



Number 46  
September 2002

# 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

Feature Article

[Conservancy News](#)

[Northland](#)

[Auckland](#)

[Waikato](#)

[East Coast/Hawke's Bay](#)

[Wanganui](#)

[Wellington](#)

[Nelson/Marlborough](#)

[West Coast](#)

[Otago](#)

[Island Roundup](#)

## CONSERVANCY NEWS

### NORTHLAND

From Lisa Forester and Richard Parrish

#### Threatened plants

"Draining and weeds is the likely cause of dieback at the only remaining *Christella* aff. *dentata* site at Foley's QE II Bush at Kaitaia. The fern was cultivated several years ago from spores and planted at two nearby sites at Lake Ngatu and a private shrubland block.

Seventy plants are doing well. Possum gut sampling failed to pick up *dactyloctenium* at Paranui Reserve, where it was collected in the 1980's, and also not far from the Puketi population. The survey will be extended next season. Monitored plants of the Waima Forest endemics *Olearia* and *Coprosma waima* are nearly all looking healthy having recovered from serious past goat and possum browse."

Eleven *Placostylus hongii* snails were released onto Limestone Island recently. These snails originated from Poor Knights Islands in 1992 and were kept at Massey University as part of a research programme to see if they could be raised and bred in captivity. The breeding programme was successful and the experiment finished, so these snails were surplus and are

now part of another experiment to see if they can be successfully established in the wild. One was a survivor from the original collection whereas the other ten are all captive bred animals.

North Island wekas are being released onto the Russell Peninsula by a group of private individuals to reestablish them in the area. A population existed in the general area from the late 1960's through to the early 1990's when they died out. The area where they are being released is being managed and predators are being trapped.

### AUCKLAND

From Jonathan Boow and Rosalie Stamp

#### Puha

Seedlings of the native puha or sow thistle (*Sonchus kirki*) were found recently on Anawhata Beach on Auckland's west coast. This is the first time this species has been seen there in 72 years, and there is only one other site for this species in the Auckland region. Two seedlings were found on the initial visit, when an avid botanist went to relieve himself after a bracing winter swim. These seedlings will be revisited in the next couple of months to see whether they survive and

produce seed. Threats to puha include browsing by rabbits and competition with exotic *Sonchus* and other introduced species.

#### Coastal cress survives ornithologist encounter

On a recent trip to the Kermadec Islands, populations of the Cook's scurvy grass *Lepidium oleraceum* were discovered by roving ornithologists. On Cheeseman Island, a couple of plants were found while looking for a toilet stop, thankfully they were spared from the imminent downpour. Instead a sample was collected from one of the plants and DNA has been extracted for taxonomic work. On Macauley Island one small plant was sat on during lunch and then discovered! On Haszard Island (a rarely visited islet off the coast of Macauley Island), the plants found appear to face a different threat. Most leaves were stripped back to the midrib, by what is assumed to be insects.

#### Shore spurge returned to Browns Island

In July, seven shore spurge (*Euphorbia glauca*) individuals were planted on Browns (Motukorea) Island. These plants were grown from cuttings taken from the last remaining individual on Browns. Other cuttings have flowered in cultivation – something we have not seen the plant on Browns do yet – and we hope to get plants grown from seed planted on the Island next year.

#### Little spotted kiwi

From the 7-12th of July, Hugh Robertson, Rogan Colbourne and volunteers were out on Tiritiri Matangi Island intensively surveying the little

spotted kiwi population. They have reported the great news that the population is thriving. Sixteen birds were released in 1993 and 1995. It is estimated that there is a minimum of 15 pairs on the island now and there will also be juvenile birds present. The birds caught were VERY healthy with world record weights of a 2040g female and a 1540g male suggesting that there is plenty of kiwi food available.

#### Pateke / brown teal

Annual flock counts were carried out on Great Barrier Island in March this year and have since been analysed. David Agnew reports that the number of pateke counted in the management area of Okiwi Basin has increased by 30% since last year. Management is continuing this year with the dedication of Craig Mabey who trapped 23 cats in 21 trap nights in July. Michelle Howard will be monitoring the teal for the next 9 months, and research on a proportion of adults wearing transmitters will investigate factors affecting duckling recruitment into the breeding population. Jim Flack has noticed an increase in public awareness on the Island through more sightings of pateke being reported to DOC and the request for signs to be put up to warn motorists of teal with ducklings. The team on Great Barrier are doing a fantastic job of pateke conservation and are feeling positive about the coming season.

## WAIKATO

*From Leigh Marshall*

### Moehau Kiwi Sanctuary

The second kiwi breeding season since stoat trapping began in the Moehau Kiwi Sanctuary is underway. Staff are hopeful for a repeat performance of the chick survival of the previous breeding season (>75% survival).

### Archey's frog transfer

At the end of July, 49 Archey's frogs were transferred from Whareorino Forest in the King Country to Canterbury University. Populations of this 'Nationally Critical' species have dramatically crashed in some areas with amphibian chytrid fungus being a likely cause. The frogs were transferred to Canterbury University to establish a captive population, as it is feared that populations in the wild may disappear.

Thirteen people, including Area and Conservancy staff, iwi representatives and a volunteer searched for and collected the frogs over a day. The frogs were then housed at Waikato University for the night before being flown to Christchurch the next day. The frogs were accompanied on their journey by kaumatua and kuia from the King Country, and the event attracted a lot of media attention.

### Kokako monitoring

Rachel Lander, Petrina Duncan, Melinda Goudie and Susie Bettany have just finished monitoring 17 kokako pairs through an aerial 1080 carrot operation at Pureora. All 17 pairs survived the operation.

## Kiwi surveys in the Waikato Area

Waikato Area Office staff have been conducting kiwi call surveys on Mt Pirongia to follow up on regular kiwi-hearing reports from the public. Unfortunately, no kiwis were heard in the recent survey. Surveys will continue in the south and west extremities of the park.

### Invertebrate news

Mercury Island Tusked Weta hatchlings were discovered in August in their captive environment at Landcare Research in Auckland. The first hatchlings are usually found between October and January. This discovery proves that the eggs remain viable for more than one season.

## EAST COAST/HAWKE'S BAY

*From Wendy Sullivan and Sarah King*

### *Powelliphanta* "Maungaharuru"

Boundary Stream's biennial snail survey has shown a dramatic and surprising increase in *Powelliphanta* "Maungaharuru" snail numbers found in the Taraponui Snail Covenant on the Maungaharuru Range. As yet genetic testing has not been done, however based on morphological differences, the *Powelliphanta* found in the Taraponui Covenant and Cashe's Bush are likely to be a species or sub-species endemic to the Maungaharuru Range.

In 2000, 25 live snails and four empty shells were found in the 20x25 permanent plots. This year, 53 live snails were found. Three empty shells were found, only one of these had evidence of predation.

A second population inhabits nearby Cashe's Bush Scenic Reserve. Unfortunately this year's survey has shown a 58% decrease in numbers, although only one of the empty shells found shown signs of predation.

A population may inhabit the rank grass above the Taraponui remnant as 10 empty shells were found in a clay washout. This area will be searched more thoroughly. Searches are continuing in remnants along the range, but as yet have failed to locate any further populations.

### Boundary Stream Kokako

The kokako captive breeding program has been running for just over a year, the second breeding season is nearly here and hopes are high. Bird health has remained good over the past year with only one bird getting worms where he lost some excess weight and then got healthier. This was until the end of July when one pair contracted what we think was avian pox, they went off their food, developed lesions and then scabs around their eyes and on their wattles and became very irritated and scratchy to the extent that they rubbed the top of their beaks to the bone. We caught one of the birds and took lots of samples but nothing came out positive. A week later another bird in a different aviary also began to show the same symptoms, but her partner didn't. Both pairs were given a dose of antibiotics and are getting better in leaps and bounds. Crisis over, fingers crossed.

## WANGANUI

*From Nick Peet, Graeme La Cock, and Rosemary Miller*

### Whio / blue duck

Results of this years translocation efforts to Mt. Taranaki are promising with seven of the ten birds released between January and March this year known to be alive. Two birds were killed by stoats. Captive-bred birds have largely remained on the release river whilst wild-bred birds have wandered widely around the mountain. The blue duck recovery group recently reviewed the translocation work and has recommended that releases continue for a further five years but that mustelid control is put in place in key catchments in Egmont National Park.

### New plant populations in Stratford area

Jim Clarkson has found *Dactyloctenium* in inland Taranaki. Until now all records for Stratford Area Office had been from Mt. Egmont. This find is within a kilometre or two of Whanganui National Park – it's in the Park, we just have to find it. Jim also followed up an old Druce record to find another population of *Craspedia* "Otakeho" on the South Taranaki coast.

### Improving the weed status of *Olearia gardneri*

As you may recall we (well, Robyn Smith and the Taihape Horticulture Group) had a stunning success with germinating *Olearia gardneri* last year. Our Palmerston North Area Office staff (Tim Gilbertson and Viv Nicholls) and Allison Dorrian from Mangaweka Field

Centre promoted the plant to the residents of "O-Gee" (from *O. gardneri*) country in Taihape. Tim ran a campaign for Arbor Day along the lines of Taihape being the centre for this, the third rarest tree in the country. Farms in the district with suitable habitat were targeted, as well as local residents. All 500 plants had found a home within 3 hours, and there were orders for more. So thanks to Tim and his team you won't be able to see the gumboots for the trees in Taihape in a few years time.

### Large Galaxiids in Taranaki

Last year additional survey work for large galaxiids (koaro, banded kokopu, shortjaw kokopu and giant kokopu) was conducted in Taranaki. Many of the results were obtained in time to feed into the distribution maps being prepared for the Large Galaxiid Recovery Plan. Thanks to the spot-lighting technique used, we now are aware of a lot more short jaw and giant kokopu populations. Now we are in the process of pulling together a simple report on the survey's findings. Mapping the distribution of the large galaxiids found highlights the importance of certain key Taranaki catchments, and the importance of the northern corner of the ring plain – where the streams are shorter, the habitat possibly better and maybe the trout less dense. We will be recommending that Taranaki will be an ideal spot for research into the trout: native fish dynamic because of the availability of streams with low densities of trout. We will also be providing this information to the regional council who run an excellent riparian planting promotion programme.

## WELLINGTON

*From Tony Silbery*

Two threatened species have made their first appearance in the Wairarapa flora – a single population of *Dactylanthus taylorii* was found in the Eastern Wairarapa. Nine of the 11 known plants have been caged and future searches are planned in both this and other likely sites. The population is in an RAP and with a keen and cooperative landowner, its future looks assured.

*Coprosma obconica* subsp. *obconica* turned up during a wonderful day whose finds included *Mazus novaezeelandiae* subsp. *novaezeelandiae*, *Pittosporum obcordatum*, *Coprosma pedicellata*, and most notably 15 new plants of *Olearia gardneri*. This brings the Wairarapa population of this species to 20. The *Coprosma* occurs in an amazing shrubland dominated by divaricates and a substantial proportion of this community has now been fenced and a management agreement is being drawn up with the landowner.

Some of the *Olearia* also grow on the same property, and these have had small individual fences put around them, while another six grow in an area where a covenant to cover the entire group is possible. This would give us our first chance to manage *Olearia gardneri* as anything but scattered individual trees. Planting of *Olearia gardneri* has also been done around known plants at the Koromiko, Te Kowhai and Tinui sites, and at the Te Kopi Road restoration site.

Some 150 *Muehlenbeckia astonii* have hit the ground in their home range near the Cape Palliser lighthouse. Planting was done with local people and Masterton Kura Kaupapa pupils during Conservation Week and later by DOC staff and volunteers. This plant has now been seen inland for the first time in the North Island, with the discovery of three plants (including one juvenile) on a terrace above the Ruamahanga River, some 40km from the coast. One of these also hosted the mistletoe *Ileostylus micranthus*, a new host for this species.

A search for new populations of the moss *Fissidens berteroi* in the Prince Stream failed to turn up any plants, however the two known colonies on Western Lake Road are still in good heart and there are more streams to search. For now the total area covered by the moss is less than a good sized dining table!

Looking to the future, the "sponsor a hectare" project to support the restoration of the Mount Bruce Reserve and the eventual rebuilding of its flora and fauna has been a huge success, with all the 942 hectares now sponsored for an average of two years. Pest control to support a kokako release is planned for this summer.

## NELSON/MARLBOROUGH

*From Martin Rutledge*

Motueka Area Office

A survey of nationally critical plants, funded through the national biodiversity package, has struck gold already with the discovery of two new

populations of the twig daisy *Olearia polita* (rank: nationally endangered) in the Sherry River catchment, North-West Nelson. It is likely that these sites, and another site found for this species in the Wangapeka Basin two years ago, will be protected through fencing and landowner co-operation. This brings the total known number of populations of this species to five, all but one being on private land.

One of two known koi carp populations was eradicated in a Nelson ornamental pond through draining of the waterway. A lot of floundering around in mud and co-operation from the Nelson City Council and Fish and Game assistance allowed this project to reach a successful end. The remaining population will hopefully be dealt with along similar lines in spring. ....And then there are the 10 *Gambusia* populations to keep us busy.

A local community group known as the Friends of Flora have established and run a stoat line over this winter along 8km of the Flora Stream with the hope of protecting Blue Duck from stoats. So far an unlucky cat and 13 stoats have been dispatched.

### *Coprosma obconica*

In July, a population of more than 200 individuals of the small-leaved shrub *Coprosma obconica* (rank: gradual decline) adults and seedlings were found lining the banks of the upper Buller River. The population mostly comprises small groups of plants but with some larger concentrations of up to 60 individuals scattered from the Buller's source at Lake Rotoiti to about 2km downstream, where it favours flood-prone banks and terraces under a kanuka canopy. It happens to be just

inside Nelson Lakes National Park and is therefore one of our larger protected populations of this species.

### Falcon happenings

A brood of three New Zealand falcon chicks were banded inside Rotoiti Nature Recovery Project area early this year. One of the two females failed to fledge, and her partially-developed primaries were all that could be found. A male and female fledged, and were seen around St Arnaud Village for a few weeks in April. Then in May we received a report that the male had been caught "red talloned" poaching bobwhite quail from a lifestyle block near Blenheim. He was relocated to the Waihopai Valley. The remaining female's carcass was discovered on farmland near Lake Rotoiti in mid-August. We suspect that she did not develop the hunting skills she needed to survive through the winter. Only one other nest was monitored last season, outside the Mainland Island, and the nest failed before hatching.

### More giant kokopu

Last edition, we reported the exciting discovery of a couple of giant kokopu in a small, modified spring fed drain in Marlborough. Well the discovery this time round was in a small drain on the property of Hans Stoffragen, Biodiversity Programme Manager at Golden Bay. As an informal experiment Hans had opted not to manage the weeds in the drain to provide extra cover for fish. When he and Martin Rutledge (Freshwater TSO) cranked up the electric fishing machine to see what fish were around, out popped a handsome 25cm giant kokopu from a great tangle of aquatic weeds. Needless to say the fish probably was about as

surprised as Hans and Martin. Like the discovery in Marlborough, this suggests that such modified habitats if managed with a bit of care to preserve cover, are capable of supporting larger galaxiids. Hopefully we can get other land owners enthused so that they adopt a similar approach.

## WEST COAST

*From Jo Heath and Chris Rickard*

### Haast tokoeka

At completion of the 2001/02 Haast tokoeka breeding season, 13 eggs had been detected from 20 monitored adult pairs. Six chicks hatched successfully and all had radio transmitters fitted. Within two weeks of hatching two chicks were predated by stoats and another was predated at 45 days old.

With 50% of the chicks surviving, we were hopeful that predator control was making a difference to chick survival. However since then we have lost track of two further chicks, one due to transmitter failure at 70 days old and the other dropped its transmitter at 231 days old. Although the oldest of these chicks had passed the 'safe weight' of 1000 grams their fate is unknown.

The remaining chick, 'Kahu', is living in the sub-alpine scrub and is getting very difficult to catch. When caught in early July, Kahu weighed 810 grams.

As we head into the 2002/03 breeding season, 26 adult pairs are being monitored. At the time of writing (19/8/02), ten pairs were nesting with the first chicks due to hatch in late September.

As monitoring of Haast tokoeka intensifies we continue to learn more about their ecology. The following are observations since monitoring began in 1997:

- Usually roost in a different burrow/shelter every day.
- Large territories with some in the alpine area exceeding 100 hectares.
- Distributed from the lowland forest to the alpine tops of the Haast Range. It was originally thought that Haast tokoeka were at higher densities in the alpine area, however some areas of high density have been found below the tree line. While originally monitoring more birds in the alpine region, our monitored population of 47 birds are now mostly in the forested ridges and valleys.
- The average weight is 3.06 kg for females and 2.31 kg for males. Average female bill length is 120 mm and average male bill length is 92.1 mm.
- They lay one egg per clutch, and few second nesting attempts have been observed. As our monitoring increases, we may observe more second nests.
- Male and female Haast tokoeka share incubation of the egg. The male incubates during the day and for the first part of the evening when the female takes over until just before sunrise.
- Newly hatched chicks return to the nesting burrow daily for 2-4 weeks and then, although staying pretty close to the nesting burrow, they start finding their own roosting sites. We do not know when chicks leave their parents' territory.
- Since monitoring began, we have observed one situation where three adult birds, one female and two males, lived in the same territory.

As we haven't followed a bird's progress from hatching to adulthood we are unable to say at this stage whether Haast tokoeka form family groups like southern tokoeka on Stewart Island.

- We have observed the first repairing of Haast tokoeka. The TL Creek pair both dropped their transmitters in 1998. This year the TL Creek male was recaptured and is paired with a new female. We do not know the fate of TL Creek female.

### Okarito Kiwi Zone

We are now well into the 2002/03 kiwi breeding season. Fifteen eggs have been detected to date and the first chicks are expected to be hatching towards the end of September. Six of last years chicks are still surviving in the forest; five of these have surpassed 1kg with one lagging well behind on 660g. Three Operation Nest Egg birds are incubating eggs already this year. A pair of older birds which produced their first egg last year and a male which is just under three years old, this is a year younger than we have previously detected breeding.

The results from the rodent lines in March show that there has been a huge increase in rat abundance between March (3.5% tracking index) and August (80% tracking index). This correlates with our casual observations from the stoat trapping program which have indicated a much higher rat trapping rate than previously. We have also been noticing the capture of lactating female rat's right throughout the winter months. It seems that rat numbers are higher within the sanctuary (80% tracking rate) as opposed to in the two areas in which do not have stoat



trapping (38.6%) although this will not be confirmed until the November tracking session is completed. It will be interesting to see whether stoat numbers increase this summer in response to the increased rat abundance and if so how effectively the trapping program deals with this increase.

We are still continuing to catch the odd stoat in the kiwi zone (four this month) although over half of all captures now are in the buffer lines which are just outside the kiwi zone. Since May 2001 there have been a total of 605 stoats caught.

## OTAGO

*From John Barkla and Bruce McKinlay*

### *Carmichaelia holloway*

Plants of this nationally critical broom, grown from cuttings at Percy's Reserve, were returned to a limestone outcrop in the Waitaki Valley to augment the existing small population. The site is private land and it is through the goodwill of the landowner that we are able to work here. All plants were protected by wire cages to keep rabbits and sheep at bay. With luck there will be spring rain to help their establishment in this normally quite arid site. Regular monitoring may provide insight to its habitat requirements and threats.

### Cook's scurvy grass

Discussion with Port Otago have led to a low key plan to reduce damage to the *Lepidium deraceum* on the Aramoana

Mole during the delivery of 6000 truckloads of rock to repair the Mole over the coming two months. Plants have been marked with pink triangles, and truck and dozer drivers will be asked to avoid these patches wherever possible. At least half the patches are expected to survive the disturbance. Seed from last season is available as a back up.

### Mistletoe in the Catlins

Ongoing widespread possum control in the Catlins continues to assist the recovery of *Tupeia antarctica* mistletoe. Their favoured host in the Catlins is lowland ribbonwood, a deciduous tree upon which the mistletoe becomes very conspicuous during winter. Graeme Loh and his band of helpers have capitalised on this, carrying out a survey of riparian remnants containing the host tree. Many new mistletoe sites have been discovered with some host trees supporting several large mistletoes.

### Yellow-eyed penguins

The annual YEP symposium was held in August. An excellent turnout of 50 people heard a range of annual reports on the activities of groups and individuals from Invercargill to North Otago. In the afternoon a number of speakers addressed the topic of 'The Ecological Impacts of Tourism on Yellow-eyed Penguin'. Key themes to come from this were:

- The need to understand that different penguin tourists were occupying different niches
- The need to get infrastructure costs incorporated into penguin tourism management.
- The need for tourism to change from an extractive resource based

industry to a resource management based industry.

- The need to make contact with Free Independent Travellers (FIT) particularly camper van users and ensure that they receive suitable information about viewing wildlife.
- The need to act now before we end up like over visited places such as the Galapagos.

### Captive kea review

At the request of the captive coordinator, the Conservancy lead a review of the Captive Kea Management Plan which was approved in 1996. Participants were Andy Grant, Karen Barlow, Max Smart and Bruce McKinlay. The review examined some of the fundamental assumptions contained within the current plan and developed some new directions.

### Giant skinks

Dave Houston continues to make progress on the completion of this plan. He has received comments from the Recovery Group on the submissions received and is starting to incorporate them into the draft plan.

### Buff weka

After years of planning and consultation it finally seems that the joint Ngai Tahu DOC co-management project to reintroduce buff weka into Otago is about to happen. Barring last minute hitches, by the time you read this we should be in the Chatham's catching the chosen few.

## ISLAND ROUNDUP

*From Ian McFadden*

*Biodiversity Recovery Unit*

A while ago there was a small group of DOC staff working on documents relating to how we use the various registered toxins and baits used for vertebrate pest control. One of the characteristics we considered was the significance of bitrex. This substance is added to some rat baits to deter humans from eating it. Bitrex is actually denatonium benzoate, it is non toxic, extremely bitter and possibly the most bitter substance known to man. Lab trials with 100 Norway rats and 100 house mice showed no significant difference in bait consumption when bitrex is added at 10 ppm (parts per million). However the important bit here is three rats and two mice would not eat the bitrex bait. Whilst for a commercial rodent control operation around a warehouse this is not a real issue for our purposes it certainly is.

Currently DOC (Andy Roberts in Southland) is working on an SOP document for Offshore Islands which has in it best practice for rodent proof stores on the mainland at point of departure, and on the islands. It also contains some information about rodent bait stations in and about buildings on islands, plus places like common landing sites. The purpose of the latter to hopefully poison any rodent invasion or reinvasion.

The issue here is that the actual brand of rodent bait we use for this purpose needs to be specified. The two commonly used rodent baits that contain bitrex are all Talon products, and Storm. Brodifacoum is the toxin in Talon baits, however just to confuse the issue, not all baits containing this

toxin contain bitrex. Animal Control Products (ACP) in Wanganui make the Pestoff range of baits which also contain brodifacoum, but these baits do not contain bitrex.

All the above is included in the best practice section of Andy's document. Meantime make sure rodent baits used for this purpose do not contain bitrex.

## Tuhua

Following the air drop of bait in 2000, there has been several follow up visits to look for rats and cats. The intention being to eradicate Norway rat and kiore by primary and for cats to all die from secondary poisoning. Sometimes with Scott Theobald and his dogs, or simply to run lines of snap traps and tracking tunnels for rats, and fish baited leg hold traps for cats. The last check involved all of the above except the leg hold traps. No evidence of either cats or rats surviving could be found, which is great news indeed.

## Campbell Island

The big one. In fact the largest island in the world which people have tried to eradicate rodents from. Actually there is not much to report. I am sure most people know pretty much what happened last winter. In short the whole island was treated with an air drop of rat bait applied at the nominal rate of 6 kg/ha. With a bit of luck the thing that has changed since then is the island is now rat free. The present plan is for six or so ratters (people plus one of Scotts dogs) to spend four to six weeks down there in May/June next year, with a similar effort the following year. It will be a mixture of snap trapping, tracking tunnels, dogging, searching for rat sign (turds, burrows, gnawing on things, etc.) and maybe

even spotlighting along the foreshore in places.

## Raoul Island

On July 4th two Lakeland Helicopters (ex US military Iroquois) dropped the first application of bait on Raoul, and applied the second dose on Tuesday 9th. About four days later, the first dead rat was found, and people stopped finding freshly dead rats two weeks later. One week after the second drop of bait the first dead cat was found, and a second several days later. Both of these animals had all the classic signs of secondary poisoning. During the next four weeks the frequency with which fresh sign (turds) was found on tracks steadily reduced. Throughout this period another five cats were found, the last having died from eating 1080 baits. Another cat, which the dog could not find, is thought to have died from 1080, as evidenced by a pile of vomited bait. What usually happens is the 1080 baits are eaten, and the toxin is metabolised as the bait is digested in the cats' stomach. As the toxin begins to affect the cat it vomits up the contents of the stomach. Presumably this is a natural reaction to eating something that has caused the onset of unpleasant symptoms. However as the toxin has already been metabolised the cat died a short time later. This pile of regurgitated bait was found at Smiths Bluff which drops off steeply into the sea, and it is quite likely the cat ended up in the tide. The current situation is no fresh cat sign has been found for at least three weeks, which is pretty encouraging.

At the moment Arab (with Sally the black lab), Nick Torr, and Steve Allen are doing the follow up cat work through to mid October. In early

October Scott Theobald goes up to Raoul with his hairy muts hopefully to confirm that he place is rat and cat free.

## Auckland Island

In the pipeline, not about to be started. However, a one day workshop was held a while ago to look at various options for pig and cat eradication. Views about how this could be achieved ranged from at one end of the scale simple, straight forward and logical, to at the other end a bit off the wall. At the end of the day the option for pig looks like a combination of poison, shooting, leg hold traps, and lastly dogs. For cats a combination of the same methods (as for pig), but probably using the same toxin in a different bait. We think it could well be a five year plan, and once the discussion paper (which will include details of the estimated cost) goes to Treasury for consideration we have to wait until December for a decision.

## Odds and ends

Mice continue to demonstrate their tenacity, or maybe toxin tolerance, by persisting on Mokoia Island in Lake Rotorua, and Limestone Island in Whangarei Harbour. In both instances, it is despite two or more very determined eradication attempts. They (mice) quickly reach such bw levels as to be impossible to detect, only to be re-detected five or six months later in the odd tracking tunnel. Normal pattern then, is for the place to soon become overrun with the critters. It is possible that they were subsequent re-introductions with people visiting the Islands, and this possibility can not be completely ruled out. However the actual places on both islands where mouse sign has been found does not

coincide with normal landing places for picnics, and the like. Although I guess there are several reasons why people might carry a picnic hamper and blanket a long way up a hillside to a quiet sunny spot.

Murray Willans in Te Anau has been busy eradicating stoats on Anchor Island in Dusky Sound. The end objective here though is completely different from other eradication projects. Once removed the intention is to simply wait and see how long it takes for stoats to reinvade by using the many stepping stone islets around it. This will in turn allow us to decide if these close inshore islands can, or are worth protecting. If for example it takes several years for stoats to get back onto Anchor, then it will be worth our time to place traps or poison stations on the stepping stone islands and we can look at other islands much larger such as Secretary, or maybe even Resolution. Conversely if stoats frequently move to and from Anchor by using these islets the comparative effort in servicing the traps, etc., may well prohibit us from looking to keep stoats off Anchor.

In the Inner Hauraki Gulf, an attempt is being made to eradicate rabbits from Motuihe Island (for the second time) using 1080 on diced carrot as the knockdown mechanism. Poisoning the Island followed two prefeeds, and the results were an impressive high 90's kill. Follow up will be with the usual arsenal of traps, gassing, guns, and dogs, not necessarily in that order.

## Tail end

Several times a year rat like droppings are found on islands where there should be no rodents. Usually they are

readily identified as weta, and this is quite easy to confirm. The key character is the presence of rodent hair in the dropping, given that weta are not likely to eat a dead rodent. To identify this microscope which has a power of about 250 x is required. Next step is to prepare microscope slides of known species. To collect a sample of hair simply touch a short strip of sellotape onto a rat and it will pick up several guard hairs. This strip is then stuck onto the slide taking care to push out any small air bubbles. The construction of these guard hairs is rodent specific. The best way to find out what to look for is prepare some slides and look for yourself. These slides will suffice as a reference collection. The next step is to soak the mystery dropping in water in a Petrie dish, and when soft separate out the bits. Look at this mixture under the microscope, specifically for hairs. If found, they can be compared directly with the reference slides.

Biological Sciences Forensics I guess. Just e-mail Ian McFadden if you want more details.

### Aorangi Island in the Poor Knights Islands

A mouse was reported in a bait station from a Polytech student replenishing the stations for us. A full SOP response was launched with 64 bait stations, Elliot traps, Easiset mouse traps, lures, chew sticks etc. We were not able to follow the SOP to the letter in terms of frequency of visits as the weather did not play ball. After six weeks we have had nothing to confirm any rodents in the area. We have removed the Elliot traps as they were killing diving petrels, spotless crakes and lizards. We also removed the Easisets as they have killed lizards and giant weta. In the first week

of September we will have carried out 7 weeks of response and will reassess where to next. It is likely the response will be scaled right back unless any further evidence appears. This is the second report of mice on the same island and both appear to be false alarms.

*Rare Bits* is issued four times a year by the Biodiversity Recovery Unit, Department of Conservation, Wellington.

Copy deadline for the next issue is:  
**10<sup>th</sup> November 2002.**

Articles about threatened species management issues are welcome from anyone.  
Send them to:

The Editor  
Rare Bits  
Biodiversity Recovery Unit  
Department of Conservation  
PO Box 10-420, Wellington

Articles should be in Microsoft Word format, either on a floppy disk or as an Email attachment (internet mail: [sorchard@doc.govt.nz](mailto:sorchard@doc.govt.nz)).

The following word limits apply:

- Conservancy News 800 words,
- Restoration Resumé 500 words,
- Island Roundup 1000 words,
- Other Bits 900 words,
- Feature Article 800 words.

Articles should be clean (i.e., free of any formatting).

DOC staff can access issues of rare bits through the DME link from the [BRU documents](#) page on the Intranet. (Back issues of Rare Bits, prior to September 2001 can be accessed through the [SRU Publications](#) link on the Intranet.)