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RARE BITS

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.

THE NEWSLETTER ABOUT THREATENED SPECIES WORK

CONSERVANCY NEWS

AUCKLAND

From Ian Price, Thelma Wilson, Phil Brown, Joanne O'Reilly, Bec Stanley & Rosalie Stamp

Threatened plants

Kakabeak from Moturemu Island (Kaipara Harbour) has been planted at several sites on Tiritiri Matangi Island. One aim is to test results of planting near petrel burrows: early observations indicate that those planted round burrows are struggling compared to the other sites. Interference by petrels, penguins, and pukekos is proving frustrating! Attempts to carry out a rat eradication operation on Moturemu Island for kakabeak protection have been thwarted so far by continuous rain.

The only population of sand tussock (*Austrofestuca littoralis*) on Whangapaoa Beach have been fenced off from rabbits. The large increase in rabbit numbers this year has resulted in the sand tussock being

selectively browsed back to stubby sticks.

The one and only naturally occurring sand spurge (*Euphorbia glauca*) known in the Auckland Area is perched precariously on a cliff on Browns Island. Eighty young Euphorbias grown by the Auckland Regional Botanic Gardens were planted in the general vicinity of the wild plant this winter. Four months later, only 11 of the 80 are still looking good. Most of the rest seem to have succumbed to snails, which defoliate the plant and eat at the stems.

There have been two incidents in the last year of threatened plant populations being damaged by roading contractors: green mistletoe (*Ileostylus micranthus*) and pale flowered kumeraho (*Pomaderris hamiltonii*) have been destroyed. These incidents occurred despite previous contact with the council about the plants and the council agreeing to avoid damaging the plants. Our people once again got together with their people to try and stop this from happening again. Some of the remedies discussed included better marking of the sites, more regular contact, and maps that can be given to the people driving the machinery.

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A survey for the Nationally Critical sneezewort (*Centipeda minima* var. *minima*) was mis-timed this year: no plants were found at our Okiwi (Great Barrier Island) site where thousands were seen in May. Sneezewort is an annual plant and it turns out the best time to survey is from January to June. A quick survey of Bioweb and Auckland Herbarium records showed that most specimens were collected between January and April. It seems pretty clear that you shouldn't survey for this species in August, September or probably even October.

Dotterel

It has been a great start to the dotterel breeding season in Auckland. On Great Barrier Island, nesting sites have been recorded furthest north on the island than ever before. A dotterel was seen for the first time in years on the Tiri reef by Supporters of Tiritiri Matangi. Fifteen juveniles have been spotted running around at Omaha (and a stoat doing the opposite in a local resident's freezer!). Gwenda Pulham (OSNZ) reported five chicks at Pakiri; unfortunately one got too close to a nesting oyster catcher and was fatally injured by a swift blow to the head.

Fairy terns

Two pairs of fairy terns have been observed at Papakanui and one pair at Pakiri. Most are gearing up to breed, with one nest so far.

Tiritiri Matangi Island

Sandra Jack, Hazel Speed and Anna Grant have been doing a fantastic job dodging rain showers and high winds chasing the elusive kokako. So far there is one active nest and one still being built on Tiritiri Matangi Island, and also one nest in the Hunuwas.

Four takahe nests have so far been found on Tiritiri Matangi, one of which had an infertile egg.

Sandra Jack also reports that there are currently 15 hihi nests with eggs, 34 chicks and 14 nests still awaiting eggs. Six new territories are being used this season with the addition of 20 new boxes. However, even with these extra boxes, Barbara Walter found one bird using a saddleback nest box!

WAIKATO

From Jason Roxburgh & Leigh Marshall

Kiwi

So far in the 2003/04 season, the Moehau Kiwi Sanctuary monitoring team have placed transmitters on 15 kiwi chicks. We still have another seven eggs in four nests remaining, so we are hopeful of getting our target of 20 chicks for the season from the first clutch. To date, all the chicks from the 2001/02 and 200/03 seasons that reached 1 kg (nine and 20 respectively) are still going strong. Several have made large wandering trips, with one now at

Papa Aroha, nearly 20 km from where it hatched.

Pateke

To date we have lost eight of the 38 birds from the pateke release at Port Charles. Autopsy has confirmed that four were killed by cat(s), one died from Aspergilosis, one was run over by a car, one was killed by a dog, and one was killed by a cat or stoat.

The birds are now dispersing some distance from the release site and many have paired with other released birds, or with wild birds. A number of nesting attempts have been observed, and nesting is ongoing. The eggs from one nest which was abandoned by mum were taken into 'captivity' (a bantam hen) as a short-term measure. However, our hatch window calculations were slightly out, and one hatched. The other eggs either died before hatching or were not fertile. The duckling is now in the capable hands of the Otorohanga Zoo, where it will be raised for release back to Port Charles during the next release of 50 birds in April 2004.

Lepidium oleraceum

Lepidium work continues on the Matariki Islands. This is a constant battle with Kikuyu grass, but Gallant herbicide kills the grass and not the *Lepidium*. Ongoing monitoring shows that this species seems to come and go, with some plants apparently dead for many months reappearing.

Pterostylis puberula

This small orchid only flowers for about a month, and can only be reliably found during this period. Waikato Conservancy, Hauraki Area, and New Zealand Orchid Group staff are surveying the Kauaeranga Valley site, and are looking at transplanting and seed propagation as ways of expanding the number of plants at the only site known in the Conservancy.

New Zealand dotterel

The breeding season is well underway, and so is the New Zealand Dotterel Watch project on the Coromandel. This project is a partnership with Newmont Mining, who operate the Martha Hill Mine at Waihi and have NZ dotterel nesting on their mine site.

This season we have expanded away from our traditional site at Opoutere, and are putting more management effort into supporting the Coromandel New Zealand Dotterel Watch Network, a group of dedicated community members who look after their individual sites. We provide support, information, materials and intensive predator trapping by a professional contract trapper at priority sites. The minders do the monitoring, public advocacy and nest protection at each of their sites.

Kaka

The kaka are breeding this season at Pureora. One nest has been found so far from a radio-tagged female and

more are expected. Kaka did not breed at Pureora last season.

Archey's frog

An inventive frog stage (designed by CAS, Avi Holzapfel), a digital camera and the natural pattern markings of Archey's frog will be used in a mark-recapture pilot over the next few months at Whareorino. All going well, we will be able to monitor individuals through time without having to resort to the usual method of toe-clipping.

Tuatara

Sixty tuatara were successfully transferred from Middle Island (off the Coromandel coast) to Tiritiri Matangi in October.

Wetland birds

The Waikato area has initiated a long-term monitoring programme for spotless crane and bittern. Sites have been identified for regular monitoring of bittern and crane using call playback. Staff have been surprised and pleased by the large number of bitterns encountered in the pilot.

BAY OF PLENTY

From Paul Cashmore & Keith Owen

***Picris burbidgei* and *Pimelea tomentosa* at Orokawa Scenic Reserve**

Following the initial survey/resurvey work undertaken with Waikato Conservancy staff in August, a follow-up day was held with DOC volunteers in October to "weed" *Picris* and *Pimelea* sites located to reduce the competition from other plant species.

Threatened fern survey in Tarawera Cut Wildlife Management Reserve

Staff spent some time resurveying and recording populations of *Thelypteris confluens* and *Cyclosorus interruptus* in one of the DOC administered wetlands on the Rangitaiki Plains which has not been surveyed for some years. A total of 203 clumps of *Cyclosorus interruptus* and two clumps of *Thelypteris confluens* were found, although only the southern part of the wetland was surveyed over several hours. It was pleasing to see that such large populations of *Cyclosorus interruptus* were still present - probably the largest populations present in any of the DOC administered wetlands in this area. As is the case with many of the other wetlands in the area, *Thelypteris* numbers appear to be critically low, although the species was never common here.

***Thismia rodwayi* in North Kaimais**

Several DOC staff accompanied Rotorua Botanical Society members on a field trip in November to inspect *Thismia* flowering in Waitewheta Valley. Unfortunately no sign of flowering was found this year, even though the timing was the same as last year. To make up for this disappointment, several new populations of swamp maire (*Syzygium maire*) were discovered in the valley, some of which were within the Forest Park.

Dactylanthus monitoring

Monitoring of seed set was undertaken at several sites in the Conservancy during September/October. The Minginui enclosure was checked and found to be in good condition and still functioning. Although still fairly low, we recorded the best seed set since the enclosure was built in 1999. The other monitored site in Whirinaki Forest Park also had increased seed set as a result of more caging. Pukerimu had the highest level of seed set recorded since regular seed set monitoring began in 1999, with 431 seed heads produced. Te Kopia had slightly reduced levels from previous year.

Mistletoe

In Tauranga, staff have returned to the recently discovered *Ileostylus* site at Oropi (see Rare Bits No. 50) to band the few isolated host trees in order to provide some long term protection for the remaining mistletoe plants.

In Rotorua, staff have been out with Opus Consultants who manage State Highways in Rotorua District on behalf of Transit New Zealand, to show them the few *Tupeia* and *Ileostylus* sites that occur near highways. Hopefully these will be avoided during road maintenance.

At the Lake Okareka *Tupeia* site (one of the largest mistletoe sites in district), signage has been erected at several access points to the two areas of conservation land near private properties, asking the public to protect native mistletoe by not dumping rubbish or garden refuse. This will hopefully reduce the amount of mainly garden refuse being dumped at these important sites and which has been slowing the progress of ongoing weed control work.

Moutohora (Whale Island)

In August, staff spent several days on the Moutohora Island monitoring threatened plant sites established over the last few years. Success is now being had, with *Sicyos australis*, *Pimelea tomentosa* and *Lepidium oleraceum* in some of the more sheltered environments on the southern side of the island. The coastal tree species parapara and tawapou have been very successful overall. This year, 60 additional plants of previously planted *Lepidium oleraceum*, *Austrofestuca littoralis*, *Sicyos australis* and *Euphorbia glauca* were established at a range of sites across the island.

All six North Island brown kiwi on Moutohora Island are doing well. The latest update is that four of the single

birds have now paired up into two pairs, and the other two single birds are tending to still roam around. An 18 month old male is incubating an egg.

North Island robin – Tuhua (Mayor Island)

The opportunity was taken to monitor North Island robin (taken from Mokoia Island) for the first time since their release on Tuhua on 17 May 2003.

Monitoring was done over two half days on the 11th (afternoon) and 12th (morning) September 2003, for a total of 10 field hours. The weather was not helpful, with a cool south-east breeze/wind on both days. Rain cleared just as the first afternoon monitoring started, with high cloud for the rest of the two days.

Of the 42 released, a minimum total of 11 birds (26%) were located: six confirmed males (GR/M, M/BR, BW/M, M/BG, M/WY, and YR/M); one confirmed female (RG/M); two partially identified birds (Y and M/R); and two unidentified birds.

New Zealand dotterel project – Matakana Island

Bubby Murray (dotterel monitoring warden extraordinaire) has recently moved on after undertaking this role on Matakana for a number of years. Gill Palmer has replaced Bubby, while Witana Murray continues to undertake the predator control operation in associated with the project.

Gill reports that at present (10/11/03) there are 42 pairs, 23 nests and seven chicks being monitored on the island.

TONGARIRO/TAUPO

From Nic Etheridge, Jonathan Miles, Cindy Jenkins, Robyn Whyman & Mike Brown

North Island short-horned grasshopper

The North Island short-horned grasshopper (*Sigaus piliferus*) was inadvertently found in October. The lone grasshopper was found near the Maungaturuturu hut on the southern flanks of Mt Ruapehu at 1200 metres a.s.l. This find extends the known distribution of the species which is currently recorded in the East Coast/Hawke's Bay Conservancy. The species is classified as Not Threatened, despite little being known about its distribution.

Kiwi

Kiwi have been given further protection in the Tongariro Forest Kiwi Sanctuary this year, with the gazettal of Tongariro Forest as a Controlled Dog Area and the introduction of Avian Aversion training for hunting dogs run by local contractor Jim Pottinger. The effectiveness of the dog training is unproven, but there is no doubting the value of the opportunity it creates in getting a kiwi safe message through to the dog's owners.

The 2002/03 breeding season has been a bumper year as far as chick productivity goes. We should see 20 juvenile kiwi being placed back into the forest, all of which have come from nine breeding pairs.

This year, 12 adult male kiwi and their mates were monitored for breeding. Eleven of the males are wild-caught birds fitted with transmitters; one was an Operation Nest Egg (ONE) bird released in 1995 that has mated with an ONE female released in 1996. Ten of the 12 pair monitored had nests, and laid a collective total of 41 eggs. Twenty-eight of the eggs were viable; the remaining 13 were either rotten or infertile

The first eggs hatched at Rainbow Springs in early September, and the majority of eggs had hatched by mid February. A single egg is still being incubated as we speak. Of the 28 viable eggs, 20 successfully hatched. Six of the eggs were either cracked resulting in chick death, or hatched but the chicks failed to survive; and two chicks are still fighting for their life.

Seventeen of the successfully hatched chicks have, or are being, raised at Warrenheip, a predator-free enclosure in the Waikato which is privately owned by David and Juliet Wallace. Two chicks died of unknown causes. Using Warrenheip as a crèche site in which to raise our chicks prior to their return to the wild, has taken some of the pressure for space off of Rainbow Springs, and enabled our kiwi chicks to grow in a semi-natural environment. Due to some concerns over human induced disturbance at Warrenheip and the

effect this may have on the birds, plans are in place to reduce the numbers of kiwi kept in the enclosure at any one time next season, and to control the traffic through the site.

To date, eight of the 2002/03 juvenile kiwi have been released back into the Tongariro Forest. All of these chicks seem to have thrived at Warrenheip; they were transferred to the site from Rainbow Springs at around 300 grams and took between 4.5 to 6.5 months to grow to a size big enough to defend themselves against stoats and possums, and were then released back into the forest. One chick released into the forest at 950 grams has since been predated by a stoat, resulting in a requirement that juvenile kiwi must be 1200 g prior to release into the forest.

One of the newly released kiwi, at only 8 months old, made its way across the Whanganui River and was found 2 km north of the river. This is only the second time a bird has been recorded crossing the river from the Tongariro forest; staff are eagerly waiting to see whether the bird attempts to return to the forest.

EAST COAST/HAWKE'S BAY

From Wendy Sullivan, Fiona Kemp & Bruce Dix

Tupeia antarctica

Boundary Stream Mainland Island staff have discovered three plants of

the mistletoe *Tupeta antarctica*, growing on a putaputaweta (*Carpodetus serratus*) host tree. This species was not previously known to exist in the reserve, although populations are found elsewhere in the Hawke's Bay. An extensive search is in progress to determine the population size. Intensive possum control has occurred in the reserve for 8 years, and mistletoes are benefiting; the yellow-flowered mistletoe (*Alepis flavida*) has increased from five to 50 known plants.

Shine Falls kakabeak

There are only three Shine Falls kakabeak with their distinctive pink flowers left holding on to the bluff beside Shine Falls in Boundary Stream Mainland Island. However, with the help of the Taupo Native Plant Nursery and the volunteers at the Ahuriri nursery, 45 seedlings have been planted along the top of the bluffs and fenced off to stop any hare or goat browse.

Boundary Stream kiwi

The first kiwi nest was discovered in Boundary Stream in early September this year. The nest is a result of the pairing of two kiwi, Manu-iti (female) and Kohu (male), who were released into Boundary Stream in June 2000 as juveniles using ONE. The kiwi had been sourced as eggs from the Kaweka Forest Park (KFP), and then hatched and reared at Westshore Reserve, Napier.

The nest is a real milestone for the kiwi reintroduction project. Female kiwi need to be around 2.5 to 3 years

old before they are sexually mature, so these two haven't wasted any time. Unfortunately, one of the two eggs in the nest is rotten, but there is still hope for the second (and Kohu seems to fully understand the commitments of parenting). There are currently 14 kiwi being monitored and two other known kiwi pairs in the reserve.

This season 12 eggs have been transferred from the KFP to Rainbow Springs in Rotorua for incubation and rearing. Eight of the 12 eggs have already hatched. Seven paired adult male kiwi are currently being monitored in the KFP for second clutches.

This year the Department has also started working with the local community (a Trust called ECOED - Environment, Conservation, and Outdoor Education, Forest and Bird groups, Regional Council, and other interested people) on an exciting project to enhance the kiwi population in the KFP. Once Boundary Stream has around 20 kiwi established in the reserve, it is planned that ONE will continue with young kiwi being released back into the KFP.

Lepidium oleraceum

In April 2003, two Cook's scurvy grass (*Lepidium oleraceum*) seedlings were planted and hundreds of seeds were sown on Whanga-o-kena (East Island) near East Cape as part of the restoration plan for the island.

We returned to Whanga-o-kena in October 2003 to check on the seedlings and seeds, and to plant a

further 70 seedlings. Both seedlings were alive but we found no evidence that any seeds had germinated.

The first seedling had lost condition (number of leaves and overall size). It had been planted under a taupata and may be too shaded.

The second seedling was looking very healthy. Over the last few months the seedling had quadrupled in size and now measures approximately 400 mm at its widest point and 450 mm in height. Furthermore, it had approximately 15 flower heads and no sign of insect browse. This plant is sheltered from the wind by a flax, while still receiving full sunlight.

Over the last few months there has been a higher than average rainfall on the island and this rain will almost certainly have helped with the plants' survival on this very arid island.

Lucky escape!

Three NZ dotterel chicks that thought they had a safe refuge under a driftwood pile on Pouawa Beach could have chosen a much better site: this particular pile had been scheduled to be incinerated as part of Guy Fawkes celebrations. After some quick talking to the local council and some quick action by the council, the beach was declared fire-free and the bonfire dismantled.

WANGANUI

From Nic Peet, Graeme La Cock, Rosemary Miller & Astrid Dijkgraaf

New spots, new plants

Yes, we're back! After a year or two in the wilderness (if only!) it gives me great pleasure to report on some exciting plant discoveries in the Wanganui Conservancy.

Lepidium flexicaule

Yes, Geoff Rogers (I think he was on holiday) went and found a pretty good population in a herbfield at Stent Road at the end of September. Bec Stanley visited the site a few days later after the *Dactyloctenium* recovery group meeting, and found another 60 plants plus a carpet (well, more like a doormat) of seedlings almost on the beach. So it looks pretty good at the moment. Grazing may be an issue, but then again there aren't any plants in a fenced off section of the herbfield, where weeds seem to be doing pretty well. This is the first record for the North Island since 1934, and the first ever record for the west coast of North Island. Previous records have all been from Auckland and the Coromandel.

Ranunculus recens

A few days after visiting Stent Road with Bryan Williams and Jim Clarkson, Graeme La Cock received a phone call from Jim, who had just found another population of

Ranunculus recens at a site about a kilometre from our only other known site on the Taranaki coastline. One adult, three juveniles and nine seedlings qualify as a population for this plant for Wanganui Conservancy. Incidentally, the original population is perched on the edge of a cliff following a slip last year, and is too dangerous to visit, and the translocation site has a few juveniles and seedlings.

Dactylanthus taylorii

Maybe not as exciting, but Henry Dorrian found a good patch near our Mokai site.

Myriophyllum robustum

Lets be honest, no report on new discoveries would be complete without something from Colin Ogle (ex-DOC CAS). So he went and found some robust milfoil (*Myriophyllum robustum*; Gradual Decline) in a sphagnum bog in the Rangitikei. Our only other record is from Cold Creek in Egmont National Park, so for us this is a significant range extension for robust milfoil.

On 3 November, Colin Ogle went to see a wetland as an invited guest of Fish & Game and Horizons Regional Council. The wetland was in steep farmland in the heart of the Rangitikei, between Rewa and Kimbolton. Not at all the kind of place to expect a natural wetland, but after a 20 minute 4WD drive on slippery farm tracks, there it was, about 1 hectare of sphagnum bog just off a main ridge. It lay in a small side valley that had probably been dammed centuries ago by a land slip.

The robust milfoil occupied only a few square metres where the sphagnum began to give way to plants of more fertile swamp around the edge of the bog.

Robust milfoil has suffered a huge loss of habitat over the past 150 years, but is still known in a few sites from the Waikato northwards and in Westland. There is only one other extant site in the southern North Island, on the edge of Egmont National Park above Opunake. Old records are known from Hawke's Bay and Upper Hutt.

Annual Parapara kereru survey

This year's annual kereru count along a 15.7 km section of State Highway 4 known as the Paraparas, produced the second lowest count seen over the 13-year period. The survey involves driving at 10-30 km/hr along the road in a well sign-posted truck and counting any kereru seen along the way with unaided eye. This year we also marked the location of the birds on high-detail aerial photos that AgResearch supplied for that purpose, and to also aid them in identifying which tree species can be used on farms to attract kereru.

The reasons for this year's low numbers are uncertain but could include: late bud-break of preferred species, perhaps due to ground water deficit; plentiful food elsewhere; illegal hunting of kereru. Mostly single birds (70%) or pairs (19%) were seen in the trees. However, a flock of 20 birds flew out of a tree lucerne copse. On two occasions flocks of six or seven birds were seen in the same tree (an as yet

unidentified species of planted willow).

Twenty percent of the observations were 15-20 m from the centre line (i.e. in trees lining the road) and 66% were less than 40 m away. There was only one observation at zero and the furthest observation was 255 m away. There was a small negative correlation between rain and how far kereru were seen (i.e. heavier rain shorter distance; Pearson's = -0.109, sig = 0.031, N = 393). Wind and level of cloudiness had no significant effect on distance sighted. There did not appear to be any significant difference between how far away different observers spotted kereru.

A brighter future for North Island brown kiwi in Egmont National Park

The Taranaki Kiwi Trust and the Wanganui Conservancy have signed a Memorandum of Understanding and have jointly produced a 5-year conservation plan for kiwi in Egmont National Park. By working together, the two organisations plan to halt the decline of the park's kiwi population and enhance the size and range of that population. Kiwi are now largely confined to higher altitude areas of the park including steep subalpine slopes cloaked in dense leatherwood scrub. Like all unmanaged mainland kiwi populations, Egmont's has suffered a serious decline which has brought it to the edge of extinction in the park.

Conservation action started this November with the installation of stoat traps over 4,500 ha of the park. This has been achieved through funding from the Wanganui

Conservancy and the New Plymouth District Council. As funding allows, it is planned to expand the area of stoat trapping to over 12,000 ha in the next 5 years. The Bank of New Zealand Kiwi Recovery Trust has also provided seed funding for an Operation Nest Egg programme to begin.

Whio

A one-year trial predator control and monitoring study has started on the Manganui-a-te-ao River on the western flanks of the Central Plateau. The river holds a significant part of the central North Island blue duck population. A strategy for the conservation of whio in the central North Island will be produced shortly by the Wanganui and Tongariro/Taupo conservancies.

Since June, a line of stoat traps has been installed along one bank of the Manganui-a-te-ao. A major effort has been made to colour and metal band birds and fit several females with radio transmitters. Unfortunately three out of four transmitters failed following fitting. The number of pairs present in the 9.5 km study stretch of river has varied from 16 to 18 since monitoring began. As of early November, five pairs had hatched 25 ducklings, 14 of which were still alive as class I ducklings. An angler reported a stoat attack on a duckling. Two females were killed by predators on the nest and another two nests were flooded out. Five to six females were still incubating.

It is hoped that further funding will be secured to expand stoat control to both sides of the river and continue intensive monitoring as part of a

national research by management programme for who that takes in sites from Te Urewera to Fiordland. The pilot project has received valuable funding from the Central North Island Blue Duck Conservation Charitable Trust.

NELSON/MARLBOROUGH

From Martin Rutledge, Paul Gasson, Steve Cranwell, Cathy Jones, Mike Ogle & Mike Aviss

Black-fronted terns

Efforts to determine breeding success and predator pressures on black-fronted terns (BFTs) are being monitored at two sites on the Wairau River. Since early October, spring floods have repeatedly disrupted early nesting colonies, with some nest sites establishing recently. However, at least one colony of 20-30 birds has already been affected by predation, with all eggs destroyed within the colony. Rats appear to have been the culprit. An incubating adult that was killed, probably by a cat, has also been found in another colony.

The status of BFTs (Serious Decline) is not anticipated to improve if a proposal by Trustpower to develop a hydro scheme along 50 km of the Wairau goes ahead. The BFT breeding success and predator information being collected will be important in gauging the vulnerability of BFTs to further habitat pressures.

Threatened plants

A visit to the Chalk Range in South Marlborough showed that cages put over the Critically Endangered *Pachycladon* (was *Cheesemania*) "Chalk Range" last summer have withstood the winter. Three new plants were found, so with the two natural deaths recorded at the end of last summer, the known population has increased by one; a positive note for an entity which is much closer to extinction than kakapo.

A possible sighting of *Olearia hectorii* during a Protected Natural Area survey near Ward has been confirmed. One plant was seen and its whereabouts and importance communicated to the landowner. This plant extends the current known range of the species by about 10 km to both the north and east.

A threatened plant survey on private farmland revealed 24 *Coprosma wallii* (Gradual Decline) trees and 106 *Melicytus flexuosus* (Gradual Decline) shrubs and seedlings distributed over four properties in the lower Tutaki valley near Murchison. DOC contractor Sandra Wotherspoon was searching for the threatened tree daisy *Olearia hectorii*, for which there is a historical record in the Tutaki/Mangles district. No *Olearia hectorii* plants have been rediscovered yet, but the survey will be resumed early next year.

DOC staff from St Arnaud Area also visited private farmland in the Owen Valley, where contractor Graeme Ure discovered populations of *Coprosma wallii*, *Coprosma obconica* and *Melicytus flexuosus* while

undertaking a weed inventory on the south-eastern boundary of Kahurangi National Park. *Melicytus flexuosus* was the most common of the three Chronically Threatened species and was found at nine sites. *Coprosma obconica* and *C. wallii* were found at two and three sites respectively. The alluvial forest and scrub communities are remarkably intact and include an impressive stand of ribbonwood. This site is thought to be the best remaining example of alluvial 'frost flat' vegetation in the St Arnaud Area.

Restoration of Rangitoto Islands

Seventy-seven tuatara were captured inside the newly extended Hamilton's frog area on Stephens Island. The tuatara, along with 44 Marlborough green geckos and 44 Cook Strait giant weta, were transferred to nearby Whakaterepapanui.

The tuatara were captured from the 900 sqm fenced off area over four nights by DOC staff, iwi and volunteers. Victoria University researchers then PIT tagged, blood sampled, weighed and measured the tuatara prior to their transfer. The release site, while not fenced, was of a similar size and their location will be monitored in the next few years to look at dispersal after release, to see if being co-located with known neighbours has an effect on dispersal. The 44 weta (ranging in age class and sex) were also collected over the four nights.

Twenty-nine of the 44 green geckos were adults collected last summer and taken to Victoria University for lab-based research. The geckos have

since bred, so both adults and young were released back on Whakaterepapanui. All are expected to do well on an island which 35 years ago was farmed, and 5 years ago had Norway rats and kiore.

The tuatara transfer was largely motivated by the need to remove them from frog habitat, in order to protect the Critically Endangered frog from being preyed upon by tuatara. However the timing of the transfer was perfect for the restoration of Whakaterepapanui. Another release of tuatara is planned for next year, when around 400 captive-reared juveniles are due to be transferred from Nga Manu Sanctuary.

Freshwater fish

The capture of three healthy looking brown mudfish (Gradual Decline) during monitoring at Mangarakau Wetland, confirmed that Nelson/Marlborough's only population survived last summer's drought. The population of mudfish is considered genetically distinct from other populations - reflecting about a 700,000 year separation time from the nearest population to the south. Brown mudfish were once widespread throughout the entire region but wetland drainage and habitat modification has caused a huge decline in their numbers, with the reduction of the population to just one small part of Mangarakau.

Giant kokopu are one of New Zealand's most threatened freshwater fish, primarily as a result of lowland wetland habitat loss. An initiative to artificially create a wetland habitat for giant kokopu and other species

out of a sheep paddock on DOC land near Wharariki was kicked off by Rhys Barrier a couple of years ago. The initiative is now paying off; a survey undertaken last month by Mike Ogle and Martin Rutledge turned up a large, handsome, giant kokopu, as well as eels, koura, freshwater shrimps and big schools of whitebait. Giant kokopu prefer heavy cover in deeper water and the placement of old macrocarpa logs and stumps in the wetland to provide habitat appears to be a key attractant. The giant kokopu was caught in a fyke net set adjacent to a large macrocarpa log. As the riparian planting around the wetland further develops into heavier overhead cover, more fish are expected to take advantage of this and take up residence. The site will be monitored for several years to follow the development of the native fish community.

WEST COAST

From Don Neale, Rachel McClellan, Phil Knightbridge and Glen Newton

Whale strandings at Haast Beach

Two live Cuvier's or goose-beaked whales were found by local residents stranded on Haast Beach in early September. Both whales were in a distressed state and with sea conditions extremely rough, safety of departmental staff at the stranding was a big issue; a decision to euthanase the whales was made. The

whale carcasses (lengths were 6.1 m and 4.2 m) were buried on site. Before burial, the head of the smaller whale was removed and sent to Te Papa, while skin samples of both whales were sent to the University of Auckland School of Biological Sciences for species identification. The University of Auckland has since confirmed that the departmental species identification was correct.

Southern right whale tohora

The Conservancy has had more than its expected share of southern right whale sightings this winter, with a total of seven separate reports culminating in a sighting just 2 km away from the Conservancy office. This particular individual was the only one we have managed to get out to photograph, and the footage we got will contribute to the catalogue of individually identifiable animals. The public and media interest in the appeal for sightings on the West Coast has been especially pleasing.

Thrush control to protect *Powelliphanta annectens*

Powelliphanta annectens is one of the largest giant land snail species. The Heaphy subpopulation is restricted to the area around the Heaphy River mouth, but is abundant and increasing further due to annual ground control for possums.

During late winter and early spring, Buller Area Office staff became aware of exceptionally high numbers of *P. annectens* snails being eaten by thrush at three localised sites on the Heaphy Track. On 15 August, 477 shells were collected from the sites.

The majority of the snails had been killed within the previous 3-4 weeks. Over the next 2 months the sites were checked every 2-3 weeks and the empty shells collected. By 13 October, over 1,700 snails had been killed. No decline in the rate of predation was found.

Although there was every chance that the thrushes would change their diet with the onset of spring, the decision was made to employ one of the West Coast Conservancy's goat hunters on a three day thrush-hunting mission. His patience resulted in the removal of four thrush from the two main 'killing fields'. Three weeks later, 14 shells were found at one site, and 54 at the other. We cannot be sure whether this decline is a direct result of the thrush control or a seasonal change in their diet. Next year we intend to begin monitoring earlier and, if necessary, initiate control at an earlier date. We will also look at possible changes to the surface of the Heaphy Track in these areas to cover or remove anvils.

Scarlet mistletoe

Parts of South Westland remain a stronghold for the scarlet mistletoe (*Peraxilla colensoi*). A recent field trip to the Hope Valley, where possums are still in an early colonising phase, established some permanent plots for monitoring recruitment and mortality of scarlet mistletoe. Data collected estimated that there are on average approximately 36 scarlet mistletoe per hectare below 700 metres altitude in this valley. This figure is very similar to the Thomas Valley (Haast catchment) pre-possum

colonisation in the early 1990s (also 36 per hectare in silver beech-podocarp forest, data collected by Hamish Owen, Canterbury University), and to two possum-free islands in Lake Waikareiti, Te Urewera National Park in January 2003 (about 31 per hectare, Aniwanuiwa Area Office).

The results of this and work at other sites confirms that scarlet mistletoe has suffered dramatic declines in abundance throughout much of its range, and that browsing by possums is the major cause of these declines.

OTAGO

From Bruce Mckinlay & John Barkla

Skinks

Earlier this year the Conservancy commissioned a review of the grand and Otago skink programme. Since receiving the report in September, we have been working through its recommendations. A key event was the holding of a workshop to review the report and establish a future direction for the programme. This led into the preparation of a couple of large biodiversity bids for which we are still awaiting decisions.

Penguins

This year's census of blue penguins at Taiaroa Head has found numbers consistent with those found for each of the last 10 years - approximately 300 breeding pairs. Yellow-eyed

penguin nest numbers have increased slightly from last year.

Mohua

In spite of no beech seed being present in the system, high numbers of mice are being recorded in the Catlins through the winter. Coastal Otago is organising to respond to a stoat event this summer. Counts of mohua groups in the Dart transect shows a recovery to spring 2000 levels. This is really good news after a greater than 70% collapse from the last stoat plague.

Unfortunately the story is very different in the Caples. Previous seasons data show mohua disappeared from four of 10 transects, although a group has reappeared in one. Excluding these transects, there appears to be no recovery in the Caples, with the population static at 20% of the 2000 population. Mice numbers in the Caples are high again.

Additionally, there are large amounts of beech flowering occurring throughout the Conservancy, so we might be looking at a seeding event next year.

Weka

The weka population on Te Peka Karara is on the upward trend again. In the last two weeks one pair has hatched three more chicks, adding to their previous family of one. This brings the total chick population on the island to nine, and the total population to 19. With two more pairs sitting on a total of six eggs, it is gearing up to be a busy chick

season. Additionally, one of the larger chicks was observed helping its parents with the care of some smaller chicks.

Albatrosses

This season will be a bit quieter than last year, with only 10 eggs laid so far and about another four to come.

Olearia hectorii

Stu Thorne and helpers from the Wanaka Area Office have been busy on several tasks designed to improve the sustainability of *Olearia hectorii* in the Matukituki Valley. Biodiversity monies have enabled an important stand on pastoral lease to be fenced from stock, with some interpretation to follow. This and two other sites have had their grassy understorey sprayed as part of our ongoing experimentation to create suitable conditions for the establishment of seedlings.

Also in the valley, the redevelopment of the road-end at Raspberry Creek has utilised 56 *Olearia hectorii* in the landscaping. They had been sourced from the successful spraying programme carried out 2 years ago, which resulted in many thousands of seedlings.

Spring annuals

Recent monitoring of spring annual sites in Central Otago is painting a rather bleak picture, with the apparent loss of several sites which had previously supported good populations of *Ceratocephala pungens* and *Myosurus minimus* subsp. *novae-zelandiae*. Ex-situ

propagation of these species in conjunction with the Dunedin Botanic Gardens is being explored. Some losses have resulted directly from land development which is putting increasing pressure on many important biodiversity sites.

New plant finds

A new site for the rare *Gingidia* aff. *montana*, which appears restricted to north-east Otago, was discovered recently in the headwaters of the Kauru River by Conservancy Botanist John Barkla. Although locally abundant at this site on a few small rock outcrops protected from grazing, elsewhere it seems to be under threat from weed invasion and exotic forestry.

Near Kaitangata in south-east Otago, John, along with Otago Regional Council Biodiversity Officer Aalbert Rebergen, discovered a strong population of *Coprosma obconica*, with a range of size classes present. A further bonus at this site was the finding of several small populations of the threatened shrub *Teucrium parvifolium*, otherwise known from just four Otago sites.

SOUTHLAND

By Andrea Goodman, Brent Beaven, Kate McNutt, Malcolm Wylie, Eric Edwards, Phred Dobbins, Kerri-Anne Edge, Max Smart & Helen Kettles

Collared cats

For the past 3 weeks, Phred and Malcolm have been trapping feral cats on the slopes of Mt Anglem on Rakiura (Stewart Island). This is not your normal spell of cat trapping: once caught, they are letting them go again! The released cats will be wearing collars with radio transmitters attached.

So far 11 cats have been caught and collared. The aim is to see how many are killed during the possum control operation. This year the possum contractors are again using 1080 in bait bags. Cats have the potential to be killed by secondary poisoning after eating possums or rats that have eaten the bait.

Feral cats feed mainly on rats, but opportunistically feed on native birds. Studies so far have shown a small proportion of native birds in the cat's diet. However, this may sadly be a reflection of the low number of native birds and high incidence of rats within these areas. Cats also eat lizards and invertebrates.

This project ties in with a major study being initiated by the Yellow-eyed Penguin Trust to investigate the impact of cats on Rakiura's yellow-eyed penguin population.

Hoiho (yellow-eyed penguins)

The Yellow-eyed Penguin Trust has been surveying penguin numbers on Rakiura over the past few years. It is estimated that there are only 170-320 pairs on Rakiura. With a number of known colonies now gone from the island, there is concern that the hoiho may slowly be disappearing from Rakiura. Cats are suspected of playing a role here, possibly killing chicks before they leave the nest.

The Trust has decided to fund a major monitoring programme to investigate what is happening with these charismatic birds. This will involve monitoring the fate of every nest (about 30) along the Anglem coast this year. The Trust hopes to secure funding to monitor these birds through 5 years of breeding.

The Trust is also going to trap cats around some of the colonies, to see if this will increase penguin breeding success. If cats are a major killer of penguins, then the possum control operations using ground based 1080 may give these penguins a year of respite.

While perched on a mountain long drop...

A critical discovery was made recently while perched on a mountain long drop. A large fearsome carabid beetle casually wandered past the toes of a DOC researcher behind closed doors at a very opportune time. The Ida valley carabid, *Mecodema laeviceps* is Critically Endangered. Only six records were known for this beetle dating back prior to 1966. But in the

last 4 years relict populations on the margins of Central Otago have been rediscovered. This includes the important record from the toilet of a hut in the Garvie Mountains.

Invertebrate monitoring

A joint invertebrate monitoring effort between Southern Islands and the Technical Support team has begun on Stewart Island. The team is investigating the effect of prolonged browsing by deer which alters the normal vegetation changes in a forest. That in turn can influence the invertebrate population found in plant communities.

Invertebrate pitfall traps have now been established inside and outside six deer exclosure fences over the last month. The exclosures were established 14 months ago. This was the first of many pitfall-emptying trips, in this instance done by Malcolm Wylie, Andrea Goodman and Kate McNutt. It is intended the pitfalls will be emptied every 6 weeks during spring and summer.

It is expected that over time the ground-active invertebrate community will differ inside and outside the exclosure plots, providing insight into how deer can impact on forest ecosystems.

Seedlings

Seedling growth rates are also being measured as part of the above invertebrate study. When the plots were established, seedlings of deer-palatable species were individually tagged in fenced and unfenced plots, so they could be easily relocated to

remeasure height (growth) changes on an annual basis. Even after 14 months of deer exclusion, there are already noticeable differences inside and outside the deer exclosures at Yankee and Black Rock Point: seedlings of some species are regenerating profusely within the safety of deer exclosure plots.

Whio

Whio are well into nesting: three nests in the Arthur, one in the Clinton and one in the Cleddau. Five eggs were removed from a nest in the Clinton last week and taken to Burwood as the nest was situated on top of fresh avalanche debris and likely to get wiped out. Three eggs are fertile and they will be hatched at Burwood and then transferred to the Wildlife Park to be released next year. Two nests have been preyed on by weka so far this season.

Takahe

Fourteen yearling takahe were released from Burwood into the Murchison Mountains on 24 October, and another two birds will be released on 10 November.

Our first three chicks of the season are still with their parents in the 60 hectare takahe enclosure. Another three chicks should hatch over the next 2 weeks. We will remove the three oldest chicks from their parents on 10 November to encourage re-nesting.

The first team of the season has gone into the Murchison Mountains to locate takahe nests. There is still quite a bit of snow on the ground

and this appears to have delayed nesting slightly. Three more teams will go in on 10 November.

Southern right whales

There has been much activity recently in Southland with regard to collating information on southern right whales. As reported in the last two issues of Rare Bits, there may only be a handful of southern right whales left in the population which frequents the waters around mainland New Zealand. Because of this, the Department of Conservation has put in a special effort this winter (when the whales are most commonly seen) towards gathering sighting records, photo IDs and biopsy samples. This year there have been 37 sightings collated nationally; comprising 60 individual whales (note many sightings are probably of the same animals).

Southland has one of the two nationally important sites located at Te Waewae Bay near Tuatapere. This location has had as many as 10 whales visiting at once, with groups often staying for a week at one time. The other important site is Hawke's Bay, where mother and calf pairs are often seen.

The team in Southland had a particularly successful whale season with biopsy samples and ID photos collected from six whales in two separate incidences (25 August and 15 September). This equates to over half of the total DNA samples collected nationwide. Prompt reports received from members of the public have contributed to this success. This year southern right whales were also reported locally from Milford

Sound, Bluff, Awarua, Tuatuku Bay, Port Pegasus and Halfmoon Bay at Stewart Island. The sighting of the whale at Milford Sound was quite a hit with tourists who happened to be out on the fiords cruise. We now eagerly await the results of photo ID matches and genetic analysis.