habitat requirements
(d) whether small populations are in fact remnants or newly established

2. FOOD AND FEEDING OF BLUE DUCK (Kevin Collier)

Summary:

Populations of blue duck are declining in many areas, possibly as a result of river modification, alterations in catchment land use and the impact of these on blue duck habitat and diet. To adequately predict the impacts of these on duck populations, we need to determine the dietary requirements of blue duck, particularly for breeding pairs of birds and their offspring. To help achieve this, I am investigating the food and feeding of two pairs of blue duck in the Manganui a te ao River in association with Clare Veltman and Ian Henderson, Massey University. In addition, I am gathering information on invertebrate populations and blue duck diet from other sites as opportunities arise.

Objectives:

To investigate relationships between blue duck diet, feeding behaviour and food availability in the Manganui a te ao River and to assess potential food availability and diet in some other New Zealand rivers.

Methods:

(1) Validations of quantitative invertebrate sampling procedures and testing of faecal analysis techniques were carried out between August and December 1988.

(2) Two riffles in the Manganui a te ao River were electric fished in December to establish whether there were sufficient densities of juvenile trout to warrant a study of competition between trout and blue duck.

(3) Two pairs of blue duck on the Manganui a te ao River are being studied at bimonthly intervals between January 1988 and December 1989. Feeding behaviour is being observed to establish the ways birds obtain their food, diet is being determined from analysis of faeces, and densities of invertebrates both in the water column (drift) and on the substrate are being measured to assess food availability. This part of the project is being carried out in collaboration with Drs Clare Veltman and Ian Henderson, Massey University.

(4) Stable carbon isotope analyses are being conducted on duck feathers to help establish the principal types of foods assimilated by birds. The technique measures what is assimilated into body tissues rather than what is ingested and excreted without contributing to bird biomass. This is being carried out in collaboration with Dr Graeme Lyon, Nuclear Sciences Institute, Lower Hutt.

(5) Data on invertebrate populations and blue duck diet are being collected from other sites as opportunities arise (e.g., East Cape rivers in September 1988).

Interim results:

(1) Invertebrate densities in the Manganui a te ao River are being measured by brushing upper and lower surfaces of stones of similar size and therefore similar surface area (775-1000cm). Initial trials using bricks of known surface area as substrates for invertebrate colonisation were unsuccessful as the composition of invertebrate communities on bricks differed considerably from that on stones.

(2) Only three juvenile trout were caught during extensive electric fishing of two boulder banks on the Manganui a te ao.

(3) Preliminary analysis of invertebrates from the middle section of the Manganui a te ao indicate that the fauna is dominated by caddis flies (particularly Helicopsyche, Beraeoptera and Olinga) and mayflies (mostly Deleatidium and Coloburiscus). Helicopsyche, Olinga and Deleatidium were also relatively abundant in the Takaputahi and Whitikau Rivers, East Cape, where several pairs of blue duck were found breeding successfully in a recent survey Analyses of blue duck faeces and feeding behaviour is currently in progress.

(4) Preliminary stable carbon isotope analyses suggest that blue duck diet probably consists of a mixture of algae and/or insects and can vary considerably within the same river system.

Interim Conclusions:

(1) Competition for food between blue duck and fish is unlikely to occur in the Manganui a te ao River.

(2) Conclusions concerning the dietary requirements of blue duck are premature at this stage. Analysis of relative abundances of food material in the faeces compared to what is available in the river should reveal any preference for certain food items (e.g. some species of invertebrates).

(3) More stable carbon isotope analyses should be carried out to investigate in greater depth the sorts of foods assimilated by blue duck.

(4) More data from other rivers should be collected to determine the generality of the findings on the Manganui a

3. GENETIC STRUCTURE OF BLUE DUCK POPULATIONS (Sue Triggs)

Summary:

Current research by Murray Williams (DOC) suggests that many blue duck populations may have become fragmented and isolated, mainly due to agricultural and hydro-electric development. The expected genetic consequences of this are a disruption of natural population structure, and increase in inbreeding, and a decrease in genetic diversity within population. Each of these consequences are likely to decrease the viability of isolated populations.

Objectives:

(1) To check paternity of broods.

(2) To determine the genetic structure of populations of blue duck, including the extent of inbreeding and dispersal within and between catchments.

(3) To compare the genetic structure of a potentially isolated population from a modified habitat with a population from a largely unmodified habitat.

Methods:

Paternity, inbreeding, and local dispersal movements will be assessed using DNA fingerprinting. Another biochemical genetic method, protein electrophoresis, will be used to determine the genetic diversity within and among populations, as well as dispersal rates. Blood samples were taken from blue ducks in the Manganui a te ao and Wanganui Rivers, from the Motu and Waioeka River catchments (East Cape), and from

the Otira River (Arthur's Pass).

Interim results:

DNA fingerprinting trials have proved successful for blue ducks. Paternity of several broods has been confirmed. Initial result indicate an extremely high level of inbreeding in the Manganui a te ao population, suggesting that this small population is isolated from other populations. However, blue ducks from a relatively unmodified habitat (Motu River tributaries) also appeared to be closely related within a local area, suggesting that limited dispersal and locally related groups are part of the natural social structure of blue duck populations. This seems to be accentuated in the Manganui a te ao population to give an exceptionally high level of inbreeding.

Further samples from adjacent catchments will help to resolve the extent of isolation of the Manganui a te ao River blue ducks.

4. POPULATION DYNAMICS OF BLUE DUCK (Murray Williams)

Summary:

This study, the first ever major field investigation of blue duck, commenced in 1980. Initial study centred upon breeding biology and population ecology in order to provide knowledge upon which a national conservation strategy for the species could be based. Because the species is long lived (25% of adults live longer than 10 years), population studies will last to cover at least one full generation. Habitat use and requirements, and population genetics studies now complement the population study.

Objectives:

(1) To study long-term changes in the population by measuring the number of young produced annually, the survival and dispersal of juveniles, the longevity of adults and changes in the density of the population.

(2) To measure what factors influence breeding density by quantifying (a) territory size and seasonal variation in the use of those territories, and (b) relating the pattern of territory use to the distribution and abundance of food within the river.

(3) To determine what proportion of each year's production of juveniles may be removed annually to establish population elsewhere without having a long-term effect on the population.

Methods:

By direct observation of banded and unbanded birds on an 8 km section of the river and periodic surveys of the entire river. Freshwater invertebrate studies by a variety of methods (see report). Genetic relationships within and between population uses DNA fingerprinting (see report).

Interim results:

(1) 1988/89 was a poor breeding year with only 10 young fledged from 19 pairs. Only 3 of 9 pairs within the study area fledged young and but 1 pair of the 10 immediately up river of the study area. Prolonged and intensive spring rains appeared the principal cause of breeding failure (La Nina effect).

(2) For the first time, a sibling pair produced and fledged young.

(3) For the first time, movement of a bird beyond the river catchment was recorded - one 1986 fledgling was found on the Whakapapa River.

(4) Three of 8 females present on territories last year died, 2 at the nest and 2 during moult. There is an apparent imbalance in the population sex ratio, males exceeding females.

Interim conclusions:

(1) For the first time in 9 years there have been 2 consecutive bad breeding years. This is further evidence of the species being an erratic breeder, perhaps more so than other native waterfowl.

(2) Population density continues to increase on the river, especially below the Mangaturuturu River confluence, further evidence of slow and prolonged recovery from the 1975 lahar which reached the river down the Mangaturuturu.

Future work:

To continue population study and monitoring until 1993 and then subject to review.

5. PROGRESS IN BLUE DUCK RESEARCH, JUNE 1989 (Massey University)

There are two blue duck projects in progress, involving Ian Henderson and Clare Veltman with help from honours students, Lisa Newton and Martin Williams:

(1) Project 1.

In a joint study with Kevin Collier (Department of conservation) we are investigating blue duck diet in relation to prey availability and foraging behaviour, using the Manganui a te ao River study area established by Murray Williams. While Kevin samples invertebrates in the benthos and drift, we are collecting behavioural and faecal samples from two territorial pairs.

Six bimonthly sampling trips were planned for 1989, and three of them plus a pilot study trip have been completed. The ducks are tracked while they forage, and feeding behaviour is quantified at one-minute intervals. Faecal material produced by the focal birds is logged, and recovered when the ducks move away from the deposition site. In analysing these data, we concentrate on counting all mandibles, the clypeus of caddis and chironomid species, and the terminal segment of elmid larvae.

Having measured foraging behaviour and established the diet of individual ducks from faecal analysis, we will relate intake patterns to invertebrate availability. As well as study the relationship between available food and diet, we will examine the possibility that individual birds have strongly defined prey preferences.

(2) Project 2.

In order to test the hypothesis that competition from trout for food has played a part in the decline of blue duck populations, we have collected benthic and blue duck faecal samples from four sites as follows:

(a) Tauranga-Taupo R. upstream of the waterfall. Blue duck present but trout absent.

(b) Tauranga-Taupo R. downstream of the waterfall. Trout present but blue duck absent.

(c) Ohutu R. upstream of the waterfall. Blue duck present but trout absent.

(d) Waiokotore R. blue duck and trout present.

We aim to compare blue duck diets and invertebrate communities in the areas with and without trout. In addition we plan to sample the Takaka and Otira Rivers when funding becomes available.

V. MONITORING SITES SELECTION

Rick Thorpe opened discussion on this matter. Pointed out difficulty in selection of three suitable sites because of three main problems:

1. Availability of suitable sites.

The necessity of having three monitoring sites per new regional conservancy was questioned given the difficulty of finding that many in a reduced area and the overall costs of managing an increased number of sites. Whilst it is still important to determine short and long term changes both regionally and nationally, how widely do we cast the net given the available resources? Do we need three sites per conservancy to achieve effective monitoring and how essential is it that the birds are banded?

> **Conclusion:** The meeting agreed to stick to the original plan of 3 populations per old region as an overall aim. Some Conservancies may only manage to find, for example, a “B” and “C” site whilst neighbour has "A" and “B” sites. Conservancies will have to co-operate to achieve a balanced number of site-types through out each island. Sites and resources can be shared between neighbouring conservancies.

In addition:

(1) If resources allow, some birds in each monitoring site can be banded to give an extra level of interpretation.

(2) Each conservancy should aim to have their sites selected in time for the November 1989 monitoring.

(3) Conservancies are encouraged to involve volunteers from OSNZ and DU to assist with monitoring. It may be possible to provide funding to cover their transport costs.

2. Availability of resources.

Because there is some difficulty in convincing regional management of importance of a monitoring programme, getting the necessary resources can be a problem.

> **Conclusion**: This problem may be overcome by emphasising the need to be part of a national effort to monitor blue duck population trends. The conservation Strategy can be used to add weight to this argument.

3. Apparent lack of P.S.D. support. Recovery Plan.

To date, The Protected Species Division has not actively endorsed the Conservation Strategy although the general impression is of tacit support. Positive endorsement is likely to be seen by Regional (Conservancy) Management as a clear signal of the national importance of the monitoring programmes.

The group felt that the lack of a Recovery Plan endorsed by the Executive Management Group hindered the ability to make blue duck a priority in the regions and may also make it difficult to raise sponsorship funds. The Conservation Strategy had shown its value as a working document in the last 12 months but now needed full endorsement to give some impetus to the planning process.

ACTION:

(a) MJW to prepare a letter from the Liaison Group to EMG stating the strong wish that the process of producing a Recovery Plan for blue duck be given considerable impetus by endorsement of the Conservation Strategy.

(b) The Conservation Strategy should, in the meantime, continue to be used as the working document.

VI. DESCRIPTION AND USE OF DATABASE (Duncan Cunningham)

1. Regional sub-sets of national database.

DMC pointed out the benefits of each region operating their own subset of the national database. Also made the point that if each region (or conservancy) entered its own records on the database, it would the number of records to be entered by one person (DMC) who had to enter them all in addition to other work. Concerns about the ease of operation of subsets were allayed with a demonstration of the basic, menu-driven procedures.

Conclusion: Each region/conservancy to operate their own subset of the national database to meet the need for a system of information storage and retrieval. Where resources and expertise is not available, records will continue to go to DMC.

2. Compatibility with DOC-wide data model.

There was some concern about the number of databases springing up around DOC and their compatibility with the data model being designed by Malcolm Harrison.

It was generally felt that there is enough software now available to allow transfer of information between software types.

DMC rather more concerned about regional sub-sets of the blue duck national database being modified to the point where the formats are no longer compatible. Format if essential for the free exchange of data between national and regional databases.

Conclusion: Except where there is an established national database, regions/conservancies should feel free to operate whatever database was needed to achieve their objectives.

3. Grid reference standardisation.

The problem was-how to reconcile the basic six-figure map reference supplied by the average hunter or tramper with a need for a more detailed reference which included a national grid reference. Some favoured the more complete eight figure reference (NZMS 1 series) or 10 figure reference (NZMS 260 series) whilst others favoured an adherence to the standard six figure reference to ensure consistency and ease of use.

Conversion from imperial (NZMS 1) series to metric (NZMS 260) series and vice versa is no longer a problem as S & R's programmer has developed a user-friendly software routine which will convert between the two. Copies of the program are available to DOC offices free of charge.

Conclusion: The database should contain the full eight or ten figure reference (depending on the NZMS mapping series) for maximum information and accuracy but we should not expect anything more than a standard six figure reference, regardless of map series, from most observers.

(4) Charging for data extraction.

There was discussion on whom should be charged for release of information and how the charging should be justified, how much should be charged, and whether all charging should be done from a single source (DMC) or whether it can be left to regions.

Conclusions:

(a) Consistent with DOC policy, consultants acting on behalf of a client will be charged for extraction of records. Members of the public will not be charged if their wish for the information is stated for their personal interest only (this may require a written statement).

(b) A consultant acting on behalf of a major client was recently charged $5-00 per record, a minimum time charge of one hours salary (hourly rate x 2.23) and a charge for paper of 20 c. per sheet. In some cases the charge may be reduced where the records have been contributed by the consultant or company requesting the information.

(c) The meeting agreed that whilst regional handling of requests for information gave each region the opportunity to generate a small amount of revenue, there is the danger of lack of consistency in applying charging criteria. This would firstly be bad for professional image and secondly, would be a failing on part which could be exploited.

All requests for information should be channelled through the national database to provide:

- consistency of charging rate
- national co-ordination of all information requests and charging
- a small amount of operating funds for the distribution survey (nil in the previous six years)

VII. USE OF LONE BIRDS

The issue of whether and how to make best use of isolated loners was discussed at length with much of the discussion focussed on the example provided by the lone Tararua male.

If these isolated loners are part of a general dispersal then they are part of a natural process in which they become single propagules. Lone birds in threatened circumstances may need to be moved or taken into captivity. The decision of whether to leave them in situ, relocate, or take into captivity must be part of a planned and agreed process in which the circumstances of the bird are taken into account.

Conclusion: In most cases the bird should be left in the wild as its arrival there is part of a natural process. In all cases, it is essential that the following guidelines are followed:

(a) Determine sex

(b) Band

(c) Taking a blood sample for DNA analysis (by Sue Triggs, S & R) may provide a clue as to the origin of the bird. Contact Sue Triggs for further information and instruction.

VIII. BLUE DUCK PUBLICITY VIDEO (Bryan Williams)

Video films on other species have been produced but nothing specifically on blue duck apart from an Anglia Television production which was not highly regarded. It was felt that it does little to increase public awareness of the issues facing blue duck. Funding to produce a quality film would be difficult to raise but it was suggested that a film could be compiled using appropriate footage from existing material. A number of sources and methods of compilation were suggested.

ACTION: Murray Williams to investigate feasibility of production of video to increase public awareness of blue duck.

IX. FIELD CARD CONTENT (Bruce McKinlay)

Bruce McKinlay expressed concern at the variability in card content around the country. Discussion followed in which multiple use cards for all species were suggested. There was also concern about the quality of the information the most important of which was positive identity of the bird. A single question is needed to indicate the accuracy of the identification, e.g. note what was seen.

Conclusion: Each region/conservancy to design a card or form according to resources, perceived needs, and target observers.

X. MOHAKA CATCHMENT CONSERVATION ORDER (Keith Hawkins)

Keith expressed a need for advice on how to present the best case for the department. There was considerable discussion on this subject particularly in the light of the catchment's importance to Electricorp who apparently intend to oppose case for a Conservation Order on the whole catchment.

The question of ranking blue duck populations in order of importance was addressed. All blue duck populations are of equal importance regardless of size or location. It is

therefore pointless and dangerous to make comparisons between populations each of which is important to the national population of blue duck.

In addition, an important concept to grasp is that of the "bioassay" concept and how blue duck presence is an indication of water quality. As blue duck are at the top of the energy pyramid in freshwater habitats, their role as environmental monitors is extremely important. They must not be regarded as some kind of problem or nuisance.

We also have to make it clear that blue duck are special, not just another duck. They have to be regarded in the context of New Zealand's particular ecological jigsaw. Blue duck must also be viewed in an international context both in biological terms and how the international community judges this country's conservation attitudes and performance.

It should be pointed out that blue duck are not just seen by a few elitists who make it into remote places. Members of the public do see blue duck in a number of relatively accessible places. People's reactions to their first sighting are generally warm and enthusiastic.

> **Conclusion**: When presenting cases that rely on conservation of blue duck populations, the important points to make are:
>
> (1) Never give a ranking of importance to any population -they are all important.
>
> (2) The presence of blue duck, even in small numbers indicates a special quality in freshwater environments.
>
> (3) Take on an educational role by pointing out the special nature of blue duck in biological, national, and international contexts.

XI. SPONSORSHIP (Murray Williams, Alan Saunders)

Murray Williams opened discussion on sponsorship with an outline of events surrounding the proposed Electricorp sponsorship and reported that the legal conflict between DOC and Electricorp over Wanganui River flows had led to a cessation of sponsorship discussions. He explained that the sponsorship package presented to Electricorp, which asked for$480,000 over five years, had been hastily prepared and that he did not have the opportunity to consult about its content.

His proposals included:

(a) A high profile nation-wide survey to complete the resource assessment phase of the conservation programme. This event would attract public involvement and attention. Up to 20% of the first funds could be put into the public relations component of this activity.

(b) Habitat enhancement experiments, for example on the Stream, a significant tributary of the Manganui a ao River. The aim would be to re-establish riparian vegetation and remove of willows in the lower part of stream to see if blue duck will establish territories in the rehabilitated waterway. This technique would be tried on up to four waterways.

(c) Captive breeding programme. Initially money would help fund a fledgling breeding and release programme. If these proved successful, a major injection of funds into building and operating breeding units would follow.

(d) Funding of two research projects identified in the Conservation Strategy - experimental increase of productivity of wild birds, and, surveying of rivers for potential releases.

Alan Saunders was concerned about need to co-ordinate approaches to companies for sponsorship funds. The various parts of DOC must not be seen to be competing for the same potential funds. All major requests must be placed through DOC Head Office. This ensures a fair distribution of funds and saves considerable embarrassment.

Alan outlined the Mapara kokako project and how funding was being arranged and used. Important to present range of "marketable packages" to a potential sponsor. The package must point out what the benefits will be to both the sponsor and to DOC. Showed a 5 minute publicity video which was put together for the Mapara project at a cost of $2,000.

Discussion followed about whether compromise is acceptable in some instances. It was accepted that some kind of "deal" is almost inevitable. Extreme care is needed in the early stages of discussion. The potential sponsor and DOC Head Office must know exactly what is being discussed at all stages (costs of materials, labour, transport, etc). Packages must be presented fully and professionally with clear statements of whether projects are of regional or national importance.

MJW called for suggestions of other projects to be added to the list of blue duck projects he had submitted to Electricorp. He emphasized that funds must not subsidise DOC operations but must be seen to be used for one-off projects which achieve a major goal.

Potential projects suggested were:

(1) Captive breeding programme.

(2) Establishment of new projects.

(3) Blue promotion including freephone or “blue duck hotline".

(4) Catchment protection and restoration including riparian vegetation work. Benefits for other species including humans.

(5) Manipulative management (effects of predator trapping, egg removal, double clutching, etc) .

(6) Research: Tongariro River follow-up work, feeding (including competition with trout), dispersal.

XII. BLUE DUCK LIAISON GROUP

Discussion about value and cost of meeting (about $3,500 overall). Difficult to see how it could have been done more cheaply without losing valuable time to cooking and other domestic chores. It was felt that at about $175 per head, the cost was cheap for 12 months worth of planning, advice, and maintenance of the national co-ordination of blue duck work.

Both Forest and Bird and Ducks Unlimited representatives expressed support for this type of meeting in which there was a sharing of skills and resources. The university role is valuable for monitoring the quality of decision-making and is one which the group values and wishes to continue. Important to have involvement of non-DOC expertise to minimise the development of an "in group" focussing on a single species with limited scope for input from wider interests. Non-DOC people also have a positive role to play in advocacy and can provide free assistance, can share learning, and help with promotion.

Next Meeting:

The group was very interested in holding another meeting next year. Also keen to involve the current non-DOC people.

General preference for earlier in the year, say April or May. Meeting of similar duration (2-3 days).

Venue: Arthurs Pass

To be organised by Murray Williams if new Protected Species Unit unable.