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# RARE BITS

THE NEWSLETTER ABOUT THREATENED SPECIES WORK

*This newsletter is produced primarily as a vehicle for information exchange between departmental staff involved in threatened species recovery and ecological restoration programmes. In recognition of wider interest, however, "Rare Bits" is also provided to non-departmental groups on request. The newsletter's informal style may occasionally lead to misunderstandings for some of those readers. Views expressed by the authors are not necessarily those of the Department of Conservation.*

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## FEATURE ARTICLE

### Hope for greater short-tailed bats

from Colin O'Donnell

Putauhinu Island was surveyed for pekapeka (bats) in November 1999. Two *Mystacina*-like echolocation calls were detected from rata forest in the central island. The species still needs to be confirmed, but there is a good chance that the calls heard were those of the greater short-tailed bat, which is thought to be extinct.

The southern Titi islands off southern Stewart Island once supported populations of greater short-tailed bats (*Mystacina robusta*) and lesser short-tailed bats (*M. tuberculata*). Both were thought to have disappeared following the arrival of ship rats in the 1960s on Taukihepa and Solomon Islands. These islands were the last known locations for the greater short-tailed bat in New Zealand.

In May 1998 Christine Hunter and Henrik Moller of the Otago University Zoology Department team studying titi (muttonbird) on Putauhinu sighted a bat on the manu of the Davis whanau. Matt Chartris made a second observation in April 1999 in the same area. On both occasions the bats were flying out over coastal rocks just beyond the tupare-titi-a-weka forest. The sightings were very important because they may have been the greater short-tailed bat. Putauhinu was cleared of rats (kiore) over 2 years ago.

Following discussions and approval by the Rakiura Titi Islands Administrative Body, and the Putauhinu birders, a DoC team consisting of Pete McClelland, Brian Rance, Lyne McFarlane, and myself visited the island in early November 1999 accompanied by whanau members Tane Davis and John Lee.

Automatic bat detector units were set up at 20 locations spread over the northern half of Putauhinu. The 'Batbox III' detectors were set at a variety of frequencies (25, 28 & 40 kHz) to maximise the chances of recording bats. Loudest calls of long-tailed bats are at 40 kHz and lesser short-tailed bats at 27-28 kHz. No-one knows what frequencies greater short-tailed bats call at. However, it is possible to predict call-characteristics from the wing morphology in bats. The larger size and longer, narrower wings of greater short-tailed bats suggest the frequency of the loudest part of the call might be lower than lesser short-tailed bats, and that the pulses might be slower. An 'Anabat' detector was used as well. This detector 'listens' on all frequencies at once, so had the best opportunity to determine at what frequency the bats might be calling.

Six mistnets were erected each night along the Arch Track to Penicotts and in Jane's Gully. Nets were opened after



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dark, once the majority of titi had landed, and were kept open to about 0100 hours. Bird squeakers were used to attract bats (these have been very effective on Whenua Hou).

We obtained 20 full nights of recording over 3 nights. Conditions were warm on the first 2 nights (13-16°C) and very suitable for recording bats. The third night was cooler with some drizzle. Titi and kori calls interfered with the recordings but the majority of recorders worked for most of the night through to 0400-0500 hours in the morning.

Two clear *Mystacina*-like sonar passes were detected, both at 25 kHz, indicating that bats are still present on Putauhinu. No bats were caught in 41 net-hours on 3 nights. Confirmation of the species present, and whether there is a resident population of bats is still required. However, there is a good chance that the calls heard were those of the greater short-tailed bat, which is thought to be extinct. The calls recorded were slower and sounded different to typical lesser short-tailed bat calls, and they were detected on 25 kHz but not on an adjacent detectors set on 28 kHz.

The fact that only two calls were heard and no bats were caught implies that bat numbers on Putauhinu are very low. The

survey was conducted during ideal, warm conditions. On Whenua Hou, where lesser short-tailed bats are abundant, a similar survey would have recorded many bat passes on the detectors and probably would have caught many bats.

It is possible that Putauhinu bats are not resident on the island, but move between all the Titi islands. New Zealand bats are very mobile. It is nothing for them to fly 20-40 km a night and straight-line movements of up to 22 km have been recorded. Therefore, the 1-2 km between some of the islands would present no obstacle to the bats - at least in fine weather.

Putauhinu is large enough to support a small population of bats. Two central valleys on the island contain rata-dominant forest. Trees are up to 15 m tall and up to 80 cm in diameter. Rata have numerous cavities that would be suitable for small groups of bats. The tupare-titi-a-weka forest had few trees but is diverse, with abundant insects, especially weta and scarab beetles, which are favourite foods of *Mystacina* bats. Sea caves on the north and west of the island could potentially hold roosting bats (as was the case on Taukihepa and Solomon Island).

## SPECIES ROUNDUP

This is the first issue of *Rare Bits* to include 'Species Roundup'. Its purpose is to collate information on commonly reported species so that people can learn what's happening with these species nationwide. Reaction to this new section has been favourable so we will include it regularly. Please direct any comments to the editor. The focal species will change with each issue. This time it's mistletoes and kokako.

### MISTLETOES

from *Bec Stanley (Auckland)*, *Paul Cashmore (Bay of Plenty)*, *Dave King (Tongariro/Taupo)*, *Garry Foster*, *Dick Gill*, *Aalbert Rebergen*, *John Sawyer*, and *Tony Silberry (Wellington)*

#### **What's New**

We now know at least 1 leafy mistletoe remains on Great Barrier Island! *Ileostylus micranthus* was confirmed as present on Great Barrier after two reports from locals (one on private land, and one on DoC managed land) were followed up. *Trilepidea adamsii* (now considered extinct over the whole country) was recorded on Great Barrier in the past, but no other leafy mistletoes were known until now. It's more a surprise to us that this mistletoe hasn't been recorded here before, than that it has been discovered. Great Barrier should be a mistletoe haven – with no possums and plenty of habitat. We'll keep looking for more *Ileostylus*, as well as *Peraxilla tetrapetala* (once widespread in Auckland Conservancy and now only on Little Barrier).

A new population of *Alepis flavida* has been discovered in the Northern Te Urewera Mainland Island. Seven plants were initially located on red beech (*Nothofagus fusca*) with more expected. Some plants were approaching a meter in diameter and are obviously benefiting from the years of possum control at the

site. Bellbirds were observed to visit the flowers and are likely to be the principal pollinator. This is the northern most population of *Alepis* known so far. *Peraxilla tetrapetala* are also monitored in the Mainland Island, and the *Alepis* will join that species as a good indicator of the effectiveness of the possum management being undertaken at the site.

A single specimen of *Alepis flavida* was found by Lena Alness, a Swedish volunteer with the Tongariro/Taupo Conservancy forest monitoring crew. The monitoring crew was undertaking regular mistletoe health monitoring of an unprotected *Peraxilla tetrapetala* population in the southern Kaimanawa Forest Park near the Ecology Stream/Rangatikei River junction. This is an important find for the North Island's most uncommon Loranthaceous mistletoe.

In December white mistletoe, *Tupeia antarctica*, was found growing on putaputaweta (*Carpodetus serratus*) at Ketetahi in Tongariro National Park during the establishment of forest health monitoring plots. This is a new record for the national park and the ecological district. Further to this December find, hundreds were found in January on another monitoring line in the same forest, some plants even occurred within the 20 x 20 m forest plots. Most of the plants were heavily browsed. This species will now be used as an indicator of forest health for an upcoming possum control operation.

Two more *Peraxilla colensoi* plants have been discovered in Tararua Forest Park. Trevor Thompson (Conservation Corps leader) discovered one in the Blue Range. A Botanical Society member discovered the second at Holdsworth. Two more *P. tetrapetala* were discovered by each of the above individuals as well. Nearly all of the above plants have now been banded.

## SPECIES ROUNDUP

### ***Surveys and monitoring update***

A survey of *Korthasella salicornioides* (dwarf mistletoe) in the geothermal area in Te Kopia Scenic Reserve has been carried out with the population estimated at 100-200 plants. They are highly localised along about 15 m of the reserve boundary.

The annual *Peraxilla* survey was undertaken in Whirinaki in January. Flowering appeared to be later this year than the previous season so plants were not very visible, and only known plants were monitored. We did not look for new plants as planned, but 2 new plants were discovered. Most of the plants are *Peraxilla colensoi*.

At Omori-Pukawa, mistletoe surveying and possum browse monitoring occurred throughout several adjoining reserves. Possum damage is now becoming apparent, and we hope to increase the current possum control effort to mitigate this damage over the next year.

Our southern Ruapehu *Alepis flavida* population (Tongariro/Taupo Conservancy) has again been monitored and more plants were found. The total is now 83 known individuals. Propagation occurred last year. Approximately 30% of the planted seed did take even though the success of establishment varied from host to host. With a few modifications we expect to be able to increase the establishment rate this season and should easily be able to double the population within a year or so.

The majority of Tongariro/Taupo Conservancy mistletoe surveying and monitoring has concentrated on *Peraxilla colensoi* at Rangataua Conservation Area, an area with 5 years of good possum control, and in a part of Kaimanawa Forest Park where possums are not controlled. Many large healthy plants were found flowering prolifically at Rangataua. Incidentally two flower

colour morphs were seen, yellow-orange and red. The yellow-orange form is the common form at Rangataua while the red colour was first seen this year. Only the red form is known from Kaimanawa Forest Park.

In Kaimanawa Forest Park approximately 40 new hosts were found, of which about half could be banded. The health of the mistletoe here was more variable with some plants heavily browsed while others appeared untouched and were flowering well.

For the second year running this summer, plant health (using Foliar Browse Index methodology) and pollination monitoring of *Peraxilla tetrapetala* was undertaken within a dense mistletoe population in mountain beech forest at Rangataua Conservation Area. Monitoring pollination percentages will hopefully identify whether bellbirds and tui are successfully undertaking this essential process. Incidentally, tui were observed in the forest during the mistletoe flowering period, while outside of this time they are absent. Flowering was comparatively light this year in contrast to last year, despite insignificant possum browse being observed.

Plants of *Ileostylus micranthus* grown from seed (from Benge Park, Wellington) and translocated to Te Marua Bush have now borne fruit at their new home. Translocation of this species can now be added to other management tools, and should prove especially useful where isolated plants are threatened by roads or occur at insecure locations.

### ***Other***

Staff from the Bay of Plenty Conservancy worked with the consultants who manage road maintenance contracts for the Rotorua District Council looking at sites around the Rotorua lakes where mistletoe (*Tupeia* and *Ileostylus*) occurs

adjacent to roads. These sites are potentially threatened by roading development and vegetation mowing on roadsides. The consultants have agreed to avoid the sites.

## **KOKAKO**

*from Nigel Miller (Northland), Philip Bradfield (Wanganui), Keith Owen (Bay of Plenty), and Julie Newell (Wellington)*

### ***Incoming***

Kokako in Northland had a very poor breeding season: only three nesting attempts out of 14 pairs that were checked. Of those, only one was successful, the others were suspected to have been preyed by harriers. Both chicks from the successful attempt (at Tutamoe) were moved, as late stage nestlings, to a 6-m tall bush aviary in Puketi forest, where only 1 pair remains. At Puketi, they were hand-reared to independence and released at about 65 days old. They continued to be supplementary fed for a further 2 weeks and are now being monitored regularly. Lawyer berries are the staple diet at present and we are hopeful they will switch to other foods as they become available - it's not a great fruiting year. Successful predator control work carried out by the Kaharoa Kokako Trust this breeding season in the Kaharoa Forest has resulted in a good breeding season for kokako. Carmel Richardson who undertook the earlier adult census for the conservancy reports the presence of a number of fledglings during monitoring. The census is still progressing.

Kokako on Kapiti Island had a reasonably successful breeding season this year, with 2 chicks fledged, and a stunted one which died in the nest, all from separate nests. Currently 20 birds are confirmed alive.

### ***Protecting kokako from predators***

The Mangatutu kokako protection project has just finished its fifth breeding season and things are looking very encouraging in the Mangatutu Ecological Area. All the pest control continues to be successfully carried out by Laurence Gordon and the odd volunteer under his supervision. Laurence services somewhere in the vicinity of 1000 bait stations and has recently completed a very thorough and comprehensive track marking and mapping exercise, which will enable volunteers and future workers to find every bait station!

This summer Laurence got rats to low levels despite apparent rodent plagues in many parts of the country. Rat tracking indices were 5% in November and 7% in January. There was no monitoring of nests this summer. On advice from the Kokako Recovery Group, adult censuses in places like Mangatutu and Waipapa will now only be conducted every 4 years. The second 4-yearly census in the Mangatutu is due to be conducted this winter.

### ***Pulsed management & Mapara kokako***

The third season in the pulsed management regime at Mapara Wildlife Reserve has ended with fairly predictable results. The pulsed management experiment is investigating maintaining population viability while reducing the intensity of pest control.

Between 1989-97 the 1400-ha Mapara Wildlife Reserve received intensive goat, mustelid, possum, and rat control. The results are now conservation history: number of breeding pairs increased tenfold, gender ratio went from 90%(M) 10%(F) to almost 50:50, juvenile survival very high, and harvesting of the population for transfers to Kapiti Island,

## SPECIES ROUNDUP

Tiritiri Matangi Island, Hunua Ranges and Pureora Forest.

After these 8 years of intensive pest control the management/research team decided that the responsible approach was to reduce management input, while still monitoring pest levels and kokako numbers and productivity. The theory behind pulse management is that if a breeding female can produce juveniles in say 4 X 3 year windows of low pest numbers in her 30+ life span then this will not only keep the population viable but actually keep it increasing.

If pulse management works, and all signs are looking good so far, it will mean that more dollars are available for other management sites, as well as lessening the use of pest control toxins in ecosystems.

As we expected, as soon as bait was removed from bait stations after the 1996/97 breeding season the rat population increased rapidly. Possum population increase has been predictably slower and now (after 3 years) is at 16% RTC. As we predicted, these high predator numbers have meant that very few kokako nests have been successful over the past 3

years: between 0-14% (according to season) of nests successfully fledged.

We still have some work to do with modeling and calculating periods of the "on" and "off" pulses. So far, things are looking promising for the future of this pulse management experiment. The spring 1999 adult kokako census actually revealed that the population is the highest it has been since the project started in 1989. Considering that this is after three breeding seasons of no pest control we feel that the census result is a very good advertisement for the concept of pulse management.

### ***Monitoring and surveys***

A major survey of forest birds, possums, and rats in the Opuiaki Ecological Area, with a particular emphasis on North Island kokako, is currently taking place. This forest, on the northern Mamaku Plateau, was a stronghold for kokako 25 years ago. The census will provide an update on the ecological values associated with the area especially kokako and provide guidance as to what work we should do for kokako and other forest conservation values in the future.

NORTHLAND

*from Lisa Forester, Katrina Hansen,  
Nigel Miller, Richard Parrish, and  
Mike Thorsen*

**Strategic teams**

A team approach is Northland Conservancy's new way of setting strategic priorities. Teams are made up of several staff working in all the major programmes, including conservancy specialists and field staff, as well as a Senior Management Sponsor. Species Teams are now drawing up 5-year Action Tables, which will drive this year's business planning. Teams are also expected to set priorities, advise SMT, measure work against national documents such as the *Dawn Chorus*, address local training and upskilling, and set priorities for additional work which could be done given extra resources. Strategic teamwork gives staff at all levels the opportunity to help set priorities for the whole conservancy. So far it has received a great deal of enthusiasm and support.

**Plants**

The plant survey is still producing some interesting results. The latest is the discovery of some superb wetland sequences in an obviously forgotten corner of Northland, north of Dargaville. Notable records include *Schoenus carsei* and *Utricularia dicotoma*, which have not been recorded in Northland for around 50 years, as well as *Calochilus herbaceus*, *Cyclosorus interruptus*, *Phylloglossum drummondii*, *Thelypteris confluens*, *Thelymitra tholiformis*, and a major population of *Spiranthes novae-zelandiae*.

**New Zealand fairy tern and other shorebirds**

Despite a stormy La Nina summer, fairy terns bred well in Northland this year with 4 chicks fledged and 1 more due to fledge. At Mangawhai, the chicks from

an early nest fledged by mid-December, which is several weeks earlier than recorded previously. A pair of birds from the 7 chicks raised in 1997/98 returned and bred successfully. Two other birds paired, but did not breed. The 5 pairs that bred this season in Northland produced a total of 8 nests, including 3 infertile and 3 re-nests. Seven chicks hatched. At Waipu 1 chick disappeared after 3 days and 1 of a pair of chicks at Mangawhai disappeared after bad weather. Two transfers were carried out in an attempt to increase the number of eggs laid. A chick from a fertile egg, which was transferred to Waipu from Papakanui, disappeared after 2 days. One of 2 eggs, transferred from Papakanui to an infertile nest at Mangawhai, hatched and the chick fledged. The fertile pair re-nested.

New Zealand dotterel had a good breeding season. Fourteen chicks were banded at Waipu and 22 at Mangawhai. Many of these should fledge.

**Three Kings kukupa**

After much careful planning, 3 female and 1 (lucky) male kukupa (New Zealand pigeon) have been released onto Great Island, Three Kings Islands. The role of a large-seed disperser was previously vacant (kukupa probably vanished before Tasman's arrival), so many plants have a very restricted distribution on the island - even 'common' species such as karaka, puriri, and tawapou. Other species endemic to the island group such as *Elingamita johnsonii*, Three Kings titoki, and a local form of pigeonwood should also benefit. The birds were soft-released after being held in captivity at the Whangarei Native Bird Recovery Centre for several months, following rescue owing to injury. In April, we will release further birds and monitor the progress of the first ones. A research

## CONSERVANCY NEWS

project is underway documenting recovery of the island's vegetation since the eradication of goats in the 1940s, and to document the changes that occur as a result of the kukupa introduction. Heartfelt thanks to Ngati Kuri for its assistance.

### ***Chicken Islands lizards***

Lizard capture rates in pitfall traps on a beach on Coppermine Island in December 1999 were 50.6 per 100 trap nights, the highest catch so far. However, the capture rates on the other five trap lines there and on Lady Alice Island were inconsistent. Hopefully, capture rates in March 2000 will show better results.

### ***Cave invertebrates***

Results from the invertebrate investigations carried out at Waipu and Abbey Caves (see *Rare Bits* 35) revealed pseudoscorpions, which were previously only known from Waipoua Forest and a new genus of carabid quite unlike any other in New Zealand.

## AUCKLAND

*from Bec Stanley*

### ***Olearia allomii***

Duane Walker, Helen McGill, and I have been surveying for this endemic tree daisy on Great Barrier for the last few months. To our pleasant surprise it seems to be doing well. We suspected it was not truly threatened so it is good to confirm this. It is range restricted though so we'll continue monitoring to ensure it doesn't become threatened. The *Olearia* seems to occupy a successional habitat (manuka/akepiro shrubland communities) at the tops of the mountains and on rocky outcrops. In the short term, it has plenty of available habitat on the island.

### ***Euphorbia glauca***

Motukorea in the inner Hauraki Gulf is most famous for its distinctive volcanic

cone, but it's botanically famous too, with 1 plant of shore spurge (*Euphorbia glauca*) remaining. This is the only record in Auckland but for a small population on Little Barrier Island. After looking for seed for 3 years the Rangitoto Field Centre decided to collect material for cuttings. From this the Auckland Regional Botanic Gardens has successfully propagated 6 small plants. Cross your fingers they survive and flower. We are hoping the individual on Motukorea is refusing to flower only because it is growing in sub-optimal conditions - a sort of strike if you like - and that the cutting grown plants will flower profusely.

## WAIKATO

### **Maniapoto Area**

*from Philip Bradfield*

### ***Maboemui giant weta***

This project is about to receive a renewed effort in terms of strategic direction. We are shortly going to increase our efforts in the areas of weta population monitoring, both in the 200-ha gorse reserve and areas to where weta have been translocated. Over the past 10 or so years weta have been transferred to 4 sites. Survival at these sites appears not to have been good, although search effort was not extensive in some cases.

Our plan is to introduce weta to a smaller patch of gorse where we can monitor their survival more intensively so as to get a better picture of what is going on.

### ***Long-tailed bats***

Our long-tailed bat monitoring project at the Grand Canyon Nature Reserve cave (NW of Piopio) is ongoing and continues to produce very variable results. The number of bats and times of day that bats use the cave seems to be different every time we go out there. We still have much to learn about their use of this cave.



Colin O'Donnell and his team of intrepid bat persons come up twice every summer for more intensive catching and monitoring. They rig up mist nets and harp traps at both cave entrances, as well as conducting "walking transects" on local roads. An impressive number of bats - somewhere in the region of 500 - have been banded and processed over the past three summers. These 10-day trips have given Maniapoto staff wonderful opportunities to learn about bats, handle, band, and measure them. Everyone concerned has greatly appreciated this opportunity to be involved in hands-on research with a species that many people rarely see! The Bat Team has also started bat catching/monitoring at Ruakuri Natural Tunnel cave at Waitomo. This cave also appears to house a sizeable bat population, and several hundred have already been captured and marked.

#### ***Maniapoto threatened plant work***

The critically endangered *Amphibromus fluvitans* has been relocated in the Waihora lagoon, Pureora, and was observed to be flowering well.

A small and tenuous population of *Hebe speciosa* was surveyed on the coastal slope near Awakino township. There is good regeneration occurring, and 30 cuttings were taken for propagation.

A new *Dactylanthus taylorii* site has been found in the Whareorino forest, west of Te Kuiti. However, the plants were in poor condition.

The Waikato Botanical Society is about to assess a population of *Pittosporum turneri* at a site in Pureora.

#### ***New staff member***

By the time this edition of *Rare Bits* goes to print a new member of staff will have joined our Biodiversity team here in the Maniapoto Area. Tertia Thurley will be

known to many of you. She has spent the last 2 years on the Chathams and also has many seasons of kokako work under her belt. She conducted her Masters thesis on Leiopelmatid frogs in Whareorino Forest, so she comes to our area well qualified.

#### **BAY OF PLENTY**

*from Paul Cashmore and Keith Owen*

#### ***New discoveries***

*Myriophyllum robustum* (Category B, Molloy and Davis 1994) has been discovered growing in large quantities in an ephemeral lake on the Mamaku Plateau. This is the second only known site in the conservancy.

*Ophioglossum petiolatum* (Category O, Molloy and Davis 1994) has been discovered in Whirinaki although the common *O. coriaceum* is also present. This is the only known population in the eastern North Island.

#### ***Dactylanthus***

At Pukerimu staff have mapped and added 51 cages over remaining uncaged plants. Similarly in the Paeroa Range 24 cages were added to plants in the area.

At the Oropi site flowering was monitored with good flowering this year. The annual volunteer day at this site was held in February. Volunteers spent the day combing the gullies with many more plants being found.

Staff completed the *Dactylanthus* Fact Sheet on behalf of the *Dactylanthus* Recovery Group. Copies have been sent out to conservancies through PA staff.

#### ***Red bearded orchid***

The annual *Calochilus robertsonii* survey at the Rotorua racecourse was carried out in December. A total of 1005 plants were recorded this year, down from 1820 last year.

## CONSERVANCY NEWS

### ***Lepidium oleraceum***

Motuputa Island, off Motiti Island was resurveyed for *Lepidium* plants where several were recorded in 1995. None were seen.

The Karewa Island population was visited in February. Six *Lepidium* plants were found with some green foliage and 2 recent dead plants. Most plants had flowered and seeded. This result is an increase on last summer's total.

### ***Moutobora (Whale) Island.***

In August last year approximately 400 plants of 9 threatened/local species were planted on the island. Plant survival rates were monitored in November. Survival rates at most sites are very high (>90%). This is probably the result of careful site selection using well-established nursery grown plants.

The 40 tieke (saddleback) released onto Moutohora last March were monitored by Auckland University researchers under contract to the conservancy. The monitoring is for one breeding season only, and shows that birds have dispersed widely on the island. A number of unmarked sub-adults have been observed and indicate that breeding is taking place.

### ***Mokoia Island***

The hihi (stitchbird) monitoring carried out by Richard Griffiths with assistance from Isabel Castro and volunteers on Mokoia has resulted in the production of about 21 fledglings.

This is a good result given that most of these fledglings are from re-nesting attempts.

Surveys carried out by Isabel Castro and Ecoquest Education Foundation to determine the North Island weka population on the island indicates that about 80-100 birds are present. This number is close to previous estimates. Weka breeding this year appears to have been very slow.

A Rodent Contingency Plan prepared by Richard Griffiths has been presented to the Mokoia Island Trust.

A further attempt to eradicate mice from the island is planned for late winter if the funds become available. In the meantime, two entomologists have been contracted to determine the invertebrate community present on the island and to provide advice on keystone species for future monitoring purposes.

### ***Matakana Island- Northern NZ dotterel***

The predator control and monitoring of the dotterel population on Matakana Island, carried out by Bubby, a Matakana Island resident on contract to the conservancy, has concluded for the season. The results were outstanding. The breeding season produced 31 chicks that fledged. This was the largest number of fledglings produced since the programme started 8 years ago.

### ***Opuiaiki Ecological Area-Forest Survey***

A recent lizard survey undertaken by Tony Whitaker and John Heaphy showed the presence of forest gecko but no other species. See also the kokako item in the Species Roundup section.

## EAST COAST/HAWKE'S BAY

*from Steve Cranwell*

### ***Boundary Stream Mainland Island***

The restoration phase of the Boundary Stream Mainland Island Project continues to gain momentum as the sustained reduction of pests and predators, produces visible changes to both plant and birdlife. The North Island robin has just completed its second breeding season since reintroduction into Boundary Stream in 1998. A further 23 known fledglings were produced. Given the additional pressure from rats this season which were implicated in the

higher number of failed nests this year, a 55% nesting success is considered a favorable result. The total population is estimated to have almost doubled in size since the initial release with 50 of a possible 67 known birds sighted since September 1999.

As introduced predators are displaced it would appear native predators are making the most of the opportunity, e.g. a pair of NZ falcon known to have nested in the reserve. While falcon have been present on the Maungaharuru range previously it is the first time a pair are known to have established a territory and fledged chicks within the reserve.

The 2<sup>nd</sup> of March was an auspicious date for Boundary Stream with the release of 'Ari' - the first of the captive reared kiwi chicks into the reserve. Under the Operation Nest Egg programme efforts are underway to re-establish a population of NI brown kiwi within the reserve. Over the next 3-5 years eggs will be sourced from the Eastern Kaweka ranges with the aim of establishing 10 breeding pairs within this time. Five transmitted males currently form the source population, from which a further 2 kiwi will be released into Boundary Stream in coming weeks.

## **TONGARIRO/TAUPO**

*from Cam Speedy, Nick Singers,  
Peter Morten, Nigel Holland and  
Harry Keys*

### ***Kiwi***

The Tongariro Forest Kiwi programme has had mixed success this season. There are currently 13 kiwi chicks from the programme at Rainbow Springs in Rotorua and 1 more fertile egg is still to hatch. Nine of these chicks are from Tongariro Forest, with the remaining chicks (and the last egg) from Waimarino Forest near Raetihi (actually in Wanganui Conservancy).

There have been remarkably few losses at Rainbow Springs this year with just 3 fertile eggs lost, although there were a few dead eggs taken from the field also. The first chicks to hatch back in October are doing very well and we expect to start releasing in May.

Out in the field the news is not so good. Of the 13 Operation Nest Egg releasees put back into Tongariro Forest, only 5 to date still carry functioning transmitters. One chick dropped its transmitter and 4 have had gear failure meaning we have lost track of them. One bird has been killed by a pig, another by a ferret, and 1 died from a ruptured liver after what we can only describe as misadventure because the bird was in perfect health otherwise – there were no visible sign of predation. Although the total of confirmed deaths from the 13 released chicks is only 3, there is the possibility of more among the 5 'missing' birds.

### ***Blue duck***

Annual monitoring has shown significant breeding has occurred on all monitored rivers within the Tongariro/Taupo Conservancy in the 1999/00 season, unlike the poorest breeding season on record last year where there were only 2 broods seen on one-off catchment-wide surveys of four major river systems. Some early moulting adults may not have been detected on the monitored Whakapapa reach this year, but 4 chicks from a brood of 6 were transferred from here to Mt Taranaki as part of the National Blue Duck Recovery Programme. On a recent walk of the lower reaches of the Mangaturuturu River field staff saw 2 pairs of blue ducks. This is the first time blue duck have been recorded in this river. Although the Mangaturuturu River is very close to other blue duck inhabited waterways its headwaters are filled with the ash laden lahar path

## CONSERVANCY NEWS

known as the Mangaturuturu Glacier. As a result the river has had little or no aquatic life and has previously been deemed unsuitable blue duck habitat.

### ***Kaka***

The Pureora team has now helped to catch all 10 female kaka needed for the Science & Research project currently being run in part of the southern Mount Ruapehu's beech forest. As monitoring progresses we are picking up signs of breeding behaviour with two possible nest sights already confirmed. The outcome of any nests found is very much up in the air, but it is great to see breeding attempts for two successive seasons.

### ***Dactylanthus***

*Dactylanthus* will be monitored for flowering success later in March. We are expecting a lot of damage to flowers from the high numbers of rodents left over from the previous season's mast seeding.

### ***Pittosporum turneri***

*Pittosporum turneri* (FBI) monitoring was established at Kuratau clearing in November 1999. Many adult plants now occur at this site and the seed set from last year was especially prolific. Some possum damage was apparent, and increased control will be investigated next financial year.

A visit was made to another population which occurs on the privately owned Lochinver Station in the Headwaters of the Ripia River. In contrast to the Kuratau site, plants found here were heavily possum browsed. Twenty-three large trees were banded in the hope that seed will be produced in a few years. The long-term aim is to establish a population within a nearby conservation area.

Good adult foliage and fruiting has also been recorded in the managed Erua Sanctuary and Tongariro Forest sites this year. This is a credit to the hard work of a succession of possum hunters over the past 5 years.

### ***Pterostylis micromega and Prasopbyllum aff. patens***

Threatened orchid monitoring occurred in the national park wetland this year. We found more orchids and extended the distribution of both species. In addition, we also found many *Pterostylis paludosa* (recently ranked as declining) widespread throughout many of the smaller areas of wetland habitat.

## WANGANUI

*from Tim Holmes, Graeme La Cock, and Rosemary Miller*

### ***Olearia gardneri***

We found seedlings in the Railcorp land (we now have an annual lease for the area). Seed that we collected has germinated at Percy Reserve (42 for you non-believers). The most interesting thing is the presence of some seedlings with alternate leaves. Initially the seedlings had us confused, because they're supposed to have opposite leaves. They looked like *O. gardneri* in all other respects. We shipped one off to Robyn Smith at Percy Scenic Reserve. Some of her seedlings also had alternate leaves. An adult tree with alternate leaves on one branch was found at Paengaroa. So we're thinking of describing another new species.

### ***Melicytus drucei***

Jim Clarkson's brother (no, not Bruce!) told him about a mate who had found another population of *M. drucei* between Kiri Peak and Pouakai Trig. Jim and I (Graeme La Cock) found about 35 plants, including 1 seedling. The site is about 2 hours beyond the Swanhoe's pheasant on the Dover Track. That's right, we found a new bird for the National Park. Marvellous bright and tame bird, but we thought it might be a GMM (genetically modified moa) so we didn't catch it.

### ***Celmisia* “Mangaweka”**

(*Celmisia aff gracilentia* (b) (CHR469722; Mangaweka))

We thought we'd lost our one-and-only natural site, so Henry's call “There's the stuff” was great to hear. There were still 33 plants present. Virtually all of the transplants have also survived. Unfortunately Robyn couldn't get any of the seed to germinate.

### ***Sebaea ovata***

Jim Campbell created some new habitat at Whitiau (all you need is a medium sized digger and a good operator). Plants were transplanted to the three newly created scrapes. Then the place got flooded and most of the plants died. So we were very excited to find some new plants in one of the scrapes. This scrape was close to the parent population, and could have received seed from there. Some plants have also been transplanted to Hawken's Lagoon. It wasn't a great year for the species, but Paul Champion's research is turning up some interesting aspects that should help in future management.

### ***Jim's scrapes***

Besides the *S. ovata* the following species of national or local importance have also established in the scrapes: *Isolepis basilaris*, *Mazus novaezeelandiae* subsp. *impolitus*, *Selliera rotundifolia*, *Myriophyllum votschii*, and *Limosella lineata*.

### ***Euphorbia glauca***

During a trip to assess the impacts of Chilean rhubarb *Gunnera tinctoria* it was great to find seedlings of *E. glauca* on a sandy shelf about 2 m above the high tide mark on the cliffs at Otakeho. Other seedlings were found in slips. There were also plenty of adult plants around. If you want to see the plants before the *Gunnera* takes over, you'd better be quick.

### ***Blue ducks released in Egmont National Park***

Twelve blue ducks have been released in Egmont National Park over three separate releases (1986, 1989, and 1991). Of these, 7 were captive-reared juveniles and 5 were wild adult birds from the Manganui-a-te-ao River. Over the past couple of years 3 male birds were known to have survived including a captive-raised bird from the first release. He was last seen in November 1999 aged 13 years. In December 1999 and January 2000 4 wild-caught birds from the Whakapapa and 11 captive-raised birds from Palmerston North Aviaries, Staglands Wildlife Park, and Hamilton Zoo were released into the park. Considerable effort is being invested in monitoring the birds.

### ***New Zealand dotterels and shore plover out on a limb***

The pair of dotterels nesting in South Taranaki produced eggs that subsequently disappeared and no chicks were observed.

A shore plover was seen at the Waiongana estuary, some 14 km north of New Plymouth. The bird was bred at NWC – hatched on 30/11/98 and transferred to Portland Island on 12/7/99.

### ***Kokopu Stream***

Area staff started discussions with landowners adjacent to the stream with the high population of short-jawed kokopu only to discover that one of them had bulldozed a track immediately adjacent to it.

## **WELLINGTON**

### ***Flora***

*from Garry Foster, Dick Gill, Aalbert Rebergen, and John Sawyer*

A meeting of the Wellington Plant Conservation Network was held recently at Otari – Wilton Bush. Many members

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of the network attended the meeting including DoC staff (conservancy, area, BRU, and Central Region), representatives of the Auckland Plant Collections Network (including Rebecca Stanley from Auckland Conservancy), QEII Trust, Wellington Regional Council, local authorities, Wellington Botanical Society, plant nurseries, and the Forest and Bird Society. A contact directory has now been produced for members of the network (please contact us if you would like a copy). The meeting provided a useful forum for exchange of information about plant conservation initiatives and to monitor progress made in implementation of DoC's plant strategy. The meeting also reflected the interdisciplinary nature of indigenous plant conservation.

A conservation covenant has now been established over Waiorongomai Allsops Bay wetlands, 'home' of the best population of *Korthalsella salicornioides* in the Wairarapa. It also has the rare swamp nettle (*Urtica linearifolia*), *Gunnera prorepens*, and *Viola lyalli*.

Seed has been collected from the single conservancy population of *Pimelea tomentosa* that was recently discovered in the Wairarapa by the Wellington Botanical Society. The seed has gone to Otari-Wilton Bush to be used to generate plants for species recovery work.

Aalbert Rebergen has continued to discover many populations of nationally and regionally threatened species in the Wairarapa including *Teucrium parvifolium*, *Mazus novaezealandiae*, and *Coprosma pedicellata*.

Blackberry control has been carried out around *Urtica linearifolia* at Carter Scenic Reserve. *O. gardenerii* seeds were collected at Koromiko and Te Kowhai Stations. Cuttings have been collected from *O. gardenerii* (and associates) at Koromiko. Seeds have also been

collected from *Muehlenbeckia astonii* at Cape Palliser.

A fence is being constructed to protect 10 adult *Coprosma pedicellata* and their associate plant species on private land at Alfredton, northern Wairarapa. Four hundred to 500 seedlings of *C. pedicellata* were recorded under a single female shrub at Carter Scenic reserve (all within 2 m of the trunk). One hundred and forty seedlings (all approximately 2.5 cm tall) have been collected and potted. Most seedlings (125) are now held at a local plant nursery (in Norfolk Road). Three cages have been placed at the wild site to protect areas supporting seedlings from (rabbit?) browsing. Seedlings from previous years have not survived at the site.

A search by Dave Havell (UCOL) and Dick Gill resulted in the discovery of more *Urtica linearifolia* at Lake Papaitonga outside the area where it was previously reported.

The species recovery plan for *Leptinella nana* is now undergoing one final round of consultation before publication. *L. nana* has been introduced to Mana Island (from Whitireia Park) for further propagation and is on display in the garden. These plants were grown on by UCOL in Levin. Dick Gill has also investigated the possible use of weedicide in the control of vegetation growth around the wild population. At present this is not an option. *Carex litorosa* seed have been collected from Waikanae Estuary and supplied to Percy Scenic Reserve for propagation. *Spiranthes novezealandiae* seed has also been collected and distributed to Percy Scenic Reserve & Nga Manu Sanctuary. A book describing the 42 endemic plant species of the Chatham Islands has been published. It includes distribution maps and photographs of each species and is intended to raise awareness of the unique elements of the Chatham Island

flora. Please contact the conservancy if you would like to purchase a copy

## **Fauna**

*from Glen Holland, Julie Newell,  
Garry Foster and David Agnew*

### ***NWC diet research***

Following the research conducted on the shore plover diet, NWC is planning trials on an insectivore mix, which Massey University has formulated and Unifeeds has produced (in close conjunction with Massey researchers). Takahe, blue duck, and teal pellets have already been formulated and are now commercially available. Initially this feed will replace the imported insectivore mix from Australia, which is very expensive, and requires the addition of cat biscuits. The aim is to perfect an insectivore mix resulting in a formulated/balanced diet, requiring only the addition of minced heart and water. The diet will be readily available and is predicted to cost less than half the imported product. A similar nectar substitute may also be on the cards.

This research will take the guess work out of the captive diet, which is the primary building block to producing viable eggs with good hatchability and healthy stock. It may not be widely known that NWC has the expertise to investigate diet issues. The value of a balanced diet will rectify 'the-cart-before-the-horse' situation we are currently in with captive diets for our insectivorous species.

### ***Wairarapa bats***

Short-tailed bats were discovered in the Waiohine Gorge area of the Tararua Forest Park towards the end of last summer. This summer contractors have been distributing automatic bat recording equipment working outwards of the original site. Many more short-tailed bat passes have been recorded near the

original site. Numbers dwindle away from the site. The recording work has been completed for the season, and the contractors (with the help and support of Brian Lloyd) are about to attempt to capture and track the bats back to their roost.

### ***Katipo spiders***

Katipo spiders were discovered at Flat Point, on the eastern Wairarapa coast last summer. Garry Foster revisited the site recently with Brian Patrick from Otago Museum. The site had changed since the last visit because all the driftwood where the spiders had previously been found was now covered with sand, and no spiders were present. A search amongst the dune vegetation found spiders still present in the area but more difficult to find. Brian explained that he believed the spiders preferred less dense vegetation such as *Coprosma acerosa* or young marram, but as the marram matured it became too dense for the spiders' survival. Last summer's count amongst driftwood was 33 spiders in 30 minutes. Brian and Garry counted 7 spiders in about 30 minutes during February this year. I believe natural causes are responsible for the change.

### ***Kapiti Island update***

This year has been reasonably successful for kokako, with 2 chicks fledged, and a stunted one which died in the nest, all from separate nests. Currently 20 birds were confirmed alive.

There was no hihi nesting detected this year. Approximately 30 birds were confirmed alive, including 4 of 6 fledglings banded last year, and 2 birds not seen last season. Meanwhile only 1 or 2 tui chicks were detected, and no bellbirds (very unusual). A bad year for honey eaters on Kapiti.

Eight takahe on Kapiti Island comprise 2 pairs, each with 1 chick and 2 singles

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who failed to pair and live at opposite ends of the island. The introduction of Green (from Burwood) was successful. A quick pairing with Iti resulted in a successful nest, first try, 2 months later.

### NELSON/MARLBOROUGH

#### Flora

*from Cathy Jones and Shannel Courtney*

Further survey for *Ischnocarpus novaezelandiae* in Molesworth turned up several more plants than expected. Monitoring was set up to detect gross changes in population numbers, health, and recruitment.

*Carmichaelia muritai*, *Muehlenbeckia astonii*, and *Olearia hectorii* monitoring have been completed. Results are awaiting processing.

Survey for the scree gentian and *Raoulia cinerea* on the Rachel Range in Molesworth revealed large numbers of both species. Very few of the gentians, however, showed any sign of flowering this season.

A population of *Carmichaelia carmichaeliae* was visited at the height of the flowering season. It was a stunning sight - a very healthy population containing plants of all ages showing very little sign of browse thanks to good conservation management by the landowner.

Monitoring and survey of moonwort, a very cryptic small primitive fern found only in the marblelands of Kahurangi, turned up a record 149 individuals from three locations, as opposed to a previous high of 83 from the same three locations in 1999.

A very rare forget-me-not, *Myosotis petiolata*, was relocated in the upper Takaka catchment during a general survey of the Cobb and Takaka Valley mineral belt in January. Although this is one of two known localities for this

forget-me-not, it appears to be extinct at its only North Island site. There are two populations in the Takaka-Cobb mineral belt, totaling several hundred plants.

A more recent find is an unnamed forget-me-not tag-named *Myosotis* "Flora". So far only a few plants have been found because its habitat is very localised and specialised. In the Flora Stream catchment forest it appears to be confined to the overhangs of limestone bluffs where it is rooted into the very fine rock dust that has flaked off the overhanging roof. It is so delicate that it does not appear to tolerate direct rainfall. Trampling by goats and deep accumulations of faecal pellets have rendered uninhabitable much of the Flora forget-me-not's niche.

A survey for the limestone greenhood orchid (*Pterostylis porrecta*) in February was successful. About 80 individuals were rediscovered within Aniseed Valley Scenic Reserve. This orchid is otherwise only known from a handful of North Island sites.

A February search for the red-throated eye-bright (*Euphrasia* unnamed), which appears to be confined to the Southern Arthur Range, revealed only 1 plant over an area where there were numerous individuals 5 years ago. This gives cause for concern because the reasons for decline are not apparent.

#### Fauna

***Mohua population drop***  
*from Mike Aviss*

The Mt Stokes mohua population has dropped dramatically. At the end of the 1998-99 summer there were around 90 birds, but now numbers are estimated at 27, of which only 6 are female. Predation by ship rats is thought to be the cause of the sudden decline. This may have occurred during winter if the birds also roost in cavities.



The department had successfully increased mohua numbers on Mt Stokes to a size where the risk could be taken to establish a second population on a predator-free island. Four birds, including 1 female, were transferred late last year to Nukuwaiata. Plans to move more were scrapped when it was realised there had been a sizeable drop in the population. Seven nesting attempts were made over summer but few were successful. Cuckoo parasitism was an added problem.

Intensive trapping of stoats had been sufficient to protect the birds because rats had almost never been recorded at this altitude on Mt Stokes.

#### **Blue duck survey**

*from Belinda Studbolme*

A survey of blue ducks (whio) on all major and some minor waterways in Kahurangi National Park was completed over the past summer.

The survey, over two summers, found a total of 192 adults including 58 pairs. As well, 41 ducklings were seen. The surveying team also found signs of blue duck in places where no ducks were seen.

#### **Other fauna**

*from Jan Clayton-Greene and Tim Shaw*

Fauna surveys in the South Marlborough area have found at least 1 common skink, that likes mountain tops, on Mt Morris at 1900 m.

Other surveys have concentrated on river terraces looking for *Mimopeus parallelus* and *Anabarynchus fluviatus*. The darkling beetle was found plus a number of Stiletto flies, which are still being keyed out to see if they are the right beast.

Attempted monitoring of the alpine giant weta of Kahurangi, *Deinacrida tibiospina*, proved that the best intentions can not take the place of some basic behavioral

facts. We used several methods but failed to find any animals in the alpine grasslands despite us knowing that they are present.

Seven *Powelliphanta hochstetteri* monitoring sites were counted, including three new plots in Kahurangi, to give a control comparison to the possum-managed block in Flora Stream.

#### **WEST COAST**

*from Don Neale, Lynn Adams, Megan Hieatt, Hugh Trembath, Paul van Klink, and Les van Dijk*

#### **Okarito brown kiwi (ex situ)**

Five Okarito brown kiwi on Motuara Island were returned to Okarito Forest in October 1999 at the age of 1 year. All weighed over 1.2 kg. They were released into the centre of the forest near territorial adults. All have done well and are behaving like wild kiwi. "Albi", the famous white kiwi, was left on the island several months longer because he was younger and smaller. We have since found he has had *Ascarid* worms, which is thought to have slowed his weight gain. He has recently been released to the wild.

Eleven eggs have been incubated in captivity from 30+ days, and 7 have survived. Two eggs were infertile or dead on arrival, 1 died during hatching (it had cracks in the eggshell), and 1 hatched successfully but died several weeks later. Additionally, 7 chicks were collected from the wild giving 14 chicks this year. While in captivity the birds have picked up *ascarid* worms and *coccidia*.

Two young chicks were sent to Motuara Island at c.2-3 weeks old to trial transfers at a young age. We hope the birds will benefit being on the island longer and adapt to the wild quickly.

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### ***Haast Tokoeka***

The last remaining nest of Haast Tokoeka for the 1999/2000 breeding season failed. Five nests were monitored in this season, and of these one possibly may have hatched. The breeding pair on Thirsty Ridge were found in a nest in September, which had failed by November, when they were discovered to be sitting on their second egg of the season. Although we did not get any success in terms of known definite hatching of chicks, more knowledge about the breeding ecology of the Haast Tokoeka was gained. Two of the recovered failed eggs have been sent to Massey University for analysis and we are currently awaiting the results.

### ***Hector's dolphin***

Several lines of research are commencing on Hector's dolphins on the West Coast and elsewhere around its range. Guen Jones, Deanna Clement, and Eduardo Secchi (Otago University) are starting PhD work on the distribution, population ecology, and fishing impacts of the species. Franz Pichler (Auckland University) is completing his PhD on the genetics of Hector's dolphin. His field work, completed in February 2000, will help to provide a detailed picture of the species' genetic features in this conservancy. Three gillnet-marked Hector's dolphins have been recovered for necropsy from beaches near Westport this summer.

### ***Marine fish***

A joint MoNZ-DoC survey of marine fish of the northern West Coast in February turned up large populations of the endemic giant triplefin (*Blennodon dorsale*), which is very uncommon elsewhere. A small brotula fish was unexpectedly collected from Seal Island (Paparoa coast). It is either outside the known range of the brotulas (NE North Island & Fiordland) or is a previously undescribed species.

### ***Lepidium naufragorum***

Monitoring of this threatened species of coastal cress has begun on Taumaka, Open Bay Islands off the coast of Haast. Taumaka is recognised in the Coastal Cress Recovery Plan as the stronghold site for the species. Seven permanent transects have been set up on the seaward rocky side of the island where a rough count estimated 1900 individual plants. Each individual plant along the transects has been counted. The presence of other species, plantain (*Plantago major*), and broad leaved dock (*Rumex obtusifolius*) has been noted. These adventive species may pose a threat to the Taumaka population of *Lepidium* and will be monitored and controlled if necessary.

Ongoing surveys of offshore sea stacks on the West Coast produced new records of *Lepidium naufragorum* at Motukiekie, Abbey Rocks, and Hanata Island. A small patch of the more threatened *L. flexicaule* was found flourishing at Charleston. It had been regarded absent from this site.

### ***Orchids***

A visit from orchid expert Brian Molloy gave Hokitika Area staff the opportunity to acquaint themselves with the threatened *Pterostylus cernua* and other orchids. *P. cernua* was known only from its type locality on the SH73 roadside at Okuku Scenic Reserve (where we found it growing abundantly, but potentially threatened by roadside ditch clearance). One other locality was found several kilometers away, and Brian reported finding it also near Westport later on his visit, suggesting that it may be more widespread than previously thought.

### ***Orange fronted parakeet***

Orange fronted parakeet surveys were carried in the Maruia Valley. To date we have one possible sighting that will require further investigation. Locating the

species here will be a major find because the known range is limited to the Hawdon and Hurunui.

### **Wetland surveys**

Major surveys of the high priority wetlands began and included a wide range of vegetation mapping, water quality surveys, and species surveys. The focus of the work was on Lake Brunner, Lake Haupiri, Lake Daniels, and Lake Poerua. From these surveys we extended our knowledge on the range of 3 threatened plants *Myriophyllum robustum*, *Deschampsia cespitosa*, and *Carex tenuiculmis*, all recorded at Lake Haupiri.

## **OTAGO**

*from John Barkla and Bruce McKinlay*

### **Mobua**

The stoat trapping response in the Dart went off very well with just under 100 stoats caught.

Stoat numbers were well down in the part of the Catlins that was trapped. It seems possible that a recent AHB 1080 possum drop has impacted on stoat numbers.

### **Ground weta**

In Central, ground weta searching has been successful with new populations of ground weta turning up at the Lindis Crossing.

### **Keas**

Keas have been having some interactions with recreationalists and also some DoC gear at huts on the Dart and Matukituki Valleys. Groups of 10-20 young keas have been taking up residence at the huts and are busy investigating the properties of ripstop nylon sandfly screen netting and also the window seals of a new truck belonging to a DoC officer, much to his distress.

### **Albatross**

At Taiaroa Head there are currently 12 chicks, with 1 lost recently to aspergillosis it is thought. Stuart Cameron, a local vet, and a colleague are investigating it and looking at treatment/prevention strategies for the future.

### **Pittosporum patulum**

Stu Thorne in Wanaka has been back into the Dingle valley checking *Pittosporum patulum*. To his dismay 3 of the 4 young trees at one site, which had all been healthy last May, had been totally defoliated. Possums seem to be the most likely culprit, and a strategy for protecting the site is being considered. Further survey at the main site increased the total there to 159 plants.

### **Myosotis**

The search for more *M. pygmaea* var. *glauca* goes on with a further site found at Macraes by Graeme Loh (conveniently located inside one of his large predator enclosures). A recent trip to the northern Dunstan Range, a *Myosotis* stronghold, tried to sort out the various species there, especially *M. cheesemanii*, *M. pulvinaris*, and *M. oreophila*. We came away more confused than ever but did expand the distribution of *M. oreophila* a little.

### **Olearia hectorii**

It's been a good year for propagation of *Olearia hectorii*. Over 200 plants have been grown by the Dunedin Botanic Gardens from seed collected from the Catlins in early November. We hope to use them to enhance an existing site comprising very old trees along the Owaka River.

### **Simplicia laxa**

Remonitoring of this endangered grass at our key site on the Old Man Range has shown a large increase in the incidence of the weed *Hieracium lepidulum*. Because competition with *Simplicia* seems inevitable we decided

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to remove the *Hieracium* with hand weeding. It will be interesting to observe if this is a sustainable control strategy.

### ***Lepidium sisymbrioides* subsp *kawarau***

A new and uncharacteristic site for this endangered cress was recently discovered on the shores of Falls Dam in central Otago. It normally dwells in rock crevices on steep faces, but at this site it grows in the lakeshore gravels. The plants are particularly robust and a good number are present.

### ***Uncinia strictissima***

Neill Simpson has been working on contract for Southland and Otago on this species and located a new Otago site near Roxburgh. Although there are a couple of other historical sites for it, this is the only known definite population.

### ***Lepidium oleraceum***

Good and bad news here. On the positive side Coastal Otago area staff found a new site on the Otago Peninsula with plenty of young plants. At Taiaroa Head though rabbits discovered our carefully nurtured site and left only a few leafless stems. Fortunately the plants have a great capacity for recovery (with the help of a netting cage) and are now looking good.

## SOUTHLAND

*from Brian Rance*

### ***Muribiku Area***

Lizard surveys: A team has been into the Takitimu Mountains looking for the Takitimu gecko, of which a single specimen was discovered in 1997. During this trip several were found. This species is currently being described.

Upper Waikaia River survey: Neill Simpson has undertaken a survey for *Olearia hectorii*, *O. fimbriata*, and *Helicbrysum dimorphum*, in the Waikaia catchment above Waikaia Forest. This

survey revealed possibly the second largest population of *Olearia hectorii* (approximately 300 plants) and *O. fimbriata* (several hundred plants). A single *O. fragrantissima* was also found. Coastal turf survey: A coastal turf survey between Colac Bay and Cosy Nook (Western Southland) has been initiated. To date 10 *Lepidium tenuicaule* sites (6 new sites), 4 *Mazus arenarius* sites (all new), a *Ranunculus recens* site, and a *Euphorbia glauca* site (also new) have been found. The *Mazus* sites represent a western extension to their distribution. Southland Plains Ecological District Survey: Geoff Walls is completing the PNA survey report. Some interesting plant finds have been on remnants along the Otapiri Stream. Two sites each contained 6 or more threatened species. One site contained *Pittosporum obcordatum*, *Olearia hectorii*, *O. fragrantissima*, *Coprosma wallii*, *C. obconica*, and *Melicytus flexuosus*. (Note, this is just the second *P. obcordatum* site in Southland). The other site contained *Olearia hectorii*, *O. fragrantissima*, *Coprosma wallii*, *C. obconica*, fierce lancewood, and the largest population of the mistletoe *Tupeia antarctica* currently known in Southland. Recent field work in Motu Bush (Western Southland) has revealed 12 threatened plant species. These are 6 woody plants: *Coprosma pedicellata* (several hundred plants minimum), *C. wallii*, *C. obconica*, *Pittosporum obcordatum* (the third site for Southland), *Melicytus flexuosus*, fierce lancewood; 2 mistletoes *Tupeia antarctica* and *Peraxilla colensoi*; the grass *Deschampsia caespitosa*, the sedge *Carex tenuiculmis*, the hook grass *Uncinia strictissima*; and the buttercup *Ranunculus ternatifolius*. Other plant work: General field work has revealed several new sites for threatened plants. Of greatest significance has been:

- The second record of *Coprosma pedicellata* in Southland
- A site with a good population of both *Deschampsia caespitosa* and *Carex tenuiculmis*
- Two new sites for *Ranunculus ternatifolius*.

#### ***Te Anau Area***

Takahe: It has been a good season for the Takahe Programme. Following our second mild winter in a row the takahe population has undergone another increase with 133 adult birds, 49 pairs, and 13 chicks in the Murchison Mountains. (1998/99 season's totals were 124 adult birds, 47 pairs, and 26 chicks.) While this season's chick production in the wild is down from the record numbers of 1998/99, it is on par with previous years. Meanwhile out at the Burwood Takahe Rearing Unit 15 chicks are being raised for release next spring.

Brown teal: Six adult brown teal remain alive following capture from southern Fiordland earlier this summer. Four chicks have been born in captivity and are doing well.

Lakeshore turf survey: This survey has continued along the shores of Lakes Te Anau and Manapouri this summer. Additional threatened plant sites have been found.

#### ***Southern Islands***

Campbell Island teal on Whenua Hou - all 12 birds released in March 1999 are believed to be alive. Four females nested this season producing 14 eggs from which 9 ducklings hatched. Unfortunately only 2 ducklings have survived possibly because of the very dry season. A further 12 teal will be released this May.

A significant site for *Deschampsia caespitosa* has been found in jointed rush at the upper tidal reaches of Lords River.

## OTHER BITS

### Restoration Resumé

Over the last 10 months Alan Saunders has been reviewing the six departmental mainland restoration projects in response to a call from the programme sponsor (John Cumberpatch) for specific recommendations.

A draft report containing 13 recommendations was submitted in November and following further discussion, a number were subsequently endorsed by the General Management Team. In particular, the need for strategic policy to guide ecological restoration activities was reinforced. A follow-up technical review was also commissioned to address aspects of these projects in further detail. This follow-up review is to be completed by 30 November 2000 in time for the 2001/2002 business planning round. It has been resolved that the six existing projects will be maintained, subject to minor changes, at least until the follow-up technical

review has been completed and policy is in place.

Other recommendations that were approved relate to improving planning and reporting procedures and enhancing cooperation and skills sharing between projects. Other more far-reaching recommendations – including the establishment of a national restoration experiment and enhancing capacity building opportunities are on hold pending completion of ecosystem management policy.

On the ground, important progress and significant new advances continue to be made at Mainland Islands. Recent re-introductions include robins to the Paengaroa reserve, and kiwi to Boundary Stream. At a recent meeting at the Rotoiti Nature Recovery Project the midday chorus of bellbirds was truly impressive! A Mainland Island Hui is planned at St Arnaud in early July where project staff and associated technical specialists can again meet to share information and perspectives.

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Articles about threatened species management issues are welcome from anyone. Send them to the Editor, *Rare Bits*, BRU, Department of Conservation, PO Box 10-420, Wellington, in Word, on a floppy disk, or as an Email attachment (internet mail: omchalick@doc.govt.nz).

Please follow these word limits: Conservancy News 800 words, Restoration Resumé 500 words, Island Roundup 1000 words, Other Bits 900 words, Feature Article 800 words.

Articles should be clean (ie, free of any formatting) and any graphs or figures should be saved as TIF files.

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