Number 53
June 2004

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.

Contents

Conservancy News
Auckland
Waikato
Bay of Plenty
Tongariro/Taupo
East Coast/Hawke's Bay
Wanganui
Wellington
Nelson/Marlborough
Canterbury
West Coast
Otago
Southland
MCU
BRU

FEATURE ATRICLE

From Don Merton, BRU

Forty years on… the legacy of Big South Cape

Exactly 40 years ago an event occurred on an island near Stewart Island that was to change forever the way we perceive, manage and protect our precious off-shore islands and their living heritage – our taonga: a disaster occurred that would have far-reaching and enduring implications not only for New Zealand, but for island nations around the world!

In 1961, as a junior Wildlife Officer, I spent a month on Big South Cape Island (~900 ha), off the south western coast of Stewart Island. At that time, Big South Cape and two tiny adjacent islands (Solomon and Pukaweka) were the final refuge for a number of native animals that had become extinct on the mainland and Stewart Island following European colonisation. Although Big South Cape was inhabited by ~300 muttonbirders for three months each year and relatively modified, no mammal had been introduced and the island had retained its full quota of indigenous wildlife.

As a consequence of this (and many other trips in remote areas), I tried to fathom just how and why our native wildlife (especially the endemics) were in such a predicament on the mainland. Although habitat destruction and fragmentation was well advanced, we still had hundreds of thousands of hectares of seemingly intact native forest and other habitats, yet massive extinctions and retractions in range had occurred and our forests were largely silent.

Some leading biologists (educated in Europe or North America) were adamant that the ecological collapse and extinctions we'd experienced were *not* a consequence of predation. Predators they explained were a natural part of the scheme of things, and that endangerment and extinction within New Zealand's endemics was primarily due to habitat destruction, fragmentation and degradation. My colleagues and I were not convinced. Then, soon after, an event occurred that clinched our argument.

In March 1964 muttonbirders returning to Big South Cape reported that a ship rat plague was causing immense damage to property and wildlife on their island. This was the final and only refuge for such rarities as the South Island saddleback,

Stead's bush wren, Stewart Island snipe and greater short-tailed bat.

Some of the most knowledgeable and respected biologists at that time genuinely believed the rats did not pose a significant threat to resident wildlife, and vigorously opposed any suggestion to intervene. They maintained that, "if we intervene we will change the ecology in a way that we cannot predict: We should intervene only after research has demonstrated that there is in fact a problem!"

In spite of this, we eventually succeeded in getting permission to mount a rescue mission, but by the time we reached Big South Cape (five months after the first reports) many land bird populations had already been almost totally destroyed. We successfully saved the saddleback through transferring the remnants to neighbouring pest-free islands (Kaimohu and Big Stage). Sadly, we were too late to save the bush wren, snipe and bat, all of which were quickly exterminated along with an unknown number of invertebrate taxa.

The tragedy of Big South Cape was a timely and valuable lesson for this, and other aspiring conservation workers and served to convince even the most sceptical that, unaided, rats are capable of inducing ecological collapse and extinction within naïve island faunas. The Big South Cape disaster also had a massive, enduring impact in shaping future conservation policy and practice both within New Zealand, and on islands around the world.

Refined over the decades, predator mitigation, eradication and control has now reached a level where, with ongoing vigilance, it is practicable to: maintain the rat-free status of biologically-important islands; eradicate rats, stoats and other invasive aliens from very large islands so as to restore ecological values and processes, and; even reinstate predator-sensitive species such as kaka, kokako and kiwi within non predator-fenced mainland habitats!

NB: Planning is currently underway to eradicate rats from Big South Cape Island.

CONSERVANCY NEWS

AUCKLAND

From Thelma Wilson, Bec Stanley & Richard Griffiths

Antipodean albatross

An Antipodean albatross recently decided a cow paddock in the rural town of Wellsford was a suitable stop-over point. Thelma Wilson skilfully subdued the bird with insulating tape, transported it in her camper van and released it into the marine reserve at Leigh. The bird ("Albert") was a very popular passenger on the public glass-bottom boat!

Parapara tree *Pisonia brunoniana*

The parapara tree *Pisonia brunoniana* is a Nationally Threatened tree which has been vilified in the Auckland press recently for killing small birds. This species has seeds which are adapted to be carried by seabirds (boobies, gannets, petrels, mollymawks and shearwaters) by attaching onto their feathers. Although most birds are not trapped by the sticky seeds some birds (mainly exotic birds unfamiliar with the tree) can be caught.

The public was reminded that there are bigger threats to birds in the urban environment (rats, cats and habitat destruction) and that parapara seed is eaten by rats and is now almost totally reduced to rat-free offshore islands.

The rediscovery of the extinct New Zealand storm petrel

On 25th January 2003 a possible sighting of the supposedly extinct New Zealand storm-petrel (*Oceanites maorianus*) was made by Brent Stephenson, Sav Saville and other birders, during a pelagic bird-watching tour out of Whitianga. Photos and reports of the sighting created a lot of excitement. This species had previously been known from only three inadequately described museum specimens, and has not been seen since the collection of the last specimen over 150 years ago.

A sighting of a small black and white storm petrel by Chris Gaskin in the Hauraki Gulf north of Little Barrier on 1 November 2003 led to further sightings. A group of 10–20 birds were observed, photographed and video-taped on 18 November 2003 to the north of Little Barrier Island. Since then, consistent sightings have been made in the outer Hauraki Gulf through regular weekly pelagic bird-watching tours run by Karen Baird and Chris Gaskin (Warkworth).

Karen and Chris organised a trip (13/2/04) with two vessels and a range of seabird ecologists, ornithologists, a geneticist from Massey University and DOC staff on board (Mike Imber, Grant Johnson and Richard Griffiths). One of the objectives of the trip was to locate and gain additional information on New Zealand storm petrels and hopefully capture some birds so that a DNA sample could be taken, and the necessary taxonomic work done in order to clarify the status of this species.

The first day was spent searching and chumming (burleying) between Little Barrier Island and the Mokohinau islands. One New Zealand storm petrel was spotted late in the day winging its way toward the Mokohinau islands. That night was spent playing calls of other closely related species and spotlighting around the Mokohinau group. However, no New Zealand storm petrels were observed in the beam of the lights.

The next day brought a strong northerly and much better conditions for locating seabirds. Within an hour we caught up with our first New Zealand storm petrel and over the course of the next four hours we spotted between 5–10 individuals.

From our observations we can confirm that this storm petrel is definitely a distinct species and is likely to be the 'extinct' New Zealand storm petrel. The bird's size, appearance and style of flight distinguish it from other closely related species. Birds did not come close enough to the boat to be caught in a hand net, and catching birds at sea is considered to be an unlikely method of capture even in the best conditions.

From the distribution of sightings and the possibility that bird numbers have increased recently, the most likely breeding site(s) is one of the Mokohinau islands, where rodents have been removed. Consequently the Mokohinau islands would be a good site to carry out a first attempt at catching birds. Any catching trip should also coincide with the likely peak in breeding in October through to December 2005.

Karen Baird and Chris Gaskin (Pterodroma Pelagics, based in Warkworth) are currently plotting all confirmed sightings of New Zealand storm petrels from 1 November 2003 to the present. Analysis of these sightings will be carried our jointly with DOC to facilitate the search for New Zealand storm petrel breeding areas.

WAIKATO

From Pim de Monchy & Leigh Marshall

Kiwi

The 2003/04 breeding season is drawing to a close with the last eggs hatching in April. We have found a total of 32 chicks this season, which is our highest number by far for the three years of monitoring. Unfortunately some of the kiwi chicks' transmitters failed this season. Of the 25 kiwi chicks that did not suffer from transmitter problems, 15 are still alive. That gives us roughly 60% survival, but does not take into account the fact that some of these birds were not monitored from birth (dog finds) and that two are still in the safety of Rainbow Springs. Ten chicks have died this season; five from suspected mustelid (stoat or weasel) predation, two as a result of being entangled in mangemange fern, and three for unknown reasons. This is a much higher death rate than in previous years, despite the predator trapping catching significantly fewer stoats and extending the trapping network. We have caught more weasels, however, and they may be responsible for some of the predation.

Exciting weta find on the Coromandel

A member of the public recently handed in a Mahoenui giant weta found washed up on a Coromandel beach adjacent to Mahurangi Island.

This is the first evidence for almost 10 years that a giant weta population is still present on the island. In 1993, almost 300 Mahoenui giant weta were translocated from the King Country to Mahurangi Island. However, no weta were found on the island when it was searched in 1999 and it was assumed that the translocation had failed. Waikato Conservancy now plans to re-survey the island this coming summer to establish the size of the population.

Kaka at Morrinsville

Kaka have begun returning to their favourite over-wintering sites in the rural Waikato. Over the past few years during winter, groups of up to 13 kaka have been setting up residence around favoured gum and fruit trees between Morrinsville and Ngaruawahia. We are not sure where the kaka disappear to in summer and our attempts to lure them to breed locally by setting up predator-proof nest boxes have so far failed.

BAY OF PLENTY

From Paul Cashmore

Mokoia Island

A recent check has been made on the status of several threatened plants re-introduced to the island in recent times. Re-monitoring of 35 plots of dactylanthus seed planted in 2000 revealed hat no plants have as yet established. Likewise with the mistletoe (*Tupeia*) seed planting from December 2003.

Because *Rorippa divaricata* has not been seen on Mokoia for some years, two searches were mounted following a report of plants last summer in a "new" location on the island. Unfortunately no sign of *Rorippa* was found.

Lepidium oleraceum on Karewa Island

After many years of struggling with a small population (on average six or so) *Lepidium* plants on Karewa Island, success is finally being had. A recent check on the island has revealed in excess of 300 plants at the south-east site and over 100 plants at the northern site. This huge increase can be put down to the spreading of seed from existing plants in the vicinity over recent years by John Heaphy. Many were seedlings, but there were also many adult plants which appeared to have seeded prolifically.

Dactylanthus

It's been a very busy season for dactylanthus work in the Bay of Plenty this year. At Te Kopia, staff managed to get to both northern and southern sites to monitor plants and do more caging. The northern site hadn't been checked for several years and cage maintenance was needed. Four and 14 cages were added at the northern and southern sites respectively. Flower monitoring showed less buds with more male and female flowers than in 2003, with low rates of possum and rat damage. Flower monitoring at Pukerimu was also undertaken.

Several days were spent at three sites in and around Whirinaki Forest Park. The focus was on caging all the remaining uncaged plants, including two populations which had no previous caging. A big effort was put in by one of DOC's regular volunteers (Murray Foster) who made up nearly 200 cages for Rangitaiki Area Office in time for flowering season. In total, over 115 cages were placed out at these sites. Many new plants were found in this process. Some good examples of flowering outside cages were found at the main site near Waione as a result of our regular intense possum control during flowering time.

Like much of the threatened plant work in February, the regular February volunteer day at Oropi was a washout this year. The day was re-scheduled for late March with a good turnout of volunteers and staff. Despite intensive searching, less than 20 new plants were found and caged. This reflects the tremendous amount of effort previously put into searching and caging at this site, with the total population now well over 200 plants.

Tumurau (Braemar) Lagoon threatened ferns

John Hobbs has just completed a fairly thorough 10 day survey of the large Tumurau (Braemar) Lagoon wetland near Matata for the two threatened ferns known to be present – *Cyclosorus interruptus* and *Thelypteris confluens*. This has continued past recent survey work in other wetlands on the Rangitaiki Plains by DOC to determine status, threats and management requirements for these two species.

Results have shown approximately 194 clumps of *Cyclosorus* were found during the survey, but only three clumps of *Thelypteris.* This result is similar to trends seen in other wetlands nearby, with reasonably robust populations of *Cyclosorus* but very low populations of *Thelypteris.* Comparison with past work suggests that *Thelypteris* populations have declined in the last decade, with weed invasion being a major factor at some sites but probably not a major factor at Tumurau.

TONGARIRO/TAUPO

From Nic Etheridge & Jonathon Miles

Whio

A complete survey of the Whanganui/Whakapapa and Mangatepopo rivers was undertaken in December 2003 by Enviroresearch and DOC, with the primary aim of measuring the impacts of increased water flow released by Genesis on the whio population.

The sections of river running through Tongariro Forest were surveyed and thereafter birds banded. A total of 44 pairs, 11 single adult males, 15 single birds sex unknown and 19 chicks were counted. An estimate of the total number of individuals in Tongariro Forest Conservation Area is around 140. Only a third of those were banded. The number of pairs per

kilometre was 0.74 on the Whanganui, 0.52 on the Whakapapa, and 0.71 on the Mangatepopo. These figures are similar to counts done in the past. Productivity was very low this year (19 chicks from 44 pairs), primarily due to flooding in October.

The monitoring and banding will continue for two years after the water has been released. The water release is due to occur when hearings within the environment court have been resolved. The Department has secured internal and external (Central North Island Blue Duck Conservation Charitable Trust) funds to measure nesting success and female mortality with and without predator control on the Whakapapa and Whanganui over a 5-year period. Detailed planning is underway and work is set to begin in August.

Kiwi

The Tongariro Forest Kiwi Sanctuary has had a good year: 10 of the 11 breeding pairs monitored this season nested. From a total of 15 nests monitored, two nests were destroyed (causes undetermined), and two with rotten eggs (n = 4) were abandoned. A total of 24 eggs were removed from 11 nests and taken to Rainbow Springs: three of the eggs were infertile, two had early embryonic death (occurred in nest), and 19 hatched. Of the 19 chicks, 11 are at Warrenheip, five are still at Rainbow, one is at Massey (physical complications), one died at a vets in Rotorua and one died at Warrenheip (cause of death unknown, autopsy results inconclusive). This season we will be looking to release 17 juveniles back into Tongariro Forest.

One wild-hatched chick was accidentally caught as part of a big effort to capture more breeding males. This chick is currently at Warrenheip.

While we are currently monitoring 11 breeding males, our target is to have up to 30. Since February we have caught an additional 14 wild kiwi, of these seven are paired males. Our targets for next season include releasing up to 40 juvenile back into Tongariro Forest. This goal is only achievable because of Rainbow Springs, Warrenheip, Lance Dew and Steve Sawyer.

We are about to embark on a call survey of the forest and complete the tracking tunnel work for this year.

Koaro

It has commonly been thought that koaro were displaced by introduced smelt at Lake Rotopounamu (Rowe 1993). We used a volunteer to ascertain whether or not this was still the case, and if so, what was the abundance of the smelt population? The results of the survey found very few smelt and no bullies. In addition, and as much by chance, a staff member found a sizable and intact koaro on the lake edge in December. So where does that leave us? Obviously wanting to clarify both results, hence staff from the fishery will undertake a detailed survey to confirm these results.

EAST COAST/HAWKE'S BAY

From Jane Goodman, John Adams, Hans Rook, Travis Cullen & Wendy Sullivan

Freshwater fish

A search of the New Zealand Freshwater Fish Database (NZFFD) for dwarf galaxias (*Galaxias divergens*) in the East Coast/Hawke's Bay Conservancy resulted in a list of 40 records; 35 of these records were situated within the boundaries of the Hawke's Bay Area. Of the 35 records, 29 were at least 10 years old, while some were 15–20 years old.

In April, Hawke's Bay Area Office staff and myself (Freshwater TSO) electro-fished and spotlighted 11 sites; dwarf galaxias were present at 10 of these sites. It was exciting to reconfirm the presence of this species at almost all of the sites visited, and to find them in relatively high numbers.

In the near future we hope to revisit the remaining sites from the database search and to extend the known range of dwarf galaxias in the East Coast/Hawke's Bay Conservancy. In addition to dwarf galaxias we also caught common bullies, longfin eels, smelt, koura, trout and several very rotund female torrentfish that were no doubt getting ready to spawn.

Boundary Stream mainland island

The Boundary Stream mainland island kokako reintroduction program finally had some success, with three chicks being produced by two pairs. The chicks were released with much fanfare in early May. Dame Malvina Major, the Patron of Kokako Recovery, along with over 100 staff, volunteers, iwi, landowners and many others saw the birds on their way.

Following the success of Mt Bruce's translocation of wild kokako, Boundary Stream's three non-breeding pairs were released in late February, as these birds had not bonded after three seasons. The risk of the kokako dispersing was thought to be minimized with the two pairs in the aviaries remaining to provide the essential 'core population'. The six birds have largely remained in the area of the aviaries, and have been regularly seen and heard by staff and members of the public.

Forty saddleback will be taken from Cuvier Island off the Coromandel, and released in to the reserve in late August. With the exception of a population in the predator-proof fenced Karori Wildlife Sanctuary (Wellington), this will be the first mainland population of saddleback. There is an abundance of saddleback on offshore islands and many people agree that now is the time to attempt to re-populate the mainland. Due to low numbers of rats, stoats and cats, we feel Boundary Stream is the ideal place to do this. Rat and possum numbers are maintained at zero, and intensive trapping restricts mustelids

and cats to outside the reserve boundaries.

WANGANUI

From Nic Peet, Graeme La Cock & Rosemary Miller

Threatened plant survey

As reported in the last issue we had to cancel part of the Waiouru Data Deficient survey. Instead we did the survey of the Taranaki coastline that we would have done next year. GLC, Jim Clarkson and Colin Ogle spent three days pawing over herbfields and pondering over very full ponds. We visited some sites that we hadn't been to before, and added a few records on Data Deficient species. Some species are flourishing; others are down to individual plants. The highlight was the discovery of a fairly weed-free herbfield near Opunake with good populations of *Myosotis pygmaea* var. *pygmaea* and *Oreomyrrhis* "minutiflora". The dense sward of *Carex raoulii* on the island in Lake Waiau was worth the wade through the flax and gorse swamp. You'll also be pleased to know that the *Lepidium flexicaule* is still alive and well at Stent Road.

The highlight for Jim Clarkson was his well-deserved trip to the herbfields and dunes around Farewell Spit. He went with Jim Campbell, who was helping Shannel Courtney assess the suitability of Farewell Spit for *Sebaea ovata*. By all accounts the two Jims were blown away by the quality of the herbfields and dunes. They learnt heaps (who wouldn't with Shannel and Simon Ward), and reckoned the three days were more beneficial to them than a course with a larger group of people would have been. This type of on-the-job training with experts in their field is worth considering as an occasional alternative to a course. I'll be using it again. Thanks Shannel.

North Island brown kiwi

An adult kiwi and chick died as a result of a dog attack in northern Taranaki. This is the latest in a series of deaths as a result of dog predation in northern Taranaki, eastern Taranaki, Egmont National Park and the Whanganui National Park.

Blue duck

A translocation of captive-bred blue duck to Egmont National Park has been postponed as a result of heavy flooding in the park which stripped the rivers of invertebrate prey. The ducks will be kept at Peacock Springs in Christchurch and will be released in the spring once conditions in the rivers improve.

Wanganui Conservancy has combined with Tongariro / Taupo Conservancy to produce a 'Conservation Strategy for the blue duck (whio) in the central North Island 2004–2009.' The goal of the strategy is 'to maintain, expand existing, and establish new self-sustaining blue duck populations on key central North Island river systems.' The plan has four key objectives

- secure a minimum of 40 interrelating pairs in prescribed management sites
- monitor change in blue duck populations on three key central North Island rivers
- develop translocation tools for population recovery
- work with iwi and local communities to further blue duck conservation.

In order to achieve the goal and objectives a series of priorities, time-bound actions are detailed in the plan.

WELLINGTON

From Tony Silbery

Kokako

The chicks from last season's breeding effort have well and truly spread their wings and made the trip from near the summit right down to the National Wildlife Centre aviaries, where they were seen near (and in one instance, even on) an aviary containing a pair of kokako from Mangatutu. We can only guess at the content of their conversation, but the youngsters, possibly accompanied by an adult, stayed for half an hour or so, before heading back into the centre of the block.

The bird whose demise was reported last issue is now thought to have been the victim of a harrier. While it is a blow to lose a bird from such a small population under any circumstances, at least we don't have to hunt a cat with a taste for luxury food!

Another kokako release, this time two pairs of Mangatutu-sourced birds held at Mount Bruce since 2001, is planned for late May. Once again, we await this breeding season with great interest.

Kiwi

The birds released in December are still staying close to home; a couple have wandered (briefly) just beyond the ridge behind the NWC, but pretty quickly came back. Monitoring these birds is consequently much easier than anticipated.

Plants

The *Olearia gardneri* seeds collected last December have produced a nice crop of new plants under Robyn Smith's gentle hands at Otari. Included in these are the first from one of the young cultivated plants at Mount Bruce; the first of the "second generation" that we have seen. Another hunt for more adults will be finished by the time this issue is released, so once again, watch this space. Plants that were planted over the past three years have all been weeded and many are thriving, the biggest well over a metre tall. At this rate it won't be long before they, too, are contributing to the annual seed haul.

Amphibromus fluitans has again gone under water, courtesy of the famously wet summer; 26 days rain in February just isn't supposed to happen in the Wairarapa! A preliminary analysis of the plots

monitored since 2001 showed that following the last inundation there was a huge recruitment of *Amphibromus fluitans* into the site, and that this was the result of seed germinating in the wetland, as opposed to existing plants recovering vegetatively. Unfortunately, these plants did not reach flowering size before the latest inundation, so there was a net decrease in the seed bank following their germination. With this latest long-term inundation (the wetland is now not expected to dry before next summer), there should be another large influx of seedlings and it looks like a long, dry summer will be needed to see them through to seeding. (I bet I'm not the only one looking for a long summer this year!)

The heavy rains also wreaked havoc on a number of streams around the Wairarapa; to date we have visited only the Waihora Stream to see how the fish coped. While the stream itself was a real mess, gravel beds, scours, pools filled etc., there were a couple of young dwarf galaxias spotted. While we instinctively realise that these creatures are well able to survive occasional severe conditions, it is always reassuring to see them afterwards.

NELSON/MARLBOROUGH

From Jan Clayton-Greene, Peter Gaze & Mike Ogle

South Marlborough plants

Staff from South Marlborough Area Office and Kaikoura Field Centre recently discovered a third population of the Nationally Critical *Carmichaelia muritai.* The population (numbering at least 60) was found in the shingle fans and had previously been missed due to inaccessibility of the area. This increases the known natural populations to three, and is a significant extension in the species' known range.

Freshwater fish

Canterbury and South Marlborough staff recently combined for a freshwater survey of the upper Clarence catchment; an area which had previously had little work done and where there had been mis-identification. The survey revealed a number of new sites for Canterbury galaxias. Samples have been sent for further DNA work as it is thought that this represents the southern extent of the population from the top of the South which appears to be genetically distinct from its southern counterparts. Two new populations of dwarf galaxias were also discovered.

Golden Bay fauna

Staff surveyed some of the furthest reaches of subalpine Golden Bay

Area in March to gather distribution information on *Powelliphanta* "Gouland Range" (Nationally Critical), which had previously been found at only three spot locations. The survey revealed live snails on one mountain range where only one empty shell had been found previously, and a patchy distribution along the next mountain range.

Re-surveys of great spotted kiwi at Saxon (on the Heaphy Track) and Kahurangi Point were organised by Hugh Robertson and John McLennan respectively. The great spots appear to be holding their own against the onslaught of predators, with territory sizes remaining stable and juveniles and sub-adults found.

Translocations

The release of whio into the Flora catchment was successful and birds are now feeding well and distributing widely. There are however doubts about whether they are thriving: two of the 10 birds have died, one at least having apparently starved. We are still confident that the eight survivors will fully adapt in time.

Wellington conservancy raided the Sounds in early May to take yellow-crowned parakeet and flax weevils for the restoration of Mana Island. Our own plans to transfer some of the kakariki to Maud were stalled as once again the island has been requested as a possibility for orange-fronted parakeet.

In mid-May great spotted kiwi were translocated from Gouland Downs to Nelson Lakes National Park. This is a first for the species and is seen as experimental, with the hope of developing conservation techniques for future use.

Also in May, Hamilton's frogs were transferred from Stephens Island to the Inner Chetwode. Native frogs have been successfully shifted on two other occasions in the Sounds and we are confident that taking 80 of the 300 animals from this small population will allow the species to increase on both islands.

CANTERBURY

From Anita Spencer, Nikki Wells, Jack van Hal & Alison Evans

Bad news for mainland sooty shearwater

A visit to Stony Bay (Banks Peninsula), where one of the few remaining mainland titi/sooty shearwater colonies is located, revealed an all too familiar story.

The colony contains about a dozen breeding shearwater and has been monitored for the last 10 years by Kerry-Jayne Wilson (Lincoln University). The colony was in decline, hovering around four breeding pairs, until the landowner erected a predator fence around the colony. The fence, combined with landowner/DOC predator trapping, led this to be the only mainland colony to increase in numbers. Last season seven chicks fledged. This year looked like being at least as successful when a visit in December

revealed 10 eggs using a burrow scope.

A follow-up visit last week by local DOC staff and Kerry-Jayne showed a woeful story. There was no sign of any chicks alive, and four dead chicks were found inside the burrows. Their ripped out throats pointed to mustelid predation, confirmed by stoat scats and a small hole forced between the netting and fence posts.

The only good news is that there is no sign that adults were taken, so they should return to breed next year.

Priorities from here are to source funding for a professional predator-proof fence. The best efforts of the landowner have not been enough against the wily fence-cracking skills of stoats.

Kaki

The 2003/04 breeding season was a very successful one for the kaki team; 15 pairs were located in the wild. Thirteen of these 15 pairs produced eggs, 109 of which were collected and brought back to the Twizel captive rearing unit. A further 54 eggs were laid by captive pairs, bringing the total number of eggs artificially incubated to 163. Of these, 123 hatched and 101 fledged. Most of these chicks were raised in captivity for release in January/February as juveniles, or in September as sub-adults.

In September 2003 45 sub-adults were released into the wild, and in January 2004 28 juveniles were released. Sixty-three sub-adults are currently held in captivity: 49 in Twizel and 14 at Peacock Springs (Christchurch). All of these sub-adults will be released in September 2004. Overall, releases have resulted in 88% of the wild population being raised in captivity, and with the exception of three wild-hatched birds, all wild pairs now consist of captive-reared adults.

There are no obvious differences between captive-reared and wild-raised kaki. Future management includes the continuation of intensive captive-rearing to increase the wild population via releases, and from 2005, intensive predator control in the Tasman Valley to reduce adult mortality and increase post-release survival of released birds.

Orange-fronted parakeets

After intensive efforts over the summer to locate more nests in the Poulter and Hawdon valleys, the orange-fronted kakariki team are thrilled with the results. Since the last Rare Bits story, another nest has been located in the Hawdon valley and five chicks successfully transferred to captivity at Isaacs Wildlife Trust. There are now a total 20 parakeets (12 males and eight females) in captivity. The two Hurunui males in Te Anau will soon be joined by a pair of girls from the Hawdon Valley. Captive breeding will commence as soon as the birds get around to it, but with plenty of good food and water twice a day they really have no excuse! If the kakariki in captivity breed successfully, a transfer to Chalky Island could occur as early as this summer. Fingers crossed!

Further searches to find the elusive nests in the Poulter valley will continue and preparations for Operation Ark are well underway. The beech mast this season has extended the breeding season for the parakeets which is fantastic, but also means that a predator plague is likely to occur in the spring and summer. Searches for any further nests will continue throughout the winter or for as long as the parakeets continue breeding. Surveys in other areas such as the Cox, North Esk and the Hope/Kiwi valleys will also be carried out during the next couple of months in the hope of extending the parakeet population range even further.

Quail Island translocation tales

A collaborative project between The Quail Island Ecological Restoration Trust, Lincoln University and DOC saw the translocation of two native invertebrates back to Quail Island. The trust aims to restore not only native plants, but also the invertebrate, bird and lizard communities. Invertebrates provide the greatest biodiversity to any terrestrial community and play critical roles in pollination, nutrient cycling, seed dispersal and are an important food source for birds and lizards.

The removal of predators including mustelids, cats, hedgehogs, possums, rats and mice from the island has provided an opportunity to restore a number of native invertebrate species that are thought to have occupied the island. In the absence of animal pests, Quail Island populations will have a reproductive advantage over mainland populations.

A summer student investigated the feasibility of translocating several ground beetles *(Megadromus guerinii*, *Holcaspis intermittans, Holcaspis suteri),* native slugs *(Pseudaneitea maculata)* and Banks Peninsula tree weta *(Hemideina ricta)* to the island. The results of her study indicated that the source population of ground beetles and native slugs would not be detrimentally affected by the removal of specimens for translocation. The translocation of *Megadromus guerinii* beetles and native slugs *(Pseudaneitea maculata)* was completed in April, 2004.

Mike Bowie (Lincoln University) releasing one of the ground beetles under a wooden disc.

Wooden discs are being used to monitor the beetles on the island. They have the additional advantage of providing habitat for insects that would have ordinarily used fallen logs or woody debris as shelter. The translocation of the tree weta *(Hemideina ricta)* has been postponed until sufficient information on the population status of the species has been collected.

WEST COAST

From Paul van Klink & Don Neale

Yellow kea in south Westland

A yellow kea has been seen on several occasions by trampers and hunters in the Moeraki catchment in south Westland. The kea is living with the traditional green mountain parrots high up in the head basin above Middle Head hut. Yellow kea are quite a rare find today, though in the past they may have been more common. There is a reference to yellow kea including a photo in the book Wild South: Saving Endangered Birds (Morris & Smith 1998).

Hector's dolphin

Buller Area undertook some helicopter surveys of the northern West Coast in April to assess the distribution of juvenile Hector's dolphins. Of over 70 dolphin groups sighted, 11 included juveniles or calves that were concentrated between Greymouth and Charleston, and Granity and Karamea. Deanna Clement has been contracted to undertake and write up the results of the survey.

A study of Hector's dolphins in south Westland was initiated under a contract to Auckland UniServices. The work will involve boat-based and theodolite surveys focussed on the Jackson Bay area during May and June, mostly for the purpose of contributing to the Aquaculture Management Area process.

OTAGO

From John Barkla, Bruce McKinlay,Trudy Murdoch & Lyndon Perriman

Penguins

The yellow-eyed penguin moult passed without any issues, following on from the end of a relatively good chick fledging.

In contrast, blue penguins on the Otago Peninsula went through a period of mortality during the moult period.

Weka

Another successful season has ended on Te Peka Karara; the island is extremely popular with day visitors during the summer. On some afternoons there were up to 16 boats pulled up on the island, with picnickers providing entertainment for the weka. Plans for further translocations have been deferred as the preferred site is subject to an extensive ongoing possum operation as part of the Animal Health Board's Tb vector control programme.

Mohua and Operation Ark

Beech seed and rat and stoat numbers are all up in the Catlins. The flowering and seeding event has occurred after stoat numbers were

up last spring. At this stage it appears we are going to enter spring with good amounts of beech seed present and higher base numbers of stoats and rats.

Coastal Otago staff are developing an operational plan for the Catlins to be able to implement control work when funds become available. The size of the operational area (12,600 ha) makes the planning phase of the operation just as difficult as any operational actions. Our focus is the protection of the large number of mohua found here (c. 2,000 birds). The key threat to plan for is stoat irruptions, but rats are also going to be part of the plan.

Taiaroa Head

During the 2003/04 season 15 albatross eggs were laid, from which 12 chicks hatched. Four chicks subsequently died, some of which were supplementary fed. This supplementary feeding of very small chicks was new for staff; in the past large chicks have been fed, but dealing with chicks less than a week old was a real challenge. Autopsies of these chicks by Massey University staff have shown that their diet lacked sufficient calcium. Massey is in the process of analysing the nutritional components of proventricular oil that is obtained from sooty shearwaters and has been used in supplementary feeding of albatross chicks at Taiaroa Head for almost 20 years. From this season's information, Massey will be able to provide us with much better guidelines for nutritional requirements of albatrosses.

Grand and Otago skinks

Planning to best utlilise the biodiversity funds that come on stream next financial year continues. A Programme Manager position has been established and we hope to have this filled and ready to go by 1 July. The Otago Conservator has also completed the appointment of a new grand and Otago skink Recovery Group, made up of the following members: Professor Carolyn Burns (Department of Zoology, University of Otago; Recovery Group Leader), Tony Whitaker (Motueka), Dr Grant Norbury (Landcare Research, Alexandra), Dave Houston (DOC, Oamaru), Nicola Vallance (DOC, Dunedin), Bruce McKinlay (DOC, Dunedin) and Hoani Langsbury (Otakou Runanga, Dunedin). The group should be meeting shortly to start getting to grips with various tasks.

Fish

Peter Ravenscroft reports that monitoring of low flow impacts on long-jawed galaxiid numbers is proceeding. This galaxiid is only found in the Kauru River (north Otago) and is subject to extreme low flows. Pete is also involved in monitoring the population of Otago galaxiid at Lake Mahinerangi, and the Shepherds Stream trout removal experiment to protect the threatened Eldon's galaxiid.

Central Otago grasshoppers

We have recently completed our annual monitoring for the central Otago endemic grasshopper *Sigaus childi*. We have monitoring plots at

three (Galloway Station, Crawford Hills Road and Earnscleugh Tailings) of the 4–5 sites currently known.

Analysis of data collected since 1997 (Crawford Hills) and 2000 (Galloway Station) indicates that the Galloway Station site has a relatively high abundance and is stable. Crawford Hills has lower grasshopper densities and the population appears to fluctuate.

Last year, monitoring was carried out at Earnscleugh Tailings for the first time. This monitoring was set up under an experimental regime to establish whether increasing densities of thyme over time will adversely affect *Sigaus* abundance, and as such whether thyme control will be needed in the future. There are three sites within the tailings of varying thyme and grasshopper densities (old tailings = more thyme = less grasshoppers). Two plots are measured at each of these three sites, one of which has had thyme removed. Data collected this year indicates that thyme removal is having a varied effect on grasshopper numbers at the different thyme densities.

Simplicia laxa

We recently conducted our annual monitoring of this spectacular rare grass at Castle Rock on the flanks of the Old Man Range. We also conducted localised weed control of *Hieracium lepidulum*. There are two sites here: the 'top slot' which is not accessible to stock, and the 'big slot' which had one section fenced off in 1997. Analysis of the data shows a steady decline in the unfenced sections, whilst the fenced section has remained pretty steady. Staff will erect a fence to exclude stock from the entire 'big slot' sometime over the winter.

Remarkables Data Deficient species survey

The second phase of the Remarkables/Hector Range Data-Deficient species survey was carried out in excellent weather conditions during March. A team comprising Wakatipu Area staff, Conservancy staff and a contract botanist, searched non-forest habitats of two major catchments for pre-selected candidate plants and invertebrates.

Significant progress was made with understanding the status of *Lachnagrostis uda*, *Corallospartium crassicaule* var. *racemosum* and black alpine shield bug (*Hypsithocus hudsonae*). Many other ancillary collections were made which have yet to be identified and analysed.

Olearia hectorii seedling trials

Final checks have been made for seedling establishment at several sites where grass beneath *Olearia* trees were sprayed in early spring. Unfortunately we appear to have been unsuccessful this year, although a high degree of variability in the treatment response (due to weather and other factors) was always anticipated.

SOUTHLAND

From Andrea Goodman, Eamonn Ganley, Ros Cole, Les Moran, Dave Crouchley, Pete McClelland & Brent Beaven

Hector's dolphin

Erin Green has finally been able to start her contract and begin collecting ID photos of Hector's dolphin at Te Waewae Bay. This work will help determine numbers of dolphins in Te Waewae Bay, and also whether any of these dolphins are known from Porpoise Bay further around the coast. If Porpoise Bay dolphins turn up in Te Waewae this would suggest that we have one population in Southland rather than two.

Kereru in Southland -flying wide

Over the summer several kereru have dispersed to distant parts of Southland. Recently, in an attempt to locate missing radio-tagged kereru, the Kereru-Tui team chartered a light plane. The following was found:

- A male kereru was located about the Pourakino Valley on the eastern approaches of the Longwoods Range; 36 km from its capture site in Invercargill city. This bird has subsequently returned to the city.
- A female caught in the city has been located in the Longwoods forest not far from Otautau. This bird has since disappeared into the ether.
- A female has been tracked to near Paua Beach at Paterson's Inlet on Stewart Island; 65 km from her capture site in Invercargill.
- A male kereru captured near the city which gave us a signal from the Port William area on the northern coast of Stewart Island over the Xmas break, has since returned to its capture site back on the outskirts of Invercargill (a 57 km one-way flight) and then flown on to parts unknown.

At this point we still have five kereru unaccounted for. Thus, at this early stage of the radio-tracking phase of the project, it looks like we are dealing with a Southland population, not a localised Invercargill one.

Takahe programme

The "roar" ground hunting period in the Murchison Mountains has been completed with very few deer shot. Overall, the deer control programme has been achieving the harvest targets set for the year. However, the number of deer shot per unit effort of ground hunting has dropped significantly, indicating lower numbers are now present.

Fieldwork to catch kiwi in the two Murchison Mountain monitoring sites finished recently; unfortunately not all the required birds were caught. For some reason the birds were being very quiet and were quite elusive. A second attempt to complete this transmitter fitting work will be carried out in May.

The end of April saw the start of the autumn re-baiting of stoat traps within the 15,000 hectare stoat control block of the Murchison

Mountains. A day was spent trying to catch up with some of the takahe chicks produced in the Murchison's this summer. As many of the chicks as possible will be banded before winter. Transmitters on several of the adult takahe being monitored in the area will also be changed. Both of these tasks will be continued over the next couple of weeks as the weather permits.

Yellow-eyed penguins

Only 11 out of 42 yellow-eyed penguin chicks on Stewart Island survived to go to sea this season; few of them are expected to return. This is equal to the lowest survival ever recorded on the Otago Peninsula, where chick survival is usually 70–90%.

The Yellow-Eyed Penguin Trust has been working in conjunction with DOC to find out what is happening to yellow-eyed penguins on Stewart Island. Work started two years ago when the Trust surveyed the island for nests and expressed concern about the apparent decline in numbers; some historical breeding sites no longer have any birds present.

This year the Trust monitored all of the nests along the northern coast of Stewart Island looking for evidence of cat predation. Instead, they found that most chicks appeared to have died of starvation. The Trust and DOC will continue to monitor these birds over the next few years to determine if this is normal or a one-off event. Identifying the cause of decline is the first step in finding a way to protect these penguins and making sure that they do not disappear off the mainland forever.

This work was funded by the Community Trust of Southland and Contact Energy Ltd's 2003 'Community Conservation Challenge'.

Marram grass

March saw a team of dedicated staff, led by Eamonn Ganley, attacking marram grass at Mason Bay on Stewart Island. Marram grass was originally introduced to Stewart Island to 'stabilise' the dunes. It has been amazingly successful, changing the whole nature of the dune system and driving many plant and animal communities to the brink of extinction.

Dune areas are under-represented in New Zealand's protected areas, being under pressure from farming, recreational use and housing development. During the last month the team sprayed marram found on over 90 hectares of dunefield for the third consecutive year. The results of the spraying are already becoming evident, with dramatic pingao growth and some dunes reverting to a pre-marram state. Additional biodiversity money received next year will enable the removal of marram from the whole of the Mason Bay dune system (approximately 750 ha); making this the largest dune restoration project in the southern hemisphere. This can be viewed as a vote of confidence in Southland Conservancy's weed control programme and its history of achievement.

Snail research

Fred Brooks, a contract biogeographer, recently returned from Whenua Hou (Codfish Island) where he was working on the smaller land snails. While not as dramatic as the larger Powelliphanta and Paryphanta species, these little dudes are still pretty neat. By collecting snail shells from the foredunes he will look at changes in species and abundance over the last couple of hundred years, and compare these to similar sites on Stewart Island.

While a lack of information on the pre-kiore eradication abundance of invertebrates on Whenua Hou prevents a direct comparison, Fred believes from the circumstantial evidence that there have been substantial increases in two of the larger species—the "large" land snail *Rhytida australis* (up to 15 mm in diameter) and the stag beetle *Geodorcus helmsi*. Both were very rare when kiore were present. The increase is even more noticeable when compared to Stewart Island, where both species are rare (presumably due to rat predation).

MARINE CONSERVATION UNIT (MCU)

Southern right whales around NZ mainland

From Helen McConnell

Last year a total of 66 sightings were reported from around the mainland. This number includes re-sights of the same animals; therefore it in no way reflects population size. Good quality identification photos were obtained for many of the individuals seen, and a total of 12 genetic samples were obtained (11 from biopsies and one from a sloughed skin sample).

These data will assist with comparisons between individuals seen around the mainland and those known from the subantarctic, hence serve to help establish the nature of the relationship between these two groups of whales. Data collected to date represents a fantastic effort that is a credit to all those involved, and has essentially doubled our knowledge of this species to date.

In addition to the planned mitochondrial DNA analysis, finer scale mirco-satellite analysis has also been carried out on these samples to give individual genetic profiles. Preliminary results indicate that of the 11 biopsy samples, three were confirmed duplicates, giving a total of eight individuals biopsied (four females and four males). The animal from which the skin slough sample came from was also genetically sexed as a male, giving a total of nine individuals who have been individually genetically profiled from the mainland to date. Genetic samples originated from Southland, Otago, East Coast/Hawke's Bay and the West Coast of the South Island. The genetic analysis is being carried out by Nathalie Patenaude and Scott Baker (University of Auckland).

The collection of southern right whale data remains a priority for DOC, and we hope to continue with a significant focus on this work

during 2004. Please report sightings to DOC as soon as possible by calling 0800 DOC HOT (0800 36 24 68).

BIODIVERSITY RECOVERY UNIT (BRU)

Kiwi and kakapo recovery programme

From Paul Jansen & Clare Miller

Paul Jansen is the National Kakapo Team Leader and the National Kiwi Recovery Co-ordinator (operations and planning). These jobs involve all matters to do with kakapo and all operational and kiwi planning for the five kiwi sanctuaries and other kiwi initiatives. Key relationships are with sponsors, community groups, iwi and conservancies. Clare Miller ably assists Paul with both programmes; nominally 80% of her time is spent on kakapo and the remainder on kiwi.

On the kakapo front... 2003/04 has been quiet so far, with no kakapo breeding activity on either Whenua Hou or Te Kakahu. Planning is underway to translocate (early July) the majority of the 2002 cohort of juveniles from Whenua Hou to Te Kakahu so that they can become familiar with feeding in beech forest and recognise beech (and rimu) masts as stimulus for breeding. In addition, the translocation will structure the population to maximise Richard Henry's chance of mating and making a genetic contribution to the next generation of kakapo.

CITES

From Wilbur Dovey

The biennial conference of the Parties to CITES will take place in Bangkok, Thailand from 2–13 October 2004. The final date for the submission of resolutions or documents for consideration by the meeting is 5 May. We have already commented on German proposals to list spiny dogfish and porbeagle sharks on Appendix II and on an Australian proposal to list the great white shark on Appendix I. Following the May deadline, preparations for the meeting will start in earnest and we will commence preparing briefing on the 70 or more resolutions or proposals for new listings, downlistings or amendments to procedures which are normal for these meetings. New Zealand does not have any proposals for listings or amendments to procedures for this year's conference. As usual, contentious items are likely to be elephants, whales and other marine species.

Wildlife health

From Kate McInnes

Over the next two months conservancies can expect to be invaded by a couple of vets obsessed with wildlife disease. The Wildlife Health SOP roll-out is imminent and coming to a conservancy near you! Kate McInnes (Kakapo Vet & Wildlife Health Co-ordinator) will be running a morning session on how to use the SOP, followed by a team effort in the afternoon with Richard Jakob-Hoff

(Auckland Zoo vet and media star) demonstrating techniques for collecting health samples. Kate is hoping that some of the fame will rub off on her, but failing that, the session promises to be educational and enlightening anyway.

Invertebrates

From Carl McGuinness

On the invertebrate front, BRU is looking into the threats posed to New Zealand through the international trade in invertebrates. Many New Zealand species are valued by overseas collectors and the live trade of species is of particular concern as this depletes native populations, and there is also a biosecurity risk associated with the live overseas specimens being offered as swaps.

BRU continue to provide input on the invertebrate component of high country pastoral lease tenure reviews through undertaking surveys and providing assessments for some properties.

We are also actively networking with, and encouraging, external organisations to undertake invertebrate conservation related work, particularly taxonomic clarification and identification guides for threatened species. This has been a long-term process which is now starting to pay dividends.

The annual Invertebrate Workshop is currently being planned, and this will be held in late July. The workshop focuses on national invertebrate issues affecting conservation, and aims to provide recommendations to address those issues, as well as a commitment to progress the recommendations.

BRU also continues to provide assistance with invertebrate surveys, and provide invertebrate technical advice and training within the department.

Genetics

From Rod Hitchmough

Rod Hitchmough of BRU has a background in conservation genetics and taxonomy, and is available to give advice in these areas. Two background papers are available on the BRU intranet site: one reviewing the range of techniques available and which sorts of problems each is best suited to address (WGNCR-33378), and one on sample collection methods (WGNCR-43807). Rod is also very happy to help formulate proposals for genetics research or research contracts, and to discuss the meaning and significance of any genetics results.

NEXT ISSUE DEADLINE:
A reminder for contributions will be sent out on 30 August 2004, with all contributions required by 17 September 2004.