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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.

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THE NEWSLETTER ABOUT THREATENED SPECIES WORK

FEATURE ARTICLE

From Leigh Bull, BRU

Pycroft's petrel transfer

For the third consecutive year, Pycroft's petrel (*Pterodroma pycrofti*) chicks were transferred from Red Mercury Island to Cuvier Island. The purpose of these transfers are two-fold: (1) to re-establish Pycroft's petrel to its former breeding range; (2) to use Pycroft's petrel as an analogue species on which to refine transfer and artificial feeding methods, with the aim of later applying them to two endangered seabird species in the Chatham Islands, the Magenta petrel, (*Pterodroma magentae*) and the Chatham petrel (*Pterodroma axillaris*). This work is led by Graeme Taylor of BRU.

Four days were spent searching burrows on Red Mercury Island, with the aim of finding 100 chicks with wing lengths between 140-190 mm. Birds in this size class are unlikely to have emerged from their burrow, thus reducing the likelihood of them having already imprinted on the Red Mercury surroundings. While the target sample size was achieved, numbers were low compared with previous seasons, indicating a

possible breeding failure earlier in the season.

The day of the transfer brought a thunder and lightning storm which delivered torrential rain. Most burrows were flooded, turning what begun as a transfer into a rescue mission. Along with the rain came new challenges, namely collecting the 100 chicks from their burrows and transporting them in cardboard carry boxes. Despite the bad weather conditions, the transfer was successful, with all chicks arriving safely on Cuvier Island. Unfortunately Cuvier Island had received the same weather pattern, so renovations to the burrows were necessary to make them as water-proof as possible. Once on Cuvier Island the birds were regularly weighed, measured (wing length, tail length and tail index) and fed a diet of blended sardines and water via a crop needle.

Chicks close to fledging emerge from their burrows at night to exercise their wings and become familiar with their surroundings. As most seabirds return to their natal colony to breed, it is hoped that these birds will have imprinted on the surroundings of Cuvier Island and will therefore return to breed at this colony. A sound system playing Pycroft's petrel calls has been installed in the colony to provide further cues for chicks

and to attract any passing adults that might be prospecting.

While most of the team left Cuvier within a week of the transfer, Helen Gummer and Rex Williams remained on the island to feed the chicks until they fledge.

The hard work of this project is likely to come to fruition very soon, as birds from the first translocation are approaching breeding age and are therefore likely to start returning to prospect Cuvier Island in the near future.

PYCROFT'S PETREL CHICKS
ARRIVING ON CUVIER ISLAND



CONSERVANCY NEWS

NORTHLAND

From Jaap Knegtmans, Janeen Collings, Lisa Forester, Katrina Hansen and Richard Parrish.

Argentine ants

We couldn't set traps for these little critters, so we had to come up with

another plan. Argentine ants are spreading and have the potential to put recovery projects in jeopardy. They eliminate other ants, eat other insects, feed on nectar sources, and compete with native birds and lizards. When the ants were found adjacent to Bream Head Scenic Reserve (one of Northland's priority sites), we decided to act. The infestation was confined to 16 hectares of private residential, council and reserve land. Staff and volunteers covered this area on a 1.5m x 3m grid, laying fipronil bait. This method was successful on Tiritiri Matangi Island. The bait is manufactured by Landcare Research and is currently under experimental use permit restrictions. The operation gained strong support from the residents. Further monitoring and control will proceed in subsequent years.

Threatened plants

The critically endangered plant *Atriplex hollowayi* has had a great season. Plants grown from October 2002 have provided the Recovery Programme with ample seed to raise plants for next season, some to store for future use and plenty to be left *in situ* for nature to do her best with. Two wild populations are being monitored, with a focus on harvesting seed from these to increase the genetic diversity of next season's plantings. The main threats to *Atriplex hollowayi* are high tides, and pigs ploughing through flotsam washed ashore. Overall they have been a lucky bunch of plants, with many being missed by horse hooves and pig feeding.

Auckland Botanical Society spent an unseasonably cold January weekend on the recently acquired Frampton's Block on the edge of Waima Forest. There they got to see the newly named local endemics *Ackama nubicola* and *Olearia crebra* as well as *Coprosma waima*. A highlight was finding the saprophytic, litter dwelling *Thismia rodwayi*. This tiny, pink plant is related to an orchid, and has previously only been found twice in Northland, the closest locality being Trounson Kauri Park in 1963.

Local iwi from Te Uri o Hau have been monitoring the progress of 300 *Sebaea ovata* plants which were translocated in November from plants grown from seed collected at Wanganui to Pouto. Most plants on their land did well, flowering and seeding before dying off in the dry January weather. The plants at the DOC managed site did not do as well. Bud browse at this slightly more disturbed site is being attributed to the gentian feeding plume moth *Steoptilia zophodactyla*. Hopefully this spring we will see the first wild *Sebaea* seedlings in Northland for over 150 years!

NZ fairy tern

The fairy terns haven't had such a good breeding season this year, with only two chicks fledging. They had a run of misfortunes during the summer: the first few nests were lost to high tides and predation; one of the first-time breeding pairs abandoned the nest; then one of the older breeding females at Waipu disappeared after their first chick hatched, and then the male disappeared also; finally, a storm in

early January wiped out three of the four remaining nests. Fortunately two chicks hatched from the last nest at Mangawhai. The chicks have now fledged and left their natal site with their parents. There was some encouraging news from this season: two of the six breeding pairs were first-timers; three pairs attempted to breed at Waipu for the first time since 1994; and a newly-hatched chick was accepted and reared by foster parents, though it disappeared in a storm a week later.

Lizards

Monitoring of McGregor's skinks released onto Lady Alice Island in 1997/98 was carried out for the first time in January. Three skinks were caught, two were from the original release and both had increased slightly in weight and snout-vent length. One skink was a large juvenile (3-4 years old), suggesting it was born on the island. A general survey of the islands' lizards resulted in a 'new' species (the Pacific gecko) being added to the list. This highlights the benefits of doing a post-eradication survey eight years after the event. Also, Suter's skink (egg laying skink) was reconfirmed for the first time since 1968.

Flax snails

In August 2002, 11 *Placostylus hongii* were released onto Limestone Island in Whangarei Harbour. Monitoring conducted in November and January revealed that one snail had died, while the other ten had survived an extremely dry period from August to December. Since early January Northland has had an

abundance of rain which should ensure their continued survival.

The Coppermine Island *Placostylus hongii* population was also surveyed in November. Four 20 sq.m quadrates established in 1997 just prior to the eradication of kiore were re-surveyed. The total number found had increased from six to seven snails, though there was no evidence of breeding. Other research has shown that they do not breed every year and we therefore need to await a 'good' breeding year before a revival is evident.

AUCKLAND

From Thelma Wilson and Danielle Shanahan

No fairy tern breeding in occurred our area this year. Only one egg was detected at Papakanui, and it was predated the next day. We have no idea why this season has been so poor, with birds not actually nesting, as opposed to losing nests.

Dotterels are having a good year, a bonus from all the predator trapping that isn't focused on fairy terns.

Reports of two shore plover (assumed to be blokes) that have resided on Beehive Island for the past few years, having a nest with an egg in it, stirred up considerable interest. However due to the presence of two pairs of dotterel, the owner of the egg wasn't positively confirmed. Close monitoring has failed to reveal a chick, but the plovers are being very secretive and behaving in a quite unusual manner.

Over the past few weeks the island has had large numbers of visitors, including a stray helicopter land, so we're not holding our breath. The plovers have been observed attacking adult NZ dotterels, and chasing them away from the suspected nest site. Interest is now running high, but the jury is still out as to what they are up to!

Beehive Island has a good population of variable oystercatchers, including some near fledged chicks. The island is also a popular roosting site for white fronted terns.

Kokako

The four pairs of kokako breeding in the Auckland Regional Council Hunua Ranges Management Block produced five fledglings this season. There were seven nesting attempts, of which five failed due to flooding and suspected harrier and possum predation. The production of five fledglings is down on last year, but is comparable with that of other populations which have also been low. Two birds produced last season have paired with existing adults and it is hoped that they will breed next year.

WAIKATO

From Andrea Brandon, Gilly Adam and Leigh Marshall

Dactylanthus

Waikato Department of Conservation staff are pleased with the success of

recent possum control operations on Mount Pirongia, especially the spin-off benefit for the rare plant *Dactylanthus taylorii*. A team of DOC staff and three volunteers spent the last week in January on Pirongia's summit monitoring dactylanthus plants that had previously been caged for protection. Most of the 150 caged plants were in good health and flowering profusely, with no sign of possum or rat browse. Especially pleasing was the rare sight of healthy unbrowsed inflorescences erupting from the leaf layer, which enabled the discovery of eight new plants.

Weta

Two good news stories with Waikato weta. On a recent trip to the Mercury Group, Ian Stringer and others found evidence that Middle Island tusked weta are breeding on both Red Mercury and Double Island. A previous trip to Red Mercury found weta breeding on the island. The timing of the latest find indicates that these are second-generation island weta, confirming that the translocations from nearby Middle Island have been successful.

Mahoenui Weta have been found breeding at a private gorse reserve in the King Country, where they were transferred several years ago.

Pateke

Pateke (brown teal) previously destined for Okarito are soon to be released at Port Charles, Moehau Kiwi Zone. The original transfer plan had to be re-routed due to the high numbers of stoats at the Haast kiwi zone. The Moehau Kiwi Zone is a

safer option for the release of the captive-bred birds.

BAY OF PLENTY

From Paul Cashmore

Thismia rodwayi

In November Tauranga tramper/botanist Kate Mulligan found about eight flowers of the tiny elusive saprophyte *Thismia rodwayi* (sparse) beside a track in the Waitewheta valley in the northern Kaimai-Mamaku Forest Park near Waihi. DOC staff visited and confirmed the find a few days later. The area covered by the flowers was only 10 x 11cm. Approximately four hours were spent searching, but no further plants were found on the day. However, a few flowers were found nearby when Kate revisited the site a few weeks later. This is the first time this species has been recorded in the Kaimai-Mamaku Forest Park and in the BoP Conservancy, and was therefore a very significant find.

***Peraxilla tetrapetala* on Mamaku plateau and Paeroa Range**

Two very important finds have been the discovery of *Peraxilla tetrapetala* on *Quintinia serrata* at the northern Mamaku plateau in the Opuiaiki Ecological Area (part of the Kaimai-Mamaku Forest Park), and in Te Kopia Scenic Reserve on the Paeroa Range near Reporoa. The Opuiaiki find consisted of two large healthy plants which were flowering

profusely in late January, and were discovered by staff working in the area in preparation for laying bait stations. The Te Kopia find consisted of seven large plants near the main ridge. The size of these plants enabled them to be found outside the flowering season in mid-March. The unusual aspect of both these discoveries is that occurred in areas with relatively high possum populations and little or no historic possum control. Despite this, all the plants seen were old and large and appeared relatively healthy with no possum browse noted. Furthermore, both discoveries are the first time that *Peraxilla tetrapetala* has ever been recorded in these reserves. It therefore appears that this species can survive locally in relatively good condition in unmanaged areas of the BoP, and raises hopes of finding further plants in similar habitat.

Other mistletoe work

As well as the two opportunistic discoveries above, there have been some excellent finds from planned surveys. The Tuwatawata Ecological Area (near Minginui) was the focus of this year's annual *Peraxilla* survey/monitor in the Whirinaki Forest Park. In order to protect northern rata-dominated forest and a remnant North Island brown kiwi population, possum and mustelid control has been ongoing for several years in this area. Three days were spent surveying along ridges in silver and red beech-dominated forest and lower down into upper reaches of podocarp-tawa forest. A total of 20 *Peraxilla tetrapetala* plants were found on *Quintinia*, one on red beech and seven *Peraxilla colensoi*

on silver beech. Most plants were in good condition.

Over the past six months there has also been a lot of activity at Okareka as part of the Okareka Mistletoe Restoration Project; a joint effort between DOC, Environment BOP, Forest & Bird and the Rotorua Botanical Society. This project has focused on increasing the distribution and numbers of two mistletoe species (*Ileostylus micranthus* and *Tupeia antarctica*) within the Lake Tikitapu Scenic Reserve, as well as improving general ecosystem condition within the area. To achieve this, Forest & Bird have been focusing on laying grided bait stations covering part of the reserve. The Rotorua Botanical Society is focused on undertaking weed control. DOC has been establishing Foliar Browse Monitoring for the mistletoe population. This has shown that while plants are generally in good condition in this part of the reserve, they are highly localised. It is hoped that when the possum population is brought under control, the mistletoe population will be able to spread further through suitable habitat in the reserve.

Rorippa divaricata

Annual monitoring and survey of *Rorippa* sites on Lake Rotoiti was undertaken in November. Three out of the four original monitoring sites were found. At one site the number of plants present had increased, while the other two sites had a few dead/unthrifty older plants present. This demonstrates the extreme annual fluctuations of *Rorippa* populations. Survey work at four different sites revealed a further 36

Rorippa plants. Three of these new sites were across the other side of the lake.

Red bearded orchids

The annual count of red bearded orchids at Rotorua racecourse has shown an increase of 109 plants from last year with a total population of 1181. This is an average number of plants, but well short of the all time record of 3268 plants recorded in 2000.

Cyclosorus interruptus

Staff have been monitoring the *Cyclosorus* populations in Awaitei Wildlife Management Reserve on the Rangitaiki Plains during the summer. It seems that the dry summer and resulting dry wetland produced ideal conditions for the *Cyclosorus* population. Dozens of large patches of *Cyclosorus* have appeared over a wide area too numerous to count. This is in stark contrast to last summer when water was present in wetland throughout most of the summer and *Cyclosorus* plants were small and very sparse. Aerial spraying of willows in the wetland was undertaken in March. Staff and volunteers spent several days constructing small plastic covers over the *Cyclosorus* plants to protect them from the glyphosate spray and to ensure the survival of these populations.

TONGARIRO/TAUPO

From Nicholas Singers

Threatened wetland orchid survey - January 2003

A search by the NZ Native Orchid Group (NZNOG) and DOC for three threatened wetland orchids, the swamp greenhood (*Pterostylis micromega* - nationally critical), the peat-bog greenhood (*Pterostylis paludosa* - gradual decline) and swamp leek orchid (*Prasophyllum* aff. *patens* - nationally vulnerable) was successful. The major discovery was locating a very healthy population (>150 plants) of *Pterostylis micromega* in the Mangaehuehu Stream wetland.

At a wetland near National Park township, a single *Pterostylis micromega* plant was located along with 50+ plants of *Carex carsei* (data deficient). Three members of the NZNOG (Garry Pennial, Margaret Menzies, and Glyn Wren) revisited this site a month later and found hundreds of *Prasophyllum* aff. *patens*, most of which were flowering. They also visited several other known *Prasophyllum* aff. *patens* and *Pterostylis micromega* sites around the region, increasing the abundance of each species known at each site.

The clearance of swamp vegetation in the Tangiwai bog in winter 2002 appears to have been successful in enhancing orchid abundance: the *Pterostylis micromega* population has increased from 43 to 57 plants. This increase has occurred predominantly in the clearance area,

and as a result more clearance work is planned for winter 2003. After three years of collaboration between DOC and the NZNOG we are now close to reducing the nationally critical threat status of *Pterostylis micromega*. A visit to this site in early February by the Wanganui Botanical group, also resulted in the discovery of a healthy *Schoenus fluitans* (range restricted) population which has been overlooked on many occasions.

In addition to this year's orchid discoveries, *Carex carsei* (data deficient) was also found at National Park wetland. This plant was last collected there by Rhys Gardener in 1983.

Erua sanctuary

We visited Erua sanctuary with the retired botanist "Colin Ogle" and Robyn Whyman in order to rediscover *Ranunculus ternatifolius* (nationally vulnerable). It had last been seen and collected there 21 years earlier by Tony Druce and Colin, and has defied numerous other survey occasions. The good news is that 10+ plants were discovered, almost by accident. As Colin bent down to observe a *Galium trilobium* (data deficient) plant, he discovered a *Carex carsei* (data deficient) and then a *R. ternatifolius*. Ironically this same spot had been searched over the previous year without success. Subsequently, several more plants of *Carex capillacea* (sparse) were discovered during the day.

Kuratau clearing

Two visits were made to Kuratau clearing to refind *Gratiola nana* (gradual decline), previously found there by Chris Ecroyd. The second visit was successful and also resulted in finding a patch of *Lagenifera montana* (data deficient), a single plant of *Pimelea tomentosa* (serious decline), and several plants of *Botrychium australe* (sparse).

Dactylanthus

During a volunteer participation week, members of the Tongariro Natural History society helped DOC cage dactylanthus at two sites in the Tongariro Forest. Both sites now have over 40 caged clumps. Fifteen more cages were erected at Kinloch, where Doreen Abraham (a Kinloch local and regular DOC volunteer) is managing this population. An abundance of naturally pollinated seeds were discovered under several cages which were scattered beneath some adjoining host trees.

Mistletoe

Alepis flavida has recently been discovered at two sites: near the Ohakune Mountain road by Steve Deverell, and at the Rangataua Scenic reserve by myself with the Wanganui Botanical Group. Steve also discovered many *Tupeia antarctica* on Raetihi hill during a foray to investigate likely plants to monitor for outcome monitoring for possum control.

WANGANUI

From Nic Peet, Graeme La Cock and Rosemary Miller

Striped skink

Following last year's exciting discovery of four live striped skinks (*Oligosoma striatum*) at Te Aroha (BoP) last year, another specimen has been found in Taranaki. Dean Caskey from the Stratford Area Office received a call from local farmer Mike Hartley, who has previously found striped skinks on his farm. Unfortunately this animal was dead on a cow track on a nearby farm. Surrounding habitat did not appear promising, with a cutting through a hill surrounded by pasture and a couple of barberry bushes.

It is still unclear whether the few striped skinks that have turned up on south Taranaki farms in recent years represent non-viable remnants of populations previously present in forest, or that the species is able to persist in highly modified environments. Despite attempts with a number of trap designs, the elusiveness of this species has made survey work impossible. Work with captive animals is ongoing to trial new traps and baits.

Whio

Two more blue duck were transferred to Egmont National Park as part of ongoing attempts to re-establish a population there. The birds were sourced as juveniles from the Manganui-a-te-ao. Both birds were females and join existing

captive-bred and wild-caught birds in the park. A further 8-10 captive-bred ducks will be released at the end of March. Unfortunately, all but one of these captive-bred birds are male, when the Egmont population is in need of females.

The programme is being enhanced by funding from the Central North Island Blue Duck Conservation Charitable Trust. The Trust is funding a programme of stoat control in two key release catchments, and for the source population in the Manganui-a-te-ao. Stoat numbers in the national park appear to have been low since a 1080 drop in August 2002, but with time more mustelids are turning up on trap lines.

NELSON/MARLBOROUGH

From Daniel Jack, Jan Clayton-Greene, Mike Aviss, Peter Gaze and Cathy Jones

Golden Bay

Alpine geckos captured recently on stable scree slopes in Kahurangi National Park have herpetologists excited. They have an unusual feature, a slit rostral scale, which is previously unrecorded. Specimens have been sent to Wellington for taxonomic and genetic analyses.

South Marlborough

Craspedia "Leatham" survey showed that the original population of plants has decreased from 67 to 36 rosettes over the last two years. On a more

positive note, a second site containing 14 rosettes was discovered. The large drop in plant numbers has prompted the setup of formal monitoring and careful weed control.

Things are looking up for *Carmichaelia muritai*. During recent re-monitoring at Seaview a new seedling was discovered, the first seen in the area for 10-15 years, indicating that recruitment is still occurring naturally. Census of a recently discovered second population at White Bluffs found over 100 plants of all sizes, from seedlings to grand-parents. This is likely to be a conservative number as many areas are inaccessible to mortals with a will to live.

Work on *Cheesemanina* "Chalk Range" over the summer found 20 plants, one of which flowered and is being monitored to obtain some basic biological information. As many of the plants are growing in goat accessible areas, some have been caged.

The large population of *Olearia hectorii* has been re-monitored.

On the invertebrate front, pitfall trapping on the east coast has found large populations of the Cape Campbell ground weta outside its original known location. This indicates the species is quite widespread.

Recent freshwater work in the Awatere has found a non-migratory galaxiid in the head of Colonel Gully, probably a dwarf galaxiid.

The first visit to the Hutton's shearwater colony at Shearwater Stream in over seven years, found the colony to be in good health.

Over the last three months the Area Office has had reports of two Hector's and one Dusky dolphin being killed in nets. Another Hector's dolphin has been sent away for autopsy. This has serious implications for the local population. Press releases have gone out to raise awareness of the issue.

Marlborough Sounds Islands

Two mustelids have turned up on Maud Island: a stoat trapped in February and a weasel in March. Upgrading the detection system by improving the trap coverage and sandpit network, and a visit from Scott Theobald and his stoat dog Tui, failed to find evidence of further animals. No loss of wildlife was detected on the island, although both mustelids contained gecko remains. The possibility of foul play was considered unlikely given the difficulty of live trapping and transferring a stoat and a weasel, and the higher than usual numbers of mustelids on the adjacent mainland.

Fifteen *Leiopelma pakeka* frogs were collected off Maud by Bruce Waldman and taken to Canterbury University to help further our understanding of frogs in general and of the chytrid fungal disease specifically. Some Maud Island frogs have been developing lesions around their eyes, and this is being investigated. Ben Bell repeated his long term monitoring of the frogs, confirming that the population is in good shape.

This year saw a first ever on Maud: two sets of takahe twins were produced by two breeding pairs. This is the first time twins have fledged successfully since 1993. Supplementary feeding of these pairs appears to have been crucial to the survival of the twins, as it reduces the need for the birds to travel away from water supplies and safe cover in search of food.

A falcon pair bred on the island, teaching their two young to hunt on the abundant bellbird, tui, kingfisher and finch population.

The fluttering shearwater colony had a good year, with 10 chicks fledged from 15 attempts.

Emily King spent another summer on Nukuwaiata observing mohua. The highlight was two chicks produced by the one surviving Mt Stokes pair who are now over four years old. Hopefully they will continue to breed for a few more years. Dart Valley sourced mohua on the island showed no sign of breeding, or mixing with the Mt Stokes birds. The low survival rate of these birds (five of the original 27) is a mystery, but may be related to the dryness of the island compared to the Dart Valley.

In February seven giant weta (*Deinacrida rugosa*) were taken from Stephens Island with a view to raising their young for release on Whakaterepapanui, an island which has been predator-free for four years. In addition, 30 green geckos (*Naultinus manukanus*) were taken from Stephens Island to Victoria University for approved research on comparative energetics of geckos,

before being transferred to the island. It is hoped the transfer will take place in spring along with Cook Strait tuatara that were displaced by the expansion of frog habitat on Stephens Island.

CANTERBURY

From Anita Spencer

Limestone wheatgrass

The second year of survey for the limestone wheatgrass *Australopyrum calcis* subsp. *optatum* was undertaken on private property at Mt Cass, North Canterbury. The wheatgrass is listed as nationally vulnerable, and is known from only two locations: Castle Hill and Mt Cass. Before the survey began last year, only a handful of plants were known from Mt Cass. These few plants were hanging on under a deteriorating forest canopy, being trampled and browsed by cattle and sheep. The survey has led to the discovery of another 400 plants scattered over the limestone ridge. Searching for the plants is time consuming as they exist under limestone overhangs and in crevices, mainly under a canopy of kowhai, broadleaf and five finger. As the ridge stretches for several kilometres, only a small area has been searched so hopes are high there are more plants to be discovered. Despite plenty of suitable habitat, a search of a DOC reserve found only one plant. Plants are being grown in Motukarara Nursery for transplanting into the reserve next year.

White-flipped penguin protection on Banks Peninsula

A programme to protect the white-flipped penguin is in its second year on Banks Peninsula. The penguin is similar to the little blue penguin, but is larger in size, a lighter blue colour and has a distinctive white band along the leading edge of its flipper. It is restricted to Banks Peninsula and Motunau Island off the North Canterbury Coast. There are 1600 pairs on Motunau and 2100 pairs on the Peninsula, with 717 of these in Flea Bay.

At Flea and Stony bays, two neighbouring farmers have trapped cats and ferrets in the penguin colonies on their properties for several years. In 2001 Akaroa DOC staff set up a trapline (containing 89 Fenn and Timms traps) protecting 1150 hectares on the ridges surrounding both colonies. The traps are open year round and have caught numerous cats, ferrets and stoats. Surprisingly over 1000 hedgehogs have also been trapped, and they are still coming.

Monitoring of 100 penguin burrows by DOC and the landowners showed that in the first year 62 of the burrows fledged at least one chick. Although there was no direct evidence of predation, there was the suspicious disappearance of two eggs and six chicks. The landowners still have their traps inside the DOC trapline, but have commented that the catch rate of predators has dropped significantly.

The future of penguins in these bays is looking more assured and at dusk several hundred penguins can be seen rafting in Flea Bay.

WEST COAST

From Jo Heath, Jo Crofton and Susan Anderson

Haast tokoeka

The Haast tokoeka breeding season started with the first nest detected in July 2002, and ended when the last of the season's 17 nests (from 26 potential breeding pairs) was abandoned and a broken egg retrieved on 14 January 2003.

Seven (41%) nests produced chicks, which were caught and fitted with radio transmitters. Three of the chicks were subsequently killed by stoats, one drowned, one is missing (suspected transmitter failure) and two are still being monitored: Huia, 600 grams at 100 days old, and Mischief, 570 grams at 89 days old. To date this season's chick survival is 29%, compared with 33% in 2001/02.

Three times as many stoats were caught during December 2002 and January 2003 as the same months last year. In total, 222 stoats were caught in the sanctuary during the 2002/03 breeding season compared with 98 in 2001/02. Unlike the Okarito Kiwi Sanctuary, this increase has not noticeably impacted on chick survival.

Kahu, the one remaining monitored chick from the 2001/02 breeding

season, was 468 days old at his last check (22/2/03), weighing 1.55 kg and with a bill length of 71.1 mm. He is still living within his parental territory, but spending more time in the sub-alpine scrub and beech forest at the bush line.

We currently have transmitters on 48 Haast tokoeka: 44 adults (19 female and 25 male), 2 sub-adults (1 female and 1 male) and 2 juveniles (sex unknown). This equates to 24% percent of the estimated population (200 birds) within the sanctuary. A comprehensive survey is underway to get a more accurate estimate of the Haast tokoeka population within the sanctuary. Two staff members conducting the survey have completed 46 of the 93 survey sites. The remaining sites will be completed by June 2003 and the survey repeated in 2003/04.

Planning is also underway for trialling Operation Nest Egg (ONE) with Haast tokoeka in 2003/04. Our aim is to assess whether ONE techniques (used successfully with North Island brown kiwi and rowi) can be implemented with Haast tokoeka. This will provide us with systems and experience to draw upon if *in-situ* management is unsuccessful or threatened in any way, and alternative management options are necessary.

Okarito Rowi Sanctuary

The current rowi breeding season has been very disappointing. All 14 of the monitored chicks were dead by early January, with stoat predation being the major cause. A heavy rimu fruiting mast during autumn 2002, coupled with a mild

winter caused a huge irruption of rats and stoats, coincided with the height of the rowi breeding season. Stoats completely saturated the core area during December and January, despite the rowi team doing extra buffer trap checks. In December 2002 and January 2003 137 and 173 stoats were caught respectively. This is compared with 23 and 55 for the same months the previous season. Similarly, rat numbers were 5-10 times higher this season compared with the same time last season.

The high number of stoats being caught has prompted the rowi team at Franz Josef *Waiau* Area to switch back to ONE techniques, using Motuara Island in the Marlborough Sounds as a crèche for the rest of the season. Two chicks were released in early March. The plague of stoats has also caused the postponement of the planned February release of 50 juvenile pateke (brown teal).

Kotuku and royal spoonbill

The Waitangiroto kotuku (white heron) colony had an average year. In comparison, the kotuku-ngutupapa (royal spoonbills) had a bumper breeding season which will hopefully offset the poor breeding season they had last year caused by windy conditions.

OTAGO

From John Barkla and Trudy Murdoch

Tenure review plant finds

The end is in sight of yet another busy season of high country tenure review surveys. Many new records of threatened plants (and animals) were made, and these will hopefully make their way into Bioweb. Rare plant finds included *Hebe cupressoides*, *Pachycladon cheesemanii* (= *Ischnocarpus novae-zelandiae*), *Deschampsia cespitosa*, *Carex tenuiculmis*, *Teucrium parvifolium*, *Urtica aspera*, *Carmichaelia vexillata* and *Pachycladon enysii* (= *Cheesemania*).

Otago skinks

Stu Thorne has just completed his annual survey of Otago skinks on Morven Hills. Most sites appeared to hold similar densities to those reported from previous surveys, although considerable cat and possum sign were noted.

Olearia hectorii

Following on from last year's regeneration success at Round Hill (Matukituki Valley), Stu Thorne again sprayed rank grass at the site prior to seedfall. A recent visit confirmed some regeneration had occurred, but not on the same scale as last year. Some of the seedlings were removed for nursery propagation and enhancement programmes.

Buff weka

Full-time monitoring of the buff weka translocated to Te Peka Karara in Lake Wanaka finishes at the end of March with winter monitoring reduced to two days/fortnight. Twenty six weka are present, including five of this year's offspring. Wanaka Area staff are currently preparing a scoping paper for next year's programme which is likely to include transfers elsewhere. Hands up if you've got a suitable large predator free island in the eastern South Island!

Mohua

Predator trapping to protect mohua at Makarora by the Upper Clutha branch of Forest & Bird has continued over the summer. Stoa numbers are well down compared with the numbers caught last year.

Inland *Lepidium*

Existing monitoring sites for *Lepidium kirkii* and the three *Lepidium sisymbrioides* subspecies were re-measured as part of the annual monitoring programme. Seeds were collected from specific sites and will be sent to supplement nursery stocks established last year. The nursery-grown plants will be used as insurance populations, as well as to enhance and create more wild populations. Planning is underway for this to occur this year as part of an experimental regime aimed at increasing the survival of translocated plants. As some *Lepidium* populations occur on private land, negotiations toward

protection were initiated with some owners.

Scree skinks

In early February three area staff and five volunteers participated in a five day conservation volunteer holiday searching for scree skinks on the Hawkdun Range. The aim was to extend the known distribution range around the hot-spot of Mount Ida. Despite awesome weather and good coverage, the only skinks found were approximately one kilometre from where they were already known.

Central Otago grasshopper

This year we began monitoring the Central Otago grasshopper (*Sigaus childi*) at Earnsclough Tailings, adding to the existing two monitoring sites. We are incorporating into this an experiment investigating how the reduction of ground cover (predominantly introduced thyme) affects grasshopper abundance. Previous research has shown that grasshopper numbers were greatest in areas of low thyme density. These areas correspond with tailings which have been most recently mined. Mining ceased in the 1980s, and there is now a risk that weed invasion may alter the habitat and reduce grasshopper density.

Alexandra chafer beetles and Central Otago ground weta

Pitfall trapping carried out in several locations around Alexandra aimed to collect Alexandra chafer beetles (*Prodontria bicolorata* and *P.*

modesta) for genetic analysis. There is currently disagreement between the morphologists and the geneticists as to whether these beetles are separate species. This work will be important for prioritising which sites to focus conservation efforts on. As part of a distribution and habitat study, more intensive pitfall trapping was carried out at the Airport site. At Golden Road, we also found the Central Otago ground weta (*Hemiandrus* spp.), which was previously known from only two locations.

Scree pea *Montigena novae-zelandiae*

Monitoring of this plant at Long Gully on the Hawkdun Range was carried out in February. The plants were looking healthy and many were fruiting with multiple fruit. This was great news considering only a few fruit in total have been found in previous years. There did not appear to be a difference between fenced (for hare browse) and unfenced plots.

SOUTHLAND

From Brent Beaven, Eric Edwards and Hannah Edmonds

Rifleman transfer

In February 30 rifleman were transferred from Whenua hou (Codfish Island) to Ulva Island Paterson Inlet, Stewart Island. The birds were colour banded and at least 20 have been seen since the release. Rifleman were present on

Stewart Island until the 1980's. Different methods of holding the birds were trialled, of which keeping family groups apart and transferring almost immediately was the most successful.

Hector's dolphin

A fixed wing was used for an aerial survey of Hector's dolphin along the Southland coastline. Fifteen animals were observed scattered along the coast. Difficulties were had with visibility in turbid waters and observer inexperience. However, the method looks promising and could be refined for next season.

Mohua

The decline of mohua (yellowhead) throughout the South Island has prompted a series of transfers to predator-free islands. The most recent transfer took place in March when 39 mohua were transferred from Breaksea Island in Fiordland to Whenua Hou (Codfish Island) off the coast of Stewart Island. The birds on Breaksea were sourced from the Blue Mountains in 1995. The Breaksea population has thrived in the predator-free environment and has been used as a source population for at least two transfers. Of note was the recapture of four of the original Blue Mountain birds, making them at least eight years old. Mohua are expected to do well on Whenua Hou as this island also free of rats and stoats.

Kiwi productivity and chick survival study in the Clinton Valley

This project was set up in 2001 to see if the current stoat control regime (193 trap boxes with two Mark 4 Fenn traps placed 200m apart along the valley floor and up two side branches) is sufficient to protect juvenile kiwi. In the first breeding season (2001/02), nine adult male kiwi with transmitters were monitored. Seven of these nine birds made nesting attempts, and four chicks were reared. One of these chicks survived, while the other three were predated by stoats.

During the 2002/03 breeding season, nine of the 11 adult male kiwi that were monitored made nesting attempts. A total of 10 chicks hatched, two of these drowned before they left the natal burrow, one had a failed transmitter, five were predated by stoats, and two survived.

For the coming season the team aim to catch another 10 adult kiwi to increase the sample size, and extend the trap line.

ISLAND ROUNDUP

From Sandra Jack

Tiritiri Matangi Island

A record high of 95 stitchbirds were alive at the beginning of the season, with 101 fledglings being produced from 48 nesting attempts. Only first and second clutches were laid this year. The first natural nest to be

discovered successfully fledged one, maybe more, fledglings.

Six nesting attempts were made by the three female kokako on the island. Shazbot abandoned both nests despite chicks hatching. Kahurangi's two nests failed. Cloudsley and Te Koha Waiata, the most experienced parents, produced one chick from each of their two clutches: Oscar a male and Ruby a female.

Three takahe chicks were produced. This year was the first time Tiri takahe have managed to rear two chicks from one clutch! Another two chicks were produced, but only one of these survived.