Grey duck. Photo: J. Hill

Flight

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DUCKS UNLIMITED QUARTERLY WATERFOWL JOURNAL

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Ducks Unlimited U.S.A, Canada and Mexico

DUCKS UNLIMITED NEW ZEALAND INC.,

- FOR WATERFOWLAND WETLANDS -
PO BOX 9795 AUCKLAND, NEW ZEALAND

IN THIS ISSUE

Cover Photo: Pukeko. Photo: Alan Kneebone

President's Report

Positive Outlook

Ducks Unlimited New Zealand is undergoing a period of consolidation. There are many projects we would like to invest funds in to create or enhance wetlands, however our organisation, like many others has suffered a drop in income. To continue activities without caution would see us operating in deficit. Your board has spent considerable time discussing various proposals to ensure we can meet our commitments and generate funds for wetland projects, and while the Government and many corporations have embarked on asset sales to solve their financial problems, we value our assets and see their sale as an unacceptable retrograde step.

The board has resolved to endeavour to increase membership and also to form new chapters. We have a membership of approximately 1000. If each of us were to introduce one new member we would double our membership overnight and substantially increase our income. I would ask you to send to our Secretary the names and addresses of persons who you consider are prospective members and we will write to them supplying them with details of the organisation and inviting them to join.

With respect to new chapters, the Board is taking steps to arrange meetings in Hawkes Bay, the Waikato and the South Island with interested persons to encourage the setting up of such organisations. If you live in these areas and would like to be involved, or if you live in another area where you consider a Chapter could be formed, please write to our Secretary or contact a Board member.

Our Executive Director, Grant Dumbell, has spent a considerable amount of time producing a set of guidelines to increase our organisational efficiency. We have adopted a new logo, to help with our national identity, and have revamped our sales programme to make it more profitable.

Our major project at present is the development of the Makerua Wetland near Palmerston North. Providing it stops raining and we get some dry weather, construction of earthworks to raise the water level in the reserve is to be undertaken this summer. We hope this will provide some return to the members who have given us so much support in the Manawatu over the past several years, and I look forward to reporting its progress in a later issue of "Flight".

DAVID RICE PRESIDENT

Planting Trees For Birds And Animals

John Dyer

A surprising number of people are realising that there is a quick, easy and often rewarding means of increasing bird numbers. Simply plant fruit and nut providing trees and shrubs, or trees that provide cover, roosts, forage and shelter. Be it deer or ducks, pheasants or quail, there is a number of suitable and readily available tree types to plant. A corner of your backyard is all it takes to propagate them.

Starting with pheasant, we should recognise that destruction of cover is the prime reason pheasant and quail numbers have declined. Pheasant iike low cover such as gorse. "Clean farming" aims to make every paddock a grass monoculture with the only remaining cover being 7 strands of No 8. Yet every farm has areas that don't lend themselves to production. Steep banks including river banks, tomo areas, rock faces, broken ground or just odd corners all lend themselves to being fenced off and planted. Cherries, oaks, Irish strawberry trees and such shrubs as coprosma, wineberry and chokeberry will soon provide food and cover. The latter becomes even more important when pheasant are nesting and even the long grass within the fenced area is useful - it will keep the hens out of the hay paddocks where their life, let alone their nest cannot be protected from the mower.

Roost trees such as larch, screened by spruce, keeps the draught out and hides the birds from prying eyes of both four and two footed predators.

Quail prefer finer seeds so look to small acorned oaks like pin oak. They also like elderberry and broom which in the proper

Tony Nooyen with some of his trees ready for planting out.

locations needn't be a nuisance. Holm oak (also called evergreen oak) makes a good quail food and roost. You will quite probably find pheasants loading their crops up with holm acorns even months after they fall in April.

Planting for ducks needs a bit of thought. Don't plant so as to eventually shade a pond as this restricts the sunlight that many natural duck foods depend on. Instead plant the southern shore -but never a dam itself as the roots will cause the structure to fail.

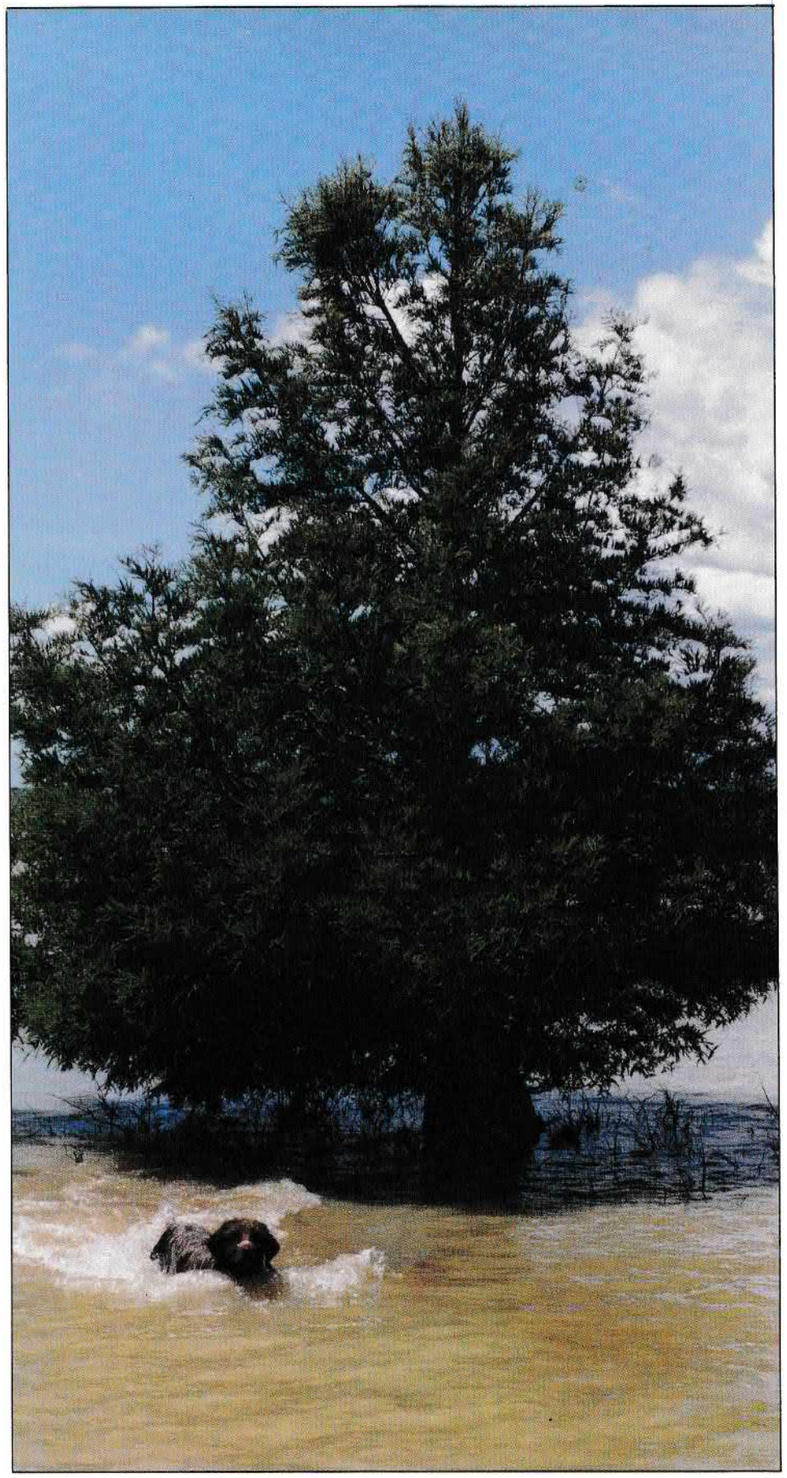
Pin oak and bald cypress both tolerate wet areas and the latter will actually grow in several feet of water like willow. Plant a number in the shallow upper end of the pond and ducks will skulk back among them and flush in waves after more exposed birds have already left. Pin oaks provide thousands of acorns and mallard especially will travel about under the trees picking them up. Pin oak fall April-May but include some English oak that seed in January-February. This means the birds will have an ongoing supply and a reason to hold in the area. Don't overlook using shrubs such as coprosma, broadleaf, flax, wineberry etc to screen the rest of the pond so as to give the birds privacy. Kahikatea is another native worthy of inclusion.

While many people are already planting trees for birds, their value for deer might interest those who like to see a few on their land. Different species use different trees but broadleaf, fivefinger and any of the oaks are well worth planting. Wattle is a favourite for staining antlers (esp Acacia melanoxan).

Tree planting needn't be expensive. If it is you're probably doing things the hard way. Most seed can be collected once you've located true to type trees growing in city parks or on roadsides or whereever. Similarly many trees will grow from cuttings. Nurseries can be expensive but a number of people could get an order from a wholesaler such as Appletons of Nelson at perhaps $1.00 per plant. This is also a great way to get rarer items. "Proseed" of Rotorua publish a catalogue and this contains many exotic and native seeds supplied to order. Being seed, it is obviously much cheaper than grown plants.

Trees don't grow overnight although some, such as redcurrants, chokeberry and feijoas, fruit in their first year or two. Some types grow much quicker than others but none outpaces tree lucerne which can be struck by seed. Seeds from tree lucerne, wattle and kowhai need to be soaked in just boiled water before planting. Pheasant and probably quail will seek the last two out as grit substitutes, as they do cherry pips. Since grit is often scarce this is an important consideration.

My own private "nursery" which has provided hundreds of trees of some 50 or so



Bald cypress growing in standing water - (Waikato).

species measures only a few square metres. It is simply an area of tree bark (scoria would be better) on which I put the "PB8" polythene bagged trees once they're big enough to be potted out. With deciduous trees it is quite usual to grow these as a row or two in the vege garden, perhaps a foot or two apart. Simply pre-wrench them before planting them out. This latter technique is the cheaper and probably a better one for deciduous trees, such as oak which in pots gets strangled tap roots.

Trees become an end in themselves but that's not to say you won't also benefit by enjoying birds that have been attracted by them. Trees also shelter stock and improve their production, as well as add to the realisable value of property. The birdlife they attract includes many which help in insect control. Trees, especially the deciduous kind, can truly beautify your property.

Whether you like quail, pheasant, duck or deer, there are at least a dozen good reasons for planting a dozen pin oak this year and every subsequent one.

A feast of acorns.

Grey Teal Nesting Boxes: A Reply

DALE TOWERS DEPARTMENT OF ECOLOGY, MASSEY UNIVERSITY, PALMERSTON NORTH

Conveniently, grey teal nest in holes which means they can be encouraged to breed by providing them with nest boxes. Inconveniently, some grey teal hens dump their eggs in another bird's box. If this egg-dumping behaviour reduced the overall production of ducklings, waterfowl managers would need to think carefully about the best way to provide nest boxes, as John Dyer has suggested ("Grey teal nest boxes" Flight April 1992). However, no such evidence exists.

I studied breeding of grey teal at Windermere from 1988 to 1989 and collected measurements from 456 clutches. Another hole-nester, the Carolina Wood Duck was studied in Dundee County, Illinios, by Semel and colleagues who gathered data from 448 clutches. Thus these two studies involved similar effort and it was inappropriate for Dyer to describe mine as offering only "limited data".

There were 105 nest boxes at Windermere. The question is, did egg dumping by some females lead to fewer ducklings hatching than we would expect? Finding the answer to this question is a matter of comparing events in nest boxes not visited by an egg-dumping hen with events in parasitised nests. I systematically visited each nest many times and counted the number of eggs present in the nest box and the number of eggs which remained unhatched after the nest boxes were vacated. Altogether, there were 146 unparasitised clutches and 264 parasitised clutches during my study. On average there were 10.4 eggs in the unparasitised nests, of which 81.5% hatched. In contrast, there was an average of 14.8 eggs in parasitised clutches of which 62.5% successfully hatched. These data do show that hatchability was lower in parasitised clutches but this was offset by the larger clutch sizes. Hens whose nests were not parasitised hatched about 8 ducklings while hens with additional eggs hatched about 9 ducklings.

Bengtson (1972), Titman & Lowther (1975), Eriksson & Andersson (1982) and Pienkowski & Evans (1982) have suggested that parasitism increases the rate of clutch abandonment. However, at Windermere the proportion of clutches deserted that contained parasitic eggs was similar to the rate of desertion experienced by those of their "normal" counterparts, Morse & Wright (1969), Joyner (1976) and Heusmann (1972) likewise found parasitic laying to have a non significant effect on the rate of clutch desertion amongst the populations they were studying.

A crucial question here has to do with whether hens are forced to dump their eggs because boxes are unavailable or arranged in some way to make them unattractive (eg spaced too closely together). The placement of boxes intended for waterfowl has been the subject of several papers (Jones & Leopold, 1967; Haramis & Thompson, 1985; Lacki et.al., 1987; Semel et.al., 1988). Semel and colleagues grouped boxes into three descriptive categories: (1) visible-isolated (VI); (2) visible-clumped (VC); and (3) well-hidden (WH). They found that VI and VC boxes had a much greater usage than those WH boxes. As a result of the incidence of parasitic laying being greater in the VI and VC boxes, the average clutch size in these two categories was larger and the resulting hatchability was significantly lower compared with WH boxes. The result of greatest interest here is that the WH boxes had a lower success rate than VI or VC and importantly, the average number of ducklings leaving the visible box types far exceeded that of the WH boxes! An abridged outline of their results is presented in Table 1:

TABLE 1:
SUMMARY OF WOOD DUCK NESTING SUCCESS IN VARIOUS NEST-BOX DESIGNATIONS

	Box Designation		
	Well hidden	Visible isolated	Visible clumped
Available Boxes	102	157	118
Mean Clutch Size	12.4	15.7	16.3
No. boxes used (% occupancy)	**47(46.1)**	**105(66.9)**	**93(78.8)**
No. successful nests (% success)	**28(59.6)**	**82(78.1)**	**68(73.1)**
Mean no. ducklings leaving nest	**7.1**	**9.9**	**9.3**

(after Semel et. al., 1988)

Bengtson (1972), Titman & Lowther (1975) and Yom-Tov (1980) suggested that as suitable nest sites became limited in abundance, the level of brood parasitism increased. The findings of others (Morse & Wright, 1969; Heusmann et. al., 1980; Andersson & Eriksson, 1982) lead them to suggest that competition for nest boxes was an insufficient explanation for the fluctuations in parasitic laying within their study populations, as many of the nest boxes in the area remained unused. At Windermere many of the clutches that received parasitic additions had empty boxes directly adjacent to them suggesting that box availability was not a critical factor driving the occurrence of egg dumping. This indicates that parasitic laying may be an inherent component of grey teal's normal breeding biology. If this is the case, hiding the boxes will not stop the occurrence of parasitic laying, a point made before (Semel et. al., 1988).

So, what are the implications of all this for the placement of grey teal nesting boxes in New Zealand wetlands. The key factor I believe is population density. If you have a low population density, as in the case of grey teal in New Zealand, (Mills, 1976 calculated the population to be in the order of 20000 birds nationally) then placing boxes in well hidden sites will most likely result in low box usage, as shown be Semel et. al. (1988) wood duck research. As grey teal numbers in New Zealand are low, our goal is to maximise box usage thus maximising duckling production. Since placing boxes in visible locations increases box usage this would seem to be the sensible approach. Semel et. al. (1988) illustrated that clumping boxes in highly visible areas further increased box usage. Semel & Sherman (1986) suggested that the resulting concentrated nesting activity associated with dense box placement attracts other birds to the area and thus box usage further increases. Others have documented similar evidence that parasitic laying increases recruitment (Grice & Rogers, 1965; Clawson et. al., 1979). They presented evidence that more ducklings emerged on average from parasitised clutches t han from average normal clutches.

Dyer ended his article by concluding that nest boxes intended for grey teal use should not be clumped in high densities or placed in sites where they are highly visible.

My recommendation in respect to box placement is: (a) where teal numbers are low, boxes should be placed so that they are conspicuous thus increasing the chance that the few teal in the area will see them and ultimately use the boxes; (b) in regions where teal numbers are high and the present box usage intense, rather than making the boxes less visible, which has been shown to decrease box usage, the addition of new boxes in relation to population growth in neighbouring visible areas would ensure continued population recruitment.

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PSEUDOTUBERCULOSIS: ARE WATERFOWL A RESERVOIR OF INFECTION?

Susan Cork

Pseudotuberculosis is a bacterial disease of wild birds and mammals as well as domestic livestock and occasionally man. The organism responsible for the disease is "Yersinia pseudotuberculosis".

The earliest report of pseudotuberculosis in birds was thought to have been in canaries in 1884 although, due to differences in nomenclature, it is difficult to be sure (Wetzler, 1971). A later report in 1989 included detailed experimental studies in canaries and wild song birds (Muir, 1898). Since this time, "Yersinia" bacteria have been isolated from a wide range of avian species including the kea, little spotted kiwi, stitchbird, mallard duck and various other anseriform species. In 1963 Patterson and Cook, working at the Porton Down research establishment in Britain concluded that wild birds had been the source of infection for a colony of guinea pigs which died of pseudotuberculosis following ingestion of green food, thought to have been contaminated by bird droppings. Although never fully tested, the hypothesis that birds constitute a major reservoir of "Yersinia" bacteria is still widely quoted in the literature as an explanation of cases occurring in a wide range of mammals including man.

HOW IS IT TRANSMITTED?

It is generally thought that pseudotuberculosis is transmitted by contamination of food and water supplies by bird droppings. "Yersinia" survives well in cold conditions and "Yersinia enterocolitica" has been responible for outbreaks of food poisoning in humans following the consumption of chilled milk products, vegetables and meat (Blackmore & Humble, 1987). Most cases of the disease in birds are sporadic in occurrence but occasionally large outbreaks do occur, especially in cage birds during the winter months. It is thought that a combination of cold stress and food shortage prepdisposes the birds to the disease.

SIGNS OF THE DISEASE IN BIRDS

There are two recognised forms of the disease, caused by "Yersinia pseudotuberculosis"; an acute form which is rapidly fatal and a more chronic form which develops over a period of several days. In the acute form birds die of an overwhelming septicaemia and it is difficult to distinguish between "Yersinia"-induced cases and those associated with some other bacteria, except by culturing affected tissues to isolate and identify the causative bacterium. In the chronic cases, small millet seed-sized abscesses develop in the liver, spleen and sometimes other organs, including the musculature, (similar abscesses occur in cases of avian tuberculosis). In pseudotuberculosis however, large numbers of "Yersinia" bacteria can usually be isolated from these abscesses. "Yersinia" bacteria can also be isolated from the gut of clinically normal birds and it is not yet fully understood why the organism only causes disease under certain circumstances. In birds, "Yersinia enterocolitica" produces a similar disease to that caused by "Yersinia pseudotuberculosis".

RISK TO PEOPLE

"Yersinia entercolitica" colonises the intestinal tract of human beings, causing a diarrhoea which is usually self-limiting or the infection may not cause any symptoms at all. The condition is more severe in the very young or old and can be associated with septicaemia, immune disorders and chronic gastrointestinal problems. "Yersinia pseudotuberculosis" is more commonly associated with an appendicitis-like syndrome resulting in localised pain in the lower left abdomen. Patients may be presented for appendectomy, at which time the appendix is found to be normal and the pain appears to be due to inflammation of one or more lymph nodes in the same general area. However, the disease in human beings caused by "Yersinia pseudotuberculosis" is not common and because of the widespread distribution of the bacteria in the environment, it must be concluded that the majority of people are exposed to the infection but do not develop the disease.

DIAGNOSIS OF THE DISEASE IN BIRDS

A tentative diagnosis of the disease in live birds and other species can be supported by the isolation of "Yersinia" from the faeces. In some cases however this is not possible because the organism can survive within cells and may be sequestered in gut lymph tissues, i.e. the caecal tonsils in waterfowl. Research into human yersiniosis has resulted in the developoment of serological techniques to detect antibodies to "Yersinia" in the blood of infected individuals. Similar techniques can be applied to domestic and wild mammals and birds, although at present we have little data on normal parameters in wild birds from which to determine base line titres. This is especially relevant for the diagnosis of subclinial "Yersinia" infections, due to the possible serological cross-reaction between certain "Yersinia" serotypes and other bacteria, particularly the salmonellae. Nevertheless serological diagnosis, together with faecal culture and a general clinical examination, should allow the collection of useful data on the prevalence of "Yersinia spp" in selected species or in bird populations in specified areas.

WHERE CAN WE FIND THE ORGANISMS?

"Yersinia pseudotuberculosis" and "Yersinia entercolitica" have been isolated worldwide from a variety of sources including ponds, streams, and soil (Boltzer, 1979, 1987; Lassen, 1972). "Yersinia pseudotuberculosis" appears to be more prevalent in temperate regions such as the north of Europe, Scandinavia, some areas of Japan and North America. Both organisms have been isolated from a range of healthy animals and bird species and it has been proposed that domestic livestock, in particular pigs, may act as a source of "Yersinia entercolitica" for the human population (Fukushima et al., 1987) In the case of "Yersinia pseudotuberculosis" however it is thought that wild mammals and birds are the reservoir for livestock and human infections (Fukushima et al., 1991). In New Zealand we have a range of introduced mammals, all of which could be implicated in the transmission of pseudotuberculosis, but it is the possible role of wild birds that we wish to explore further.

SHOULD BIRDS BE INCRIMINATED?

The wide distribution of many common bird species, their mobility and their often close proximity to human habitation and livestock puts them high of the list of possible sources of infection in any outbreak of disease. In the case of starlings, faecal soiling of urban buildings, human picnic spots and fruit, vegetables and livestock feed leads to the analogy with rodent infestations and the health hazards that have been associated with them.

THE SITUATION IN NEW ZEALAND

A 1982/3 study at Invermay, designed to look at the potential wildlife sources of "Yersinia pseudotuberculosis for farmed deer, found a prevalence of 5.3% in ducks, 2.3% in sparrows, 2.3% in seagulls and 1.7% in starlings. All positive isolates were obtained in the March-July period (8/158) and none in the August- October period (0/140). In comparison, the prevalence in rats was 8.6%, mice 5.5%, hares 3.8% and rabbits 1.9% (Mackintosh & Henderson, 1984). It was concluded that a number of free-living species of small mammals and birds could be a source of bacteria for farmed deer on the property. Of course it might equally be argued that the farmed deer had been a source of infection for the wildlife or that both groups had acquired the organism from the environment. In a current study in the Department of Veterinary Pathology and Public Health at Massey University we are re-examining the role of wild birds as reservoirs for "Yersinia pseudotuberculosis". From the literature this seems to be widely accepted (Mair, 1973; Obwolo, 1976; Levre, 1989, Kaneuchi et al., 1989), although the data are by no means conclusive. The typical carrier or maintenance species should have a high prevalence of "Yersinia" infection in a clinically normal population. There should also be a long duration of faecal shedding of the organism with resultant soiling of the environment. Serological studies we intend to carry out in both urban and rural environments will allow the detection of clinically normal carriers and those birds not excreting "Yersinia" at the time of sampling. Special techniques are required to enable analysis of very small amounts of blood. It is considered that a healthy bird can lose to 10% of its blood volume without long-term harm, which allows a sample size of up to 400ul (0.4ml) from a 40g house sparrow. However, the usual sample is about 60ul from each bird, using special filter discs to absorb whole blood from the site of venepuncture. Populations to be sampled include waterfowl and a range of perching species. Where possible, mist nets and baited walk-in traps are used. Captured birds are released after sampling. Data from birds presented for necropsy and from waterfowl shot during the hunting season is also of great value to the study. It is hoped that data gathered over the next 2-3 years will place in better perspective the role of waterfowl or other populations of wild birds as potential reservoirs or "Yersinia" organisms. Techniques and protocols developed will also be of use in future disease surveillance of wild bird populations in New Zealand, providing useful base line data for ongoing health monitoring.

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The wide distribution of many common bird species, their mobility and their often close proximity to human habitation and livestock puts them high of the list of possible sources of infection in any outbreak of disease. In the case of starlings, faecal soiling of urban buildings, human picnic spots and fruit, vegetables and livestock feed leads to the analogy with rodent infestations and the health hazards that have been associated with them.

THE SITUATION IN NEW ZEALAND

A 1982/3 study at Invermay, designed to look at the potential wildlife sources of "Yersinia pseudotuberculosis for farmed deer, found a prevalence of 5.3% in ducks, 2.3% in sparrows, 2.3% in seagulls and 1.7% in starlings. All positive isolates were obtained in the March-July period (8/158) and none in the August- October period (0/140). In comparison, the prevalence in rats was 8.6%, mice 5.5%, hares 3.8% and rabbits 1.9% (Mackintosh & Henderson, 1984). It was concluded that a number of free-living species of small mammals and birds could be a source of bacteria for farmed deer on the property. Of course it might equally be argued that the farmed deer had been a source of infection for the wildlife or that both groups had acquired the organism from the environment. In a current study in the Department of Veterinary Pathology and Public Health at Massey University we are re-examining the role of wild birds as reservoirs for "Yersinia pseudotuberculosis". From the literature this seems to be widely accepted (Mair, 1973; Obwolo, 1976; Levre, 1989, Kaneuchi et al., 1989), although the data are by no means conclusive. The typical carrier or maintenance species should have a high prevalence of "Yersinia" infection in a clinically normal population. There should also be a long duration of faecal shedding of the organism with resultant soiling of the environment. Serological studies we intend to carry out in both urban and rural environments will allow the detection of clinically normal carriers and those birds not excreting "Yersinia" at the time of sampling. Special techniques are required to enable analysis of very small amounts of blood. It is considered that a healthy bird can lose to 10% of its blood volume without long-term harm, which allows a sample size of up to 400ul (0.4ml) from a 40g house sparrow. However, the usual sample is about 60ul from each bird, using special filter discs to absorb whole blood from the site of venepuncture. Populations to be sampled include waterfowl and a range of perching species. Where possible, mist nets and baited walk-in traps are used. Captured birds are released after sampling. Data from birds presented for necropsy and from waterfowl shot during the hunting season is also of great value to the study. It is hoped that data gathered over the next 2-3 years will place in better perspective the role of waterfowl or other populations of wild birds as potential reservoirs or "Yersinia" organisms. Techniques and protocols developed will also be of use in future disease surveillance of wild bird populations in New Zealand, providing useful base line data for ongoing health monitoring.

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DU News

RAFFLE RESULTS

Thank you once again to all members and their friends who participated in this year's raffle. While raffles can become a trial for many to sell, this project is an important fundraising event for DU, this year raising a profit of around $4500. The winners were: 1st Prize: R. Jary Nelson 2nd Prize: Powell Family Hamilton 3rd Prize: G. Rogers Lower Hutt 4th Prize: M. Richards Tokoroa 5th Prize: T. Caithness Lower Hutt 6th Prize: C. Beattie Fielding Marie McEntee, the raffle organiser, would like to particularly thank the raffle donors; Mark Newcomb of Neville Newcomb Reprographics, Broadlands Wildfowl Trust and Phil Sculley of Sunley Pharmacy in Wellington City. Marie has retired from organising the 1993 raffle handing it over to new DU director Graham Gurr. Marie wishes to thank members for their support, contribution and correspondence over the past 3 years she has run the raffle.

OPERATION WHIO

Early indications are that the 1992-93 Operation Whio breeding season is going to be the best since the project began. Several blue duck breeders have reported their females incubating eggs and at least two breeders have successfully hatched ducklings. This is a huge improvement on last year's results when a large number of eggs were laid but no ducklings were successfully reared.

OPERATION ROYAL SWAN

We are now well into the swan breeding season and the main breeding pairs have once again bred well. To assist with next year's distribution of birds, Dave Johnston, the Royal Swan project supervisor, asks if all breeders who have cygnets could please notify him as soon as possible at Allen Road, R D 1, Reporoa, or write to Dave c/- the DU box in Auckland.

SPORTSMAN'S SHOW

This year DU attended the Sportsman's Show, thanks to the generous support of the show's organisers who kindly donated the cost of the stand. This year's show was held at the Claudelands Show Grounds in Hamilton. Grant Dumbell manned the stand over the three days of the show, and reported that interest in DU's activities was high. A large selection of sales items were sold and a number of new members signed up. The show was attended by people from all over the upper North Island. This is the second year the show has been held in Hamilton, and by all accounts it is starting to firmly establish itself as a sportsman's and outdoor event.

MEMBERSHIP REMINDERS

Members who have not renewed their 1992 subscription will have by now received a reminder in the mail. This reminder gives an excellent opportunity for unfinancial members to capitalise on renewing their 1992-93 subscriptions at the same time. Remember, membership funds enable DU to continue its valuable work in the field of New Zealand's waterfowl and wetland conservation. It also entitles members to receive this "Flight" magazine quarterly, thereby allowing you to keep in touch with DU's work, achievements and the many contributions of DU's members.

ANOTHER TRADE MEMBER

Since the October issue of "Flight" we have received a Trade Membership from Mr Robert Corker of Kaiwaka in Northland. This brings the number of members who are either Trade or Sponsor members to a total of 63, and represents substantial additional support for Ducks Unlimited.

SALES PROMOTION

All members will have received the Christmas sales promotion sheet in their last "Flight" magazine. DU sales director, Diane Pritt, has been busy over the past month mailing the many orders that were received. Diane says that any member who wishes to still purchase the books should do so as soon as possible, because these are disappearing fast. Eric Hosking's "Wildfowl" and the "NZ's Wetlands" books are available at never to be repeated prices, but be in quick, stocks are low.

ROTOROA ISLAND

Grant Dumbell recently made his second visit to Rotoroa Island in the Hauraki Gulf to discuss the progress with the planned conservation project on the island. As has been reported in the past, the island's owners are hoping to establish the island as a bird sanctuary, and it is hoped that brown teal will eventually be released here. Grant said that work, while still in the planning phrase, is progressing well.

AUCKLAND CHAPTER DINNER

The Auckland Chapter will be holding its annual dinner and auction on February 27th at the Centra Hotel in Auckland City. After the success of last year's theme evening, it is anticipated that this year's event will be as much fun. If you wish to attend the evening, please contact the chapter chairman, David Smith, at 292 8873, or write to the chapter secretary c/- P O Box 9795, Newmarket, Auckland.

NEW DU TELEPHONE/FAX NUMBER

Please note that due to a recent shift, the DU Executive Director can now be contacted at Auckland 625 9002. All enquiries regarding DU can be directed to this phone/fax number. The DU address remains unchanged as P O Box 9795, Newmarket, Auckland.

SCOUT JAMBOREE

DU attended the Scout Jamboree held in Wellington in early January. The stand was manned by the Wellington Chapter under the direction of chapter chairman, William Abel. As the scouting movement is very active in conservation, attendance at this year's event enabled DU to get its message across to the scouting youth of NZ.

OPERATION BRANTA

The annual Canada Goose banding event was again held at Diane Pritt's property on the Saturday of Wellington Anniversary Weekend the 16th of January. If anyone would like information about this event please contact either Diane on 0-6-385 8016 or Project Supervisor Chris Hooson on 0-4-478 7344

1993 AGM

If you would like to attend the 1993 AGM which will be again held at the Tokaanu Hotel please note in your diary that this will be held on the weekend after mid-term break in July 93. Full details and a reservation form will be in the April issue of "Flight". For further information please contact AGM co-ordinator Diane Pritt on 0-6-385 8016

New Zealand Shoveler. Photo J. Hill