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# RARE BITS

THE NEWSLETTER ABOUT THREATENED SPECIES WORK

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

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## CONSERVANCY NEWS

### NORTHLAND

From Andrea Booth, Richard Parrish, Lisa Forester, Nicky Syddall, Natasha Coad.

#### Freshwater fish

Based on current distribution information, Northland mudfish are perhaps the most threatened mudfish species. They have so far been found in only a handful of sites in the Kerikeri area. Several staff members recently went on a flight to identify new wetland areas within catchments known to contain Northland mudfish; and Mike McGlynn is now surveying these. So far, Northland mudfish have been found at several of these sites, most of which are small wetland areas within pine forests. The next step will be to work with landowners on protecting these small and vulnerable habitats.

Recent monitoring of dwarf inanga in the Kaiwi and Pouto Lakes made the alarming discovery of *Gambusia affinis* (mosquito fish) in Rototuna Lake. This lake holds a genetically distinct population of dwarf inanga and is a priority population in the

draft recovery plan. The lake has been subject to extensive restoration by Whangarei Area staff with the shoreline being retired and planted up in native plants. The fish responded positively with increasing numbers. Mosquito fish are implicated in the demise of dwarf inanga in the Kaiwi lakes.

#### Flax snails

[Rarebits 42](#) reported good news for flax snails in the setting up of a new protection programme. However, this time we report not such good news. The latest field trip to the *Placostylus ambagiosus* subsp. *paraspirtus* colony confirmed that there was a massive die-off there a couple of years back, and there are now fewer snails than when we started protection work in 1988. None of the other colonies have crashed. As the common garden snail also occurs here and also suffered a big die-off we are speculating that perhaps a disease event occurred. Norway rats invaded a small island (Snail Rock) off Purerua Peninsula about six months ago and seriously depleted the snails (*P. hongii*) there. Instead of well in excess of 100 snails, just 15 were found this time.

## Threatened plants

A one-day visit was made to the Three Kings Islands recently. The endangered climber, *Tecomathe speciosa*, represented in the wild by a single plant, is still doing well but showed no evidence of having flowered this winter. It is now spreading out over the canopy having reached the full sun so it is hoped it will flower soon.

A vast expanse of remote dunelands and wetlands at Pouto (North Kaipara Heads) offers what appears to be perfect habitat for the small critically endangered gentian *Sebaea ovata*, now only found in Wanganui Conservancy. This area is the only Northland site for some of the plants that grow with *S. ovata* in Wanganui, and is also the New Zealand stronghold for the sand spikesedge *Eleocharis neozelandica* and the vulnerable marsh fern *Thelypteris confluens*. So it was with high hopes that Northland DOC staff set out with Jim Campbell from Wanganui, to search many miles of Pouto for *S. ovata*. Jim was impressed by the sheer scale and unmodified character of the wetland-dune sequences at Pouto, but despite checking hundreds of dune slacks over the week the windblown, footsore team returned unrewarded. Ironically the introduced *Blackstonia perfoliata* and *Centaurium erythraea* seem to think Pouto is ideal gentian habitat too and caused a few false starts when the team thought they had struck gold!

The summer *Atriplex hollowayi* protection programme is well underway with staff having successfully germinated 203 seeds

collected last summer. Of these, 168 have survived and been planted out at remote sites in the Far North within their existing and previous range. Twelve "wild" plants have also been found so far this season, and have been fenced off from wild stock. All 12 plants were found on a beach that only had three plants last year. The other site, which had the greatest number of plants last season, has yet to be searched.

## Stoat den control work

Over the two months of September and October, Conservation Ranger Scotty Theobald has been using his specially trained dog, Tui, to search for stoat dens around the Trounson Kauri Park Mainland Island and surrounds. This is a Science and Research funded investigation, where the dog is used to locate the den, which is then controlled using the fumigant Magtoxin. This method removes a large number of individuals in one action, as well as targets female stoats, which are considered to be harder to trap. It allows active searching for the predators rather than relying on traps that might be avoided. Fifteen dens were located but only three were successfully controlled. This was due to not all tunnels being located and blocked, so the fumigant wasn't effective, and the animal escaped. In total, 20 stoats were removed; as we usually catch 30-40 stoats a year in the Trounson Park traps, this was a significant number. This year was considered to be more of a pilot study than operational, and we are hoping to continue for the next few years.

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## AUCKLAND

*From Rosalie Stamp*

### Cooks Scurvy Grass Surveys

All our known coastal cress and Cook's scurvy grass (*Lepidium oleraceum*) populations have been visited as part of a monitoring programme. Thousands of plants were found at Mahuki Island, a privately owned island off Great Barrier. The population is extensive and forms a border under a large gannet colony on the island. Mahuki was once a farm and now has a small population of abandoned cattle. The cattle seem to have access to the cress and the population was extremely heavily infected with white rust fungus (*Albugo candida*). Despite this, the population is large, the plants robust, and heavily in flower and fruit. Seedlings were also present. As a bonus, on the other islands we visited around Mahuki, we found a few populations of turepo (*Streblus banksii*) and mawhai (*Sicyos australis*).

Our next largest Cook's scurvy grass site on Motukino (Fanal Island) in the Mokohinau group was visited the following week. This site is on a burrowing seabird island (as opposed to a gannet colony) – both are just as smelly! The Cook's scurvy grass is far less abundant than on Mahuki, has no browsing mammals present and is not as heavily infected with white rust. Both these populations seem secure in the short term, but options for managing Mahuki for the Cook's scurvy grass in the longer term are being discussed with local owners who are very supportive.

Also while on Motukino, parapara (*Pisonia brunoniana*), mawhai (*Sicyos australis*), native oxtongue (*Picris burbidgei*), and *Tupeia antarctica* populations were monitored. A long term monitoring project has been established for the *T. antarctica* population, which was only located on Motukino two years ago. The six known *T. antarctica* plants were perhaps kept hidden from botanists by kiore browsing, and have only re-sprouted since their removal. The intention of the survey was also to determine how many male and female plants are present on the island, but this was thwarted, as none were healthy enough to have flowered yet.

### Koru on Rakitu (Arid Island)

In July 1998, four plants of koru *Pratia physaloides* were found on Rakitu. In Oct 2001, 12 plants were found.

## **Fairy terns**

There are four fairy tern nests at Papakanui so far this year. Two of the females there are sharing a male who appears to favour one of them over the other. Both females have however, attempted two clutches. One of the female's first clutches failed due to the single egg being buried in a sand storm, and the other female's first clutch contained one infertile and one fertile egg. The fertile egg was taken to Auckland Zoo to be incubated, and a replacement egg from Waipu (that had been incubated at the Zoo and was ready to hatch) placed in the nest. It hatched successfully but the chick was killed during the sand storm.

The second clutches have been more successful. The female whom the male favours, has just had her fertile egg taken to the Zoo and has been given two fertile eggs from Waipu that are about to hatch. The other female has abandoned her second clutch and the single fertile egg is at the Zoo being incubated.

All infertile eggs are being blown and made into dummy eggs to help with the cross fostering process.

## **Tuatara**

Things are going according to plan on Hauturu (Little Barrier Island), where 13 juvenile tuatara have been returned after hatching at Victoria University. This years eggs have just gone down to be incubated.

## **Turtle**

A turtle has turned up in the Leigh Marine Reserve but so far the weather has been too rough positively identify it.

## **Brown Teal**

Management of Okiwi Basin on Great Barrier Island, including intensive predator control started July 2000. Population abundance is measured by counting teal at flocking sites. A 33% increase in abundance was observed between March 2000 and March 2001, which may be a result of management. Next March, we are hoping to find that the recovery trend has continued.

## **Kokako**

The Hunua Ranges kokako population currently has five breeding pairs. Four chicks have been banded, two nests have failed, but one of these pairs is now re-nesting.

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## **BAY OF PLENTY CONSERVANCY**

*From Paul Cashmore*

## **Mistletoes**

2001 has been a busy and successful year for mistletoe survey in the Bay of Plenty. Last summer, a large-scale resurvey of sites mainly around the Rotorua lakes was undertaken by a

contractor. The report on the survey has been finalised and shows:

- Several new small populations of *Ileostylus micranthus* were found increasing the known population in the Rotorua Lakes area from 421 to 764 plants and increasing the known *Tupeia antarctica* population from 1,033 to 1,724 plants;
- Some new local and national host species for *I. micranthus* were found;
- *Ileostylus micranthus* was recorded from 35 different local hosts; *T. antarctica* from two;
- Several existing populations increased in size through more detailed survey finding more plants;
- Survey work around Te Puke and likely areas between Tauranga and Rotorua did not reveal any new populations in addition to the two already known.

This large increase is not a result of an increase in mistletoe numbers in the Rotorua Lakes area, since comparisons with previous surveys within last five years indicate populations are mainly static or declining. Rather, it is the result of increased survey effort.

Included in the total, are the results of some subsequent survey work undertaken around Lake Rotoehu following on from the discovery of an *I. micranthus* population on farmland near lake. This has revealed 133 *I. micranthus* plants on large, old mahoe trees dotted around paddocks. These areas are currently in the process of being fenced off and revegetated with the host trees banded to ensure the long term survival of the populations. This work

has been undertaken jointly between DOC and Environment BOP who were already working with the landowners on retiring areas for soil and water conservation purposes.

Further *T. antarctica* seeds have also been planted on Mokoia Island during September and October as the initial planting several years ago does not appear to have survived. Several hundred seeds were cello-taped onto fivefinger trees with planting locations on each tree being carefully marked.

### ***Cyclosorus interruptus* and *Thelypteris confluens***

DOC staff and consultants have been resurveying populations of *Thelypteris confluens* and *Cyclosorus interruptus* in several wetlands on the Rangitaiki Plains, which have not been checked for several years. Although the work was undertaken in late October several of the original populations could not be found and it was not clear whether these populations had disappeared or it was still a bit early in the season for plants to appear. Water levels were high in Awaitei Wildlife Management Reserve at time of visit, so a follow up survey is planned after Christmas to confirm.

### ***Calochilus robertsonii* (Red-bearded Orchid)**

The annual survey this year has revealed a large decline on last year's record of 3,268 plants with only 1,042 plants found. Possible reasons include a late frost killing a proportion of the plants, but this type of fluctuation has been recorded

before and appears to be normal for this population.

### ***Caleana minor* (Duck Orchid)**

This year DOC and Chris Ecroyd (Forest Research) are making a concerted effort to get some seed set on the few plants of *Caleana minor* which still exist at its only known New Zealand site in Rotorua. The last few years have been a failure, with insects or other browsers destroying all plants before flowering or seed set could occur. This year a range of protection mechanisms including slug bait and insecticide are being applied regularly to prevent browse. So far this work has paid off with two flower stalks present.

### ***Rorippa divaricata***

DOC staff and a volunteer spent a day on Lake Rotoiti establishing permanent monitoring plots for individual *Rorippa divaricata* plants, in order to gain a better understanding of the lifecycle of these populations. Many new slips had occurred around the lake since last year, which also provided opportunity for more survey work. No new populations were found and several existing populations had died out with the sites being invaded by secondary native shrub species and exotic grasses. Eight live plants in total were found, a decrease from 12 known plants last year. It now appears that the *R. divaricata* populations on Lake Rotoiti are much smaller than the nearby Okataina populations, which have over 200 known plants.

### ***Urtica linearifolia***

A day was spent in and around streams and marginal strips in Broadlands, near Reporoa, rechecking several known sites of *Urtica linearifolia*. Although it was several years since the sites had been visited it was pleasing to see that all the populations were still present with good numbers of plants locally abundant. Since the last visit, several of the streamside sites had been fenced off by Environment Waikato as part of their ongoing soil and water conservation work. A contractor is going to undertake further survey work in the area soon to establish the size and distributional limits of the species in the area.

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## TONGARIRO/TAUPO

*From Peter Morton, Nic Etheridge,  
Nick Singers & Petra Specht*

### **Tomtits**

It has been documented from a number of aerial 1080 possum control operations that tomtits are one of the more vulnerable non-target species. For this reason we monitored a sample of tomtits in Tongariro forest during a 20,000 ha aerial 1080 operation in September 2001. We will continue to monitor the population for the following 3 years, in order to investigate the long-term effects of this management.

The monitoring compared two techniques – Distance Sampling and

Territory Sampling – and was a joint programme between Science & Research and the Ruapehu Area Office. The Science & Research component focused on the respective practicalities of the two methods for use as monitoring tools, while the Area benefited from having additional non-target and outcome monitoring results.

Initial indications from both monitoring methods (re-sighting of banded male tomtits and distance sampling indexes of populations) show little, if any, impact from the 1080 drop on the tomtits monitored at the study sites. We anticipate that statistical analysis of the results will confirm this.

### **Kiwi**

After a slow start, the kiwi breeding season has finally kicked in within the Tongariro Forest Kiwi Sanctuary. Up to eight nests are now being monitored, with three radio tagged chicks already on the ground. Evidence is mounting of an exceptionally good kill of possums and rats following the 20,000 ha September aerial 1080 operation. Stoats also appear to have been controlled. The race between kiwi chicks trying to grow to a safer weight and stoats re-invading the forest is now on.

### **Bats**

Area staff have been working with Brian Lloyd learning the finer points of monitoring short-tailed bats on the southern flanks of Mt Ruapehu. The technique involves catching and radio tracking bats to find communal

roosts, then video monitoring them under infra red light to assess numbers as they leave at night to forage. Local staff will be picking up this work and continuing it annually. We've been fortunate to get a thorough hand over from Brian, allowing us to benefit from his expertise. After a productive November, we now have a pile of bat roost videos to wade through, and manually count several thousand bats as they leave their respective roosts!

### **Kaka**

Annual monitoring of nine radio tagged, adult female kaka has just begun on southern Mt Ruapehu. These birds have been caught over the last three summers as part of Terry Green's study to compare kaka survival and productivity in managed and unmanaged forest areas. Beech mast looks likely on Mt Ruapehu this summer, so after two non-breeding years locally, fingers are crossed for some nesting attempts this season.

### **Threatened Plants**

Outcome monitoring of threatened plants is also occurring following the aerial 1080 possum control operation in Tongariro Forest. Two possum-palatable threatened plants have been chosen as our sensitive and moderately sensitive indicator species: the root parasite *dactylanthus* and *Pittosporum turneri*. As part of this monitoring, other threatened plants have been discovered here too.

During the Tomtit work, many new *dactylanthus* sites were discovered and it was realised that a sizeable population exists here. As

dactylanthus was found at numerous places, it was included as our most sensitive indicator species of possum and rat impacts. The aim is to have three sites each at non-treatment and treatment areas within the forest. At each site ten plants will be caged to exclude possums, ten more caged to exclude possums and rats and at least ten more left uncaged. Larger surveys are being conducted and dactylanthus has been found to be widespread. So far we have located 30 plants at two non-treatment and two treatment sites, and 80 cages have been installed here. This monitoring, together with the possum residual trap catch assessment should provide detailed information about what level of possum density is required to achieve flowering and seed-set of dactylanthus without cages.

During the dactylanthus surveying, two plants of the mistletoe *Tupeia antarctica* were discovered. Both of these were severely browsed by possums. If time allows we may search more thoroughly and include this species as part of our outcome monitoring.

*Pittosporum turneri* has been chosen to monitor as our moderately sensitive species. This species has juvenile and adult growth forms, both of which are browsed by possum, but the adult is far more palatable. Sixty trees have been included in the monitoring at the Kapoors Road frost-flat site. Thirty of these trees have been banded and thirty have been left unbanded. The possum density at which impacts become apparent on this species is not known, though it is thought to be between 5-10% residual trap catch (RTC). In combination with ongoing RTC measurements this should be

deduced, enabling better conservation management of this species in future.

During the measurement of *Pittosporum turneri*, *Isolepis fluitans* was discovered at this site, which now has the rank of declining (de Lange *et al.* 1999).

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## EAST COAST/HAWKE'S BAY

*From Steve Sawyer and Tamsin Ward-Smith*

### **Kiwi**

Monitoring of kiwi in the Kaweka Forest Park for *Operation Nest Egg* is in full swing. From first clutches this season, three chicks and nine eggs have been removed from nests. This has resulted in a total of eight healthy chicks now at Rainbow Springs in Rotorua. Of the eggs removed, five hatched and one is still incubating. The remainder were either rotten or died hatching (one had it's leg tangled around the umbilical cord and the other had also become excluded from it's yolk sac). All first clutches are now over and three of the six males are currently sitting on second clutches.

In September, after weeks of searching on foot and a good fly over in a fixed wing, we suspect that the transmitter on Raina (the oldest female in Boundary Stream) has failed. Seven of the ten kiwi, which were released in the Reserve are currently being monitored. Releases of the first



juveniles from this season are due for late December and early January.

### Whinray Scenic Reserve

The Whinray kiwi project (near Motu) is making steady progress after two seasons of mustelid control. An adult male who went missing earlier in the year after a transmitter failed was found again. This bird was sitting on two eggs at the time. These were transported to Rainbow Springs but were found to be infertile.

The second clutch from this bird has also been removed for artificial incubation to Rainbow Springs. Two more sub-adult males have been heard calling in recent weeks and a new adult female (now with transmitter) has also been found.

A local interest group, the Whinray Ecological Trust, has been busy applying to various trusts and other organisations for funding. Their immediate aim is to carry out possum control on private farmland surrounding the reserve to reduce the rate of re-invasion. Traps and bait stations have been purchased and it is hoped the trust can employ a trapper within the next two months. The Department removed 3,200 possums from the 430-hectare block during autumn 2001. The trust aims to work with DOC to keep possum numbers at a 2-3% Residual Trap Catch both within and outside the reserve.

### Turihaua weka enclosure

A grant of \$2,500 has been received from the HB Williams Trust. This will significantly improve the weka habitat within the enclosure by creating more

wetland area, and employing a mustelid trapper. Weka are surviving within the enclosure, but considerable on-going effort is required to control cats and mustelids.

### Kokako

The five pairs of kokako held in aviaries at Boundary Stream have settled in well, and are maintaining healthy weights. Members of the Forest and Bird Society and other volunteers have greatly supported the project by helping out with the daily feeding and care routine, and we are all waiting now for the first signs of nesting attempts.

### Whanga-o-kena

Habitat restoration work on East Island, Whanga-o-kena, is well underway. Kiore eradication has been successful and over 1,200 trees and flax plants have been planted on the Island. A seabird population-monitoring programme has begun as part of an ecological skills project. The first monitoring trip took place during November 2001. A series of permanent monitoring quadrats and transect lines were established in November with assistance from Graeme Taylor, BRU, to record burrow density and population changes over time. Over 150 birds were banded during the trip and they included a mix of Fluttering and Sooty Shearwater, grey-faced petrel and black winged petrels.

Whanga-o-kena is a very special part of the East Cape and the local community is working closely with

the Department to restore biodiversity on the island.

### **New Zealand dotterels**

New Zealand dotterel breeding has been steady at Wherowhero Lagoon south of Gisborne. So far this season, two birds have fledged; another two were banded during late November and two more nests are underway. Protection for these birds has included predator trapping (for cats, hedgehogs and mustelids), giving presentations to the local moto-cross club, and involving local school children in the protection of the area.

NZ dotterel at Te Araroa has had a disappointing season yet again. Vehicles and wandering cattle have destroyed all nesting attempts so far.

### **New Zealand falcon**

Another successful New Zealand falcon nest has been located along the Beech Ridge in Boundary Stream. This is the third consecutive season in which falcon have been observed nesting in the reserve. The pair is very conspicuous and has put on elaborate displays – screeching to each other and swooping low over onlookers. A juvenile has also been sighted being fed by the female. A second pair of falcon is suspected to have moved further down into the Reserve, but as yet no nest has been found.

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## **WELLINGTON**

*From John Sawyer and Aalbert Rebergen*

### **Wellington Plant Conservation Network**

A regional meeting of the Wellington Plant Conservation Network was held at Nga Manu Nature reserve. This brought together all those involved in plant conservation on the Kapiti Coast for useful discussions about past and future projects.

Preservation Island (an initiative of Nga Manu Trust) was opened in early December 2001. This island is was established on the Kapiti Coast to provide a safe haven for populations of Wellington's rarest native plant species including Cook's scurvy grass (*Lepidium oleraceum*), *Urtica linearifolia*, towai (*Streblus banksii*), *Carex litorosa* and many others.

### **Plants**

The *Pterostylis micromega* site at Davies swamp in the Wairarapa, where only one plant was found in 2001, now (mid Nov 2001) supports three flowering plants.

At least nine new red mistletoe (*Peraxilla tetrapetala*) plants were discovered in the Holdsworth area, Tararua Range, by Trevor Thompson, Chris Hopkins, Jason Diederich and DOC staff.

Chris Hopkins also discovered *Ileostylus micranthus* and *Korthalsella lindsayi* beside the Wainuiomata River on the Coast Road. *Korthalsella lindsayi* had not been seen at this site

since 1939 and the last recording of *I. micranthus* was Atkinson's record in 1921.

Pat Enright and Olaf John have found *Urtica linearifolia* in the Ruakokoputuna area, north of the Aorangi Range, Eastern Wairarapa.

Also in the Wairarapa, several new populations of *Teucrium parvifolium*, and *Anogramma leptophylla* have been discovered at Tinui; *Mazus novaezeelandiae* subsp. *novaezeelandiae* was discovered at Admiral Road and *Korthalsella salicornioides* from several sites.

### Fish

A fish survey of Heights Block in Eastern Wairarapa resulted in the discovery of all five large galaxiid species (including shortjawed and giant kokopu) in a 0.5 km stretch of stream.

### Bats

Tom Whitford, a contract bat worker, has found several new short tailed bat roosts in the Waiohine Catchment, Tararua Range, in November/December. One roost supported over 70 bats.

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## NELSON/MARLBOROUGH

*From Tim Shaw, Bill Cash, Jan Clayton-Greene, Paul Gasson, Shannel Courtney and Ian Millar*

### Tangle broom

Monitoring of the transplanted *Carmichaelia juncea* on the Kahurangi coast showed devastation wreaked by introduced slugs. Well-grown specimens, planted into salt turf and difftops during winter are now stumps. Browse inside mesh cages showed slugs as the culprits. Previously similar damage was attributed to hares and possums. Large numbers of slugs plus slime trails and droppings were found. Typical damage involves removing leaf and flower buds, chewing small shoots and stems. Warm, wet weather has assisted the slugs and possibly produced increased numbers.

### Pitpat

This spring 16 *Pittosporum patulum* flowered in the Cobb Valley's monitored population. The good mix of males and females in most sites should have aided cross pollination. During the day, no pollinators were seen visiting flowers though many insects were present. Possum control and Marley™ pipe protectors have allowed a return to health over the last three years for most of the 50 trees in the study area. One small tree severely ringbarked by red deer died after two years.

Meanwhile, during follow-up of old records, South Marlborough staff found good numbers of pitpat in the

Waihopai Valley, with a few approaching adulthood. Some plants were severely browsed, others very healthy.

Also, St Arnaud staff were pleased to find 45 young plants in Nelson Lakes National Park, Matakitaki River, East Branch, during a whio survey. Unlike pitpat, only one whio was seen in the whole East Branch.

### **Coastal peppergrass**

More than 150 new *Lepidium banksii* plants are now established on Totaranui Headland, Abel Tasman National Park, as a result of intensive gardening practices. Stable terraces and crevices were created in penguin, shag and seal colonies. Direct seed sowing occurred in March with fungicide, insecticide and slow release fertiliser applied when necessary. Vigorous seedlings are now close to flowering. The current busy time for seals will test the construction of planting sites. Rockwork was tested by jumping on it to simulate the impact of corpulent seals basking over summer and autumn. This time last year there were only 20 plants on this northern stretch of coast.

Transplants at four sites along the southern coastline are also doing better than previously, with lush growth probably due to wet spring conditions. Recruitment though, is still low with only one natural addition. Recruitment at both transplant sites in the Moutere Inlet is similar. Where we thought transplants had died, each site boasted one large individual when we revisited them this year. It is most likely that these

are rejuvenated transplants rather than new plants.

### **Wetland Weed War**

An experiment is now underway to find a method of controlling the weedy sedge, *Carex ovalis*, in the ephemeral tarn at Sedgemere. The sedge is overwhelming the special communities there, which contain one plant known only from that tarn (*Craspedia "tarn"*) and four other tiny threatened plants.

### **Falcon**

We previously reported on work to measure changes in falcon numbers over 300 km<sup>2</sup> in Marlborough. This work was repeated in November. While there is evidence of decline since baseline research in the 1970's, the significance of this trend is questionable. It is even more difficult to assign possible causes for any decline.

### **Weka**

It appears that drought in North Marlborough has had a major impact on weka, with reports of huge declines in the Upper Pelorus and on d'Urville Island. We are therefore repeating our annual counts. Initial results show that the decline is widespread e.g., Port Underwood Saddle: 80 calls last year, only one this November.

### **Takahe**

The number of breeding pairs on Maud has re-stabilised to five. The season looks good, with two chicks

already hatched and four eggs incubating. Supplementary feeding of adults and chicks, extra water catchments and additional staff time are factors contributing to the success of the project. Torrential on-going rain is, however, affecting chick survival with one lost and a number of fertile eggs failing to hatch.

### Stoat Control

Two community sponsored stoat control operations, one on Adele Island off Abel Tasman NP, the other at Flora Stream in Kahurangi NP start in late December. Designed to protect blue penguin and blue duck respectively, they are funded in part by Community Relations money.

### Fungal Frogs

Recent detection of chytrid fungus in Archey's frog and its likely association with shrinking numbers have led to increased security on our frog islands. In case the fungus is present or could survive in these relatively dry habitats we are insisting on clean, dry footwear and clothing, with footbath backup.

Meanwhile on Maud Island Lisa Daglish, from Otago University, is trying to determine sex and age at first breeding for frogs there. Data will aid population modelling of *Leiopelma hamiltoni* on Stephens Island.

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## WEST COAST

*From Phil Knightbridge, Phil Tisch and Paul van Klink*

### Some interesting new threatened plant records

The following are opportunistic records made by staff when on other fieldwork or on tramping trips. These records highlight the value of a good threatened plants guide with colour photos that ensures staff are aware of what the West Coast's threatened plants look like.

- A good population of *Ranunculus godleyanus* was found in the Tuke River, a tributary of the Mikonui River. The largest recorded *Aciphylla horrida* (leaves over a metre long) had to be physically negotiated to bring this information to Rarebits. There have also been four records of this species growing in the lower parts of the Tuke, Wanganui, and Whitcombe catchments.
- Four *Coprosma wallii* were found in the Mikonui, and along with the January record from the Kokatahi River, are beginning to fill in the distribution gap between Maruia and Paringa, for this species.
- The first known beech mistletoe from Karamea Bluffs was found during a possum control operation in the area. It is probably *Peraxilla tetrapetala*, but identification has yet to be confirmed.

## Haast tokoeka

The Haast tokoeka breeding season is in full swing at the moment with fourteen breeding attempts been recorded to date. Five nests were successful in producing chicks although a stoat has since killed one. Two nests are currently in their hatch window and another hatch window starts on 19 December. Two late development embryos were found dead along with three infertile eggs. In the remaining nest it was not possible to confirm what the outcome of the breeding attempt was because nest monitoring is non-invasive to reduce the disturbance to the birds. Egg shell fragments were found outside the nest. A consequence of non-invasive monitoring is that it is not always possible to confirm beyond doubt that breeding has occurred.

The stoat control is in full swing and the captures so far have been low, since 19 June 2001, 57 stoats have been caught. We are hopeful this low number is a reflection on the number of stoats present in the forest. We expect numbers to increase as young stoats start to disperse. The core stoat control area is just under 12,000 ha, and including the perimeter and buffer, there are 615 tunnels.

The kiwi team is aiming to catch another ten pairs of tokoeka before the next breeding season to increase the number of chicks being monitored within the Sanctuary. This will help to determine if the trapping is successful in increasing the number of kiwi chicks in the forest.

Other monitoring currently being set up includes rodent and stoat

monitoring using 15 lines with ten tunnels per line. None of these lines will be in a non-treatment area. This monitoring will be conducted in December and March. Up to ten fantail and ten tomtit nests will be monitored weekly to determine breeding success. Five-minute bird counts will be conducted in February/March and possums will be monitored in March.

## Rare whale beached at Haast

A decaying beach cast whale was discovered on 2 September 2001 by staff during a weekend walk along the Cole Creek beach, south of Knights Point, South Westland. The 3.75m whale was identified as a beaked whale and given the name "Tauparikaka" by the South Westland Rununga.

A skin sample of the whale was sent for identification to Merel Dalebout at the School of Biological Sciences, University of Auckland. It was identified as the very rare Andrews' beaked whale *Mesoplodon bowdoini* using mitochondrial DNA sequence data. This has excited marine mammal scientists as only 34 strandings in the world have ever been recorded. Efforts are now focused on recovering the badly decomposed carcass for scientific and display purposes.

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## OTAGO

*From John Barkla and Bruce McKinlay*

### ***Olearia hectorii***

Seed has recently been collected from both east and west Otago sites to provide a source of plants for the Department's use and for the Regional Council. The Council is interested in using *Olearia hectorii* in some of their riparian planting programmes, including areas where willows have been removed.

### ***Ischnocarpus novae-zelandiae***

Stu Thorne (Wanaka Area), Alice Miller (Lincoln MSc student) and John Barkla (Conservancy office) checked the known sites for this threatened cress on the Lake Wanaka Islands. These islands are probably one of the more secure sites for the species with relatively few threats. The number of plants and habitat conditions were comparable with previous surveys. A large site on Cluden Station in the Lindis Valley was also visited. This has abundant habitat in the form of very large bluff systems and good numbers of plants including juveniles were recorded. Shrublands near the base of the cliffs also have a robust population of the threatened climbing broom *Carmichaelia kirkii*.

### ***Ischnocarpus exilis***

About 100 juvenile plants of this critically endangered cress were re-introduced to an Otago limestone system in the Waitaki Valley.

Although historical records exist for the species in the lower Waitaki the only extant population is on the Awahokomo bluffs in Canterbury Conservancy. Some of the plants were caged to protect them from possible rabbit browse. We'll be monitoring their survival and reproductive performance. The chosen site is also important for the critically endangered *Carmichaelia hollowayi* and has a large population of threatened *Lepidium sisymbrioides*.

### ***Pittosporum patulum***

Annual monitoring in the Dingle Valley has shown the main site to be in good condition with relatively minor browse recorded. In contrast a second site in sub-alpine shrublands continues to decline with three plants heavily browsed and with substantial die-back. A new site with 11 healthy saplings was discovered during the walk in.

### **Yellow-eyed penguins**

Nest numbers along the Otago coast are up on last year. Also interestingly the number of juveniles seen on beaches was up quite a bit on recent years. With the strong *La Nina* conditions we are experiencing at the moment, it will be interesting to see what effect this might have on chick success. Coastal Otago Area have also completed a complete sweep along the Catlins coast checking for nests. While not finding any new large populations, some smaller new locations have turned up.

## Chafer beetles

New recruit to Central Otago Area, Trudi Murdoch, has been busy trapping for the Alexandra chafers near the Alex Airport. In areas where the vegetation is more open she has been getting good numbers of chafers. At Cromwell the joint research project between DOC and AgResearch to survey sub adult Cromwell chafers has just completed its second sampling session.

## Geometrid moth

*Asaphodes stinaria* a rare geometrid moth has recently been associated with a small wetland herb *Ranunculus reflexus*. Bruce McKinlay, Alison Evans and Barry Lawrence spent a week recently in the Queenstown Basin looking for both the *Ranunculus* and the moth. The plant was uncommon and the moth wasn't seen. We did however confirm the presence of the plant at sites where the moth has been previously trapped.

## Buff weka translocation

After years of preparation and consultation we have finally launched to the media, the proposed Buff Weka translocation from the Chathams to Te Peka Karara, an island in Lake Wanaka. This is a co-management project with the Papatipu Runanga from Otago and has received strong support from Te Runanga o Ngai Tahu. This is a bit of a coup for the Wanaka Area who have worked hard to keep the process on track.

## Mohua

The ongoing situation with mohua is supported in Otago, with nest numbers in the banded population at Lake Sylvan at only two thirds of last spring. Distributional work in the Catlins has revealed gaps in some areas, with the Catlins River Walk birds being right down in numbers.

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## SOUTHLAND

### The Geometrid moth *Asaphodes stinaria* lives in Southland!

*From Eric Edwards*

This month, a single male of the "nationally endangered" moth *Asaphodes stinaria* was found in Southland, on a Crown Pastoral Lease. This moth is historically noted in association with sedge and forest edge habitats and feeds on buttercup. *Asaphodes stinaria* was formerly widespread and common in New Zealand, but is now very limited in distribution.

This is the first Southland record since 1944, despite intensive survey work. In the last three years, a few specimens from South-Westland, Queenstown, and Trotters Gorge (East Otago) have been found. The latter record included a male and female collected by Brian Patrick. The female laid eggs that hatched into caterpillars, which were reared through to adults on wetland *Ranunculus* species and established



for the first time, the host plant for the moth.

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## ISLAND ROUNDUP

### TIRITIRI MATANGI ISLAND

*From Ian Fraser*

#### Hihi

Thirty-two first clutch hihi nests have been recorded to date, with 54 chicks having fledged so far. A further 19 second clutches have been laid. Two adult males have been found dead, one had no head (thought to have been preyed on by a morepork) and the other died of aspergilosis. Forty-two chicks of various ages have died in nests and where possible, their carcasses have been preserved for future pathology. A total of 15 nests have been treated or changed in response to mite infestations and unfortunately the new pre-egg laying mite treatment using diatomaceous earth has not yielded very promising results. Three chicks were removed from nests by staff from the National Wildlife Centre (Mt Bruce) for the captive management programme on November 4.

#### Kokako

There are currently three pairs of kokako on Tiri and although the season began promisingly (after some 'soap-opera-like' partner swapping and red herrings) there is currently only one active nest with one chick.

The Wattle Valley pair began incubating on or about October 30. Unfortunately the nest was empty when staff went to band the (approximately) 16-day old chicks. A kahu was seen in the valley the following day, and in the absence of any mammalian predators this species is strongly implicated in the nesting failure.

A one-year old female paired up with one of the lone males and nested in the middle of the island. Unfortunately her mate was found dead (killed by trauma to the head and neck by an unidentified assailant) just before her eggs were due to hatch. Her incubation pattern became somewhat erratic immediately after her mates death but the decision was made not to pull the eggs and attempt to hand-rear the chicks (as this has never been successfully achieved for kokako). Although she appears to have quickly bonded to the neighbouring male and settled down to a more regular incubation/brooding pattern her nest was found to contain a dead chick and a dead or infertile egg a few days later. Hopefully she will nest again soon.

The Bush 1 female has traded in her old mate for a new model this year, and hopefully this pairing will be more successful than last year (no fledglings from two attempts). The pair is currently feeding their one-and-only chick, which hatched on or about December 3.

#### Takahe

Four pairs/groups of takahe are currently rearing one chick each.

Three hatched early November with the other hatching in the first week of December. One takahe had to be removed to Auckland Zoo for six days for treatment of a bad limp. Unfortunately his group have rejected him since his return (despite his being the 'Alpha' bird in this group for the previous three years). Pounamu, a female, has also required treatment, after observations and later, blood tests revealed that she was quite ill. Luckily her treatment could be administered on the island and she is making an excellent recovery

### **Toutouwai (North Island robin)**

Approximately 50 adults have been seen this season and 55 fledglings have been recorded. Although chick production appears to be much the same as last season, four female have died during nesting compared with zero last year. Several toutouwai bands have been found underneath morepork roosts and nests.

### **Tieke (saddleback), whitehead and kakriki**

Business as usual!

### **Matata (fernbird)**

A few have been seen by visitors (mostly at Northeast Bay) but no breeding has been detected.

## **Mohua Transfer**

*From Mike Avis*

Nelson/Marlborough, Canterbury and Otago Conservancy staff combined forces, and were assisted by Ngai Tahu and volunteers, in mid October to catch 27 mohua from the Rock Burn area of the Dart River. On Monday 15th, the group drove to Glenorchy and were transported up the Dart River by Jet Boat. The camp was set up in the rain at the Rock Burn Bivvy, with rain continuing through the night and into the morning. By late morning the cloud had lifted enough for us to decide it was worth a try at catching birds so we spread out upstream and downstream of the of the Rock Burn.

By midday we had caught half of our projected minimum of 20 birds, so the helicopter was booked for 7 am the following morning. The rest of the 27 birds were all caught that day, in a concerted effort by the five teams of mistnetters. All the birds were colour banded with a unique combination so they could be accurately monitored at their new home.

The birds were held overnight in transfer boxes in family groups of three to six. They were fed meal worms and water. Early on the morning of October 17th, they were flown to Queenstown Airport, from where they were freighted to Christchurch, then Nelson. During the short stop-over in Christchurch they were cared for by Canterbury Conservancy staff.

At Nelson Airport, a Powhiri was performed as Ngai Tahu handed over the birds to Ngati Kuia. Then they

were flown by helicopter to Nukuwaiata Island in the Chetwodes Group, outer Pelorus Sound. The birds were all apparently unaffected by the rigours of travel, and flew off up the hill from the beach, all except one, which hid in the back of its box, waiting for the trip back home. It was obviously unaware that the boxes belonged in Picton and wouldn't be going anywhere near Wakatipu for a while.

The hidden bird surfaced half way back to Maud Island on the boat when the boxes were being cleaned of leftover mealworms, so a quick 180 was performed and the bird made a safe landing on its new home.

These birds joined a small resident population of Mt Stokes mohua that had been rescued from destruction in December 1999, just prior to the remaining birds in that population succumbing to a ship rat irruption (a common theme in many mohua populations recently).

An overnight trip was made to Nukuwaiata on November 7th to check up on the transferred populations. In two days of concerted searching using recordings from Mt Stokes and the Dart, only three Mt Stokes birds could be located, all adults from the original transfer. No Dart birds could be attracted by the taped calls, and equally disappointing, no sign of breeding by the Mt Stokes birds was detected.

Since then, ten of the Dart birds have been seen: a group of eight, and another of two. They were both seen near the central ridge and quickly flew off to the Western Cliffs, which may be where they are all hiding until

they settle in. It is still very early days and Nukuwaiata is a large island (242 ha) with difficult terrain. It is also possible that some birds have flown to Te Kakaho, an island only 500 m away and separated by stacks.

Emily King, a Victoria University masters student, is currently camping on Nukuwaiata, and will be spending the summer there monitoring the birds, so it is hoped she can collect data on nesting attempts and pair bond fidelity, and also confirm survival.

## **South Brother Island Visit**

*From Shannel Courtney*

South Brother Island Nature Reserve was visited by conservancy and area staff in early December to undertake general survey and condition monitoring. Despite the proximity to North Brother and Arapawa Islands, the absence of a weed flora on the island is phenomenal - only three stunted individuals of sow thistle were found (all eradicated). That, and a history of being completely predator-free, must make this 8 ha island one of the most pristine in New Zealand. Nesting seabirds were abundant, the commonest being diving petrels and fairy prions. Common gecko was particularly abundant, and the presence of Duvaucel's gecko was reconfirmed, along with green-spotted skink. Most of the flora was windshorn to below knee-high, with the nationally rare muttonbird groundsel (*Senecio sterquilinus*) making up most of the cover turning the island yellow with its heavy flowering. A census was made of Cook's scurvy grass (totalling

311 adults, all very healthy and flowering), the very localised coastal daisy *Kirkianella* and the annual goosefoot, *Atriplex buchananii*. The anomalous absence of tuatara from the island was also confirmed (cf. the smaller North Brother Island 1 km to the north, the only natural home of Günther's tuatara).

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

*Copy deadline for the next issue is **30 March 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: [atownsend@doc.govt.nz](mailto:atownsend@doc.govt.nz)).*

*The following these 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) and any graphs or figures should be saved as TIF files.*

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