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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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FEATURE ARTICLE

From Jon Traylen (Tararu Valley Sanctuary and Conservation Trust)

Having a ball on the trap lines

Tararu Valley Conservation Trust is a community conservation effort which aims to restore a small and long time neglected patch of rainforest. The 1100 acre catchment of Tararu Valley is just north of Thames and 3 km from the coastline. It was recently accepted as a Regional Council Key Ecological Site (KES) as it contains a large stand of swamp maire (*Syzygium maire*), Hochstetter's frog, and old forest remnants including large rata and kauri.

Volunteers have been creating track lines and setting out possum traps since spring 2001 and in started using Fenn MK6 traps in February 2002. As an alternative visual lure, we placed golf balls in some tunnels, and used hens' eggs in others. We employ both single and double trap tunnels.

Many rats (30+), nine stoats, one ferret, and one weasel, have all been captured in the golf ball traps. For our project this is a small, but

important breakthrough, since lure eggs cost money and we don't wish to support battery farming or feed pests if we can avoid it.

Of course we know that mustelids may even be caught in empty tunnels, and the successful traps may hold the scent of previous catch. No robust trial has yet been done comparing catch rates of eggs versus balls. However we plan to increase both the number of traps and total area controlled and will maintain records of bait used and resulting pests caught. We hope this little idea is a cost saving contribution to other projects and welcome feedback.

CONSERVANCY NEWS

AUCKLAND

From Michelle Howard, David Agnew, Thelma Wilson, and Jonathan Boow

Pateke

Pateke have been intensively monitored for breeding success and survival information in the Whangapoua basin, North Barrier. Transmitters were attached to thirty

adult pateke in March and May this year. By July a few transmitters had fallen off via their weak link, a couple of birds went missing, and a few birds died leaving eighteen females to be followed through the breeding season and three males followed for survival information. Twelve of these birds were known to nest and nine of them successfully hatched chicks (75%). Two nests were lost to abandonment and one to predation, possibly pig. Compared to the previous season this was an improvement, in 2001 of eight nests monitored only three hatched (37.5%). However duckling survival has been very low at 14% with only five ducklings out of thirty-five known hatchlings surviving to fledging age. The cause of this low survival rate is probably a combination of pukeko and harrier predation and lack of food resources. Food availability is low due to very dry feeding areas after weeks of low rainfall and strong winds. Transmitters have been put on nine juveniles and hopefully this sample will increase over the next couple of weeks, this will entail a lot of night wandering in the farm paddocks with a couple of hand nets. Recently five of these nine juveniles died. The cause of death is still being investigated, from the remains we know harriers had a meal but we are unsure whether it was scavenged or from a planned attack. Adult pateke survival has been relatively good with the loss of five of the initial thirty transmitted birds between March to the end of November. The annual flock counts, in March next year, will tell us more about how the breeding season went and hopefully the upward trend in numbers seen

over the last couple of years will continue.

Goats

Goats on Rakitu (Arid) Island have been eradicated. The Angora herd was established in the 1980's. Following DOC purchase of the island, it was decided the herd was an unsuitable chattel and subsequently removed. DOC hunters dispatched the animals and retrieved the carcasses; in one case taking a dingy ride into a beautiful, large sea cave and towing an animal out.

Weka Rakitu (Arid) Island

Andy Blick and Tony Beauchamp recently counted weka on Rakitu (Arid) Island. Weka were released on the previously weka free island in 1951, comprising of thirteen adults, all coming from the East Cape. The last two wet years appear to have provided a favourable breeding environment. Numbers have increased to a minimum of one hundred and 82 adults, the highest count that has been observed since release and there is potential for a higher number as the birds are currently breeding. Previous counts made during 1992 through to 1996 were relatively stable at around one hundred and 35 birds.

Pilot whales

In mid November two pods of pilot whales totalling around 40 animals visited the Port Fitzroy harbour and were a spectacular sight but caused some anxiety as to what their intentions were – to beach or not to beach? DOC staff and local residents

encouraged the whales via boat escort to head back out to sea.

Black petrel

The black petrel breeding season is under way with the birds starting to come back to their breeding sites. The breeding will be monitored as it has been in previous seasons by Elizabeth Bell and team.

Fairy terns

Fairy terns in the Warkworth Area waited until a new advocacy pamphlet was produced showing the three sites that they traditionally nest in, before moving to a new site at Pakiri Beach. Two pairs, and at times up to fourteen birds, have been spotted on private Maori land at the Pakiri River Mouth, and seem to be settling in for the summer. Meanwhile, a trapper has spent the last six weeks trapping around the usual nesting area at Papakanui. At this point in time, we've had to cancel the second seasonal warden due to start at Papakanui and use that funding to implement trapping and advocacy at Pakiri, so resources are spread very thin on the ground this season. While the dotterels are busy laying eggs all over the show, the fairy terns are not so obliging.

Threatened plants

Invasive weed control has been underway to protect several threatened plant species around Waionui Inlet, on South Kaipara Head. Threatened plants here include the fern *Cyclosorus interruptus*, dwarf musk (*Mazus novaezeelandiae* subsp. *novaezeelandiae* f. *impolitus*) and

Pratia aff. *angulata* (P. "Woodhill"). Pampas, wandering jew and black wattle have been removed from the immediate area, although the site is adjacent to several thousand hectares of pampas covered dunes and pine forest, so the work will be an ongoing task.

WAIKATO

From Alan Jones, Tertia Thurley, David Rodda, Jason Roxburgh, and Leigh Marshall

Archey's frog

Archey's frog counts on a permanent grid in Whareorino Forest in early November showed a similar number to what was counted there in November last year, and it seems that Archey's frog is still relatively abundant at Whareorino, compared to the Coromandel populations where serious declines have occurred. However, the Whareorino fieldwork also revealed seven dead Archey's and one dead Hochstetter's. All except one of these frogs were found over the 15 x 15 m grid where grid counts have been carried out since November 2001. The remaining dead frog was found approximately 1 km away on a track. On some of the frogs there is evidence of predation, holes in the ventral surface and body contents missing. The frogs will be examined for evidence of the identity of the predator. That a frog was found 1 km from the rest suggests that the predation event could be quite widespread. We are hoping that the event is isolated in time, and that a further visit planned

for late November will not reveal any more deaths.

The Archey's frogs taken down to Canterbury University to establish a captive population have continued to receive media attention. Of the forty-nine frogs taken down, three unfortunately died. The cause of death is not known, but analysis of their skin showed that the dreaded chytrid fungus was probably not the cause. The remaining forty-six are still in quarantine conditions and are doing well.

Planning is now in full swing for a second transfer of Archey's frog, this time from representative sites from the Coromandel. Auckland Zoo is hoping a purpose built facility may be ready early next year to house the three Coromandel sub-populations separately.

New frog face

On the subject of frogs, there is a new face in the land of frogs. Michael Crossland has started as the Northern Region Frog Ecologist, taking over from Nadia Webster (who is taking a year off for maternity leave). Michael harks from Townsville and has worked on a number of frog projects both in Australia and America. Michael will be working with the northern conservancy staff to develop survey and monitoring techniques for Archey's and Hochstetter's frogs. Responsibilities with co-ordinating the Waikato's chytrid response will now fall on Leigh Marshall's shoulders.

Kaka

The Pureora Field Centre is monitoring radio tagged kaka in the Waipapa Restoration Area to assess the effectiveness of pest control on a species sensitive to mustelid predation. Female kakas are followed to nests which are monitored. A sample of chicks have transmitters fitted to find out how many survived and where they disperse to. The work continues from that done by the Science and Research Unit. A dramatic increase in fledgling mortality has been noted coinciding with a change to the pest control regime. Seventeen female chicks were monitored since the breeding season and excluding missing birds, eleven of fourteen fledglings have died. Nine of these were probably (some certainly) killed by stoats. And just to show that the predators are not targeting birds wearing radio transmitters, one observation included finding the remains of two untagged kaka within the same den as a dead tagged bird. So the results of a productive nesting season for kaka in the Waipapa has very much been let down by poor fledgling survival. The pest control regime was an aerial 1080 pollard operation in October. While this did offer protection during the time birds were nesting, as pest numbers increased, the level of protection decreased toward the end of the season when fledgling kaka become vulnerable.

Falcon

David Rodda has been leading a team of volunteers and assorted extras on a Falcon survey in the Waikato. David has managed to locate a pair of birds and it looks like there are four, possibly five other territories. The

public response has been excellent and he's markedly improving our knowledge of falcons in the Waikato. Mapara kokako census

During September and October Rachel Lander and Tertia Thurley completed a six week pre-breeding census of territorial adult kokako at Mapara. Last year was the first season of predator control at Mapara since 1996-97, and the success of last years poison operation combined with a good breeding season has meant that the population has risen from thirty pairs at the end of last season to forty pairs found during this census.

Kiwi

Moehau Kiwi Sanctuary is celebrating the last of last season's chicks cracking the 1 kg target weight. The "official" result is now 66% chick survival, a great credit to all staff involved.

New Zealand dotterel

There seems to be an early and reasonable breeding season for New Zealand dotterel. There are already fledging chicks on a number of Coromandel beaches. We have recently signed a new partnership deal with Newmont Mining (the company that owns the Waihi Gold Mine), which is bigger, brighter, and better than the previous agreement. This gives us significantly more resources to protect New Zealand dotterel all over the Coromandel, not just concentrating on Opoutere. During the period of the previous partnership, compared to the previous three years, fledging success at our main site (Opoutere) increased 30%, and the predator

catch per unit effort increased over 40%. These results are directly linked to the increased effort and focus provided by the Partnership.

This year we have Wendy Hare back as the dotterel ranger. We also have Kiersten Leslie (a Waikato University student on an industry placement) at Waikawau Bay.

Meantime, on the West Coast we have a pair nesting at Aotea Harbour and another pair looking likely at Raglan Harbour. Although the Aotea nest is in a good spot, with no management, it is highly likely to fail from human disturbance over the Christmas season.

Pterostylis puberula

This hard to find orchid is still proving tricky to monitor. It's found on the track to the Pinnacles Hut (Kauaeranga Valley) but can only be found when it flowers. This year it's quite late, and this is hampering our monitoring. Andrea Brandon (TSO Flora) has been keeping in touch with the NZ Orchid Group about the timing of our annual survey.

Lepidium oleraceum

Populations on the Alderman Islands appear to be a bit patchy this year, with some still around, and other apparently reduced or disappeared. This plant seems to pop in and out of sites regularly, so hopefully this year's reduction is just temporary. The large population on the Matariki Islets (near Coromandel) is still going strong, and expanding.

Mawhai (*Sicyos australis*)

A large mawhai plant growing near Tairua has helped indicate that the mainland plants of Mawhai are quite different to the ones growing on the Mercury and Cuvier Islands, where they are very numerous. Further work is needed on the taxonomy of these plants to see what's happening.

BAY OF PLENTY

From Paul Cashmore and Keith Owen

Swamp nettle (*Urtica linearifolia*) survey

A survey for the threatened native swamp nettle (*Urtica linearifolia*), has been completed in the Reporoa, Broadlands by a contractor. Swamp nettle reaches its northern limit in New Zealand in this Valley. The aim of this survey was to find the extent of the population and to raise awareness with the many dairy farmers in the area of the plants existence along the stream margins and wetlands that border their properties.

Previously DOC knew of less than one hundred swamp nettle plants in the area. This was increased to more than three thousand, mainly in the Ruatawiri and Torepatutahi Streams, although swamp nettle was also found nearby in four other tributaries of the Waikato River.

Most of the areas where the swamp nettle was found were protected either in Marginal Strips or Land Improvement Agreements. While this plant is able to defend itself with its stinging hairs (it is related to

ongaonga, stinging nettle) it appears to be susceptible to herbicides and loss of habitat. The majority of the farmers spoken to were unaware of the existence of this threatened native species in their wetlands and stream margins.

Myriophyllum robustum (water milfoil)

Staff surveyed some other potential sites on the Mamaku Plateau in April to determine if any other populations of this species were present. While some relatively unmodified wetland habitats were found there was no evidence of the presence of *Myriophyllum robustum*.

Lepidium oleraceum and *Euphorbia glauca*

Tuhua (Mayor Island), approximately 40 plants were established around south-east bay in winter 2000. Recent assessments indicate approximately 50% are surviving. Slugs, snails, and sparrows are browsing plants.

Taumaihi Island, August 2000 planting of 27 *Lepidium oleraceum* was assessed in 2001 with no plants found. This site was rechecked in April 2002 with still no plants found and only two *Euphorbia glauca* plants found.

Mistletoes

A field trip undertaken with consultants who manages the road maintenance contracts for the Rotorua District Council (RDC) to show them further mistletoe sites found around the Rotorua Lakes where *Tupeia* and *Ileostylus* occur. Roading development and/or

vegetation mowing on the roadsides could potentially threaten these sites.

A similar field trip was also undertaken with RDC Parks and Reserves staff to show them mistletoe locations in RDC reserves and encourage protection and host planting.

Rorippa divaricata

At Blue Lake a planned survey of shoreline as part of monitoring of existing sites revealed two new sites (first site with thirteen large healthy, seeding plants at back of a sandy beach and the second site being one adult plant on a small beach). It appears a small population is surviving and self-sustaining at several localised sites around the lake.

Threatened ferns

In July four staff spent a day in Bregmans Wildlife Management Reserve on the Rangitaiki Plains surveying for further populations of *Thelypteris confluens* and *Cyclosorus interruptus* in conjunction with spraying reed sweet grass (*Glyceria maxima*) which is seriously threatening the fern populations. The day was very successful with forty-two new *Cyclosorus clumps* found, in addition to the three present in March 2002. No new *Thelypteris* were found. By reducing the densities of *Glyceria*, it is hoped that both threatened fern species will be able to increase in abundance to levels similar to that which previously occurred.

Striped skink

Four live striped skinks were recovered from a dead miro tree on the Mount Te Aroha access road in late July. These were held in captivity by John Heaphy and later transferred to the National Wildlife Centre at Mt Bruce for research purposes on the advice of the *Oligosoma* Recovery Group. One dead striped skink was also recovered. This discovery is one of the few times over the last decade that live striped skink have been found in native forest habitat.

Kokako

Mokaihaha Ecological Area, 1080 in bait stations were laid in the Mokaihaha Ecological Area on the 14-15 October 2002. In November Residual Tracking Indices for rats was 1% and the RTC for possum was 2.5%. This is the second breeding season where control of possum and rats over 848 ha of the 2136 ha E.A has taken place. Last breeding season the eight pairs of kokako monitored produced nine fledglings.

Kaharoa Forest, Onaia Ecological Area, further possum and rat control started on 5 October 2002 for the breeding season when 1080 cereal baits were laid in bait stations over an extended area including the Onaia E.A. This work is largely carried out by the Kaharoa Kokako Trust.

Opuiki Ecological Area, for the first time ever, management of the Opuiki Ecological Area on the northern Mamaku Plateau will begin this summer with the setting up of a 100 x 100 m bait station grid over a 1100 ha managed area. The objective of this programme is ecosystem restoration. The first treatment of possums and rats is due next spring.

Both kiwi and an important remnant kokako population reside in the area. Manawahe, ongoing protection of this kokako population continues by the Manawahe Kokako Trust this spring. Since the Trust started this project, kokako numbers have increased each year to about twelve pairs.

New Zealand dotterel

Protection of the Matakana Island population continues this breeding season where the latest census recorded forty-two pairs of birds, considerably higher than the previous best number of thirty-four pairs recorded last season. We are fortunate to have considerable financial assistance from non-DOC sources.

TONGARIRO/TAUPO

From Nick Singers

Short tailed bats

The annual short tailed bat census on southern Mt. Ruapehu was an unusually difficult and protracted exercise this year, due to persistent wet and cold spring conditions. Long hours and hard work by Brian Lloyd, Petra Specht and her team have produced video tapes of bat activity at all communal roosts found. The count is still underway, but so far appears low (3500 approximately).

Tongariro forest kiwi

A productive breeding season is being recorded for North Island brown kiwi in the Tongariro Forest

Kiwi Sanctuary. Twelve monitored pairs have produced 10 first clutch nests with 17 eggs, from which 14 chicks have hatched. The second clutch is underway. Chicks are being raised at "Warrenheip", a private predator proof enclosure near Cambridge. Planning is underway to move from one to large scale, low density stoat trapping at the site.

Pittosporum turneri

Annual health monitoring associated with possum control has been conducted at Kuratau clearing (Waituhi Kuratau Scenic Reserve) and Kapoor's Road (Tongariro Forest). Both populations are very healthy and many plants are now adults, flowering and producing seed. A census of all adult plants was undertaken at Kuratau clearing as *P. turneri* is Nationally Critical because no single population has less than two hundred mature plants. In total one hundred and ten adults were found, up from twenty in 1993.

Volunteer involvement with threatened plants

Volunteer involvement with protecting and managing threatened plants is now occurring regularly with weekend field trips. So far groups have been involved with propagating mistletoes including *Tupeia antarctica* at Omori Pukawa Scenic Reserve, and *Alepis flavida* at Tongariro National Park, as well as caging dactylanthus at numerous locations. A community group at Pukawa has recently started controlling possums and rats around Pukawa Township, in addition to DOC possum control in the scenic reserves. This work will have

positive benefits for protecting the mistletoes here.

EAST COAST/HAWKE'S BAY

From Mike Thorsen, Bec Stanley, Helen Jonas, Graeme Atkins, Alan Lee, Fiona Kemp, Mark Lewis, and Roger Dahm

Critically endangered plant increasing

A recent visit to Te Mata Peak, near Havelock North, managed to relocate the only known population of the niftily named *Pimelea* aff. *aridula* (a) (CHR 282959; Te Mata Peak). Only five plants could be found during a census in 1995 and this visit managed to find ten plants, including one seedling. Until fruit can be found no cultivation of this critically endangered taxa can begin.

Refinding a lost population of *Myosotis petiolata* var. *pottsiana*

A population of this species, currently ranked as Data Deficient, last seen about 20 years ago has been relocated. Details given with the herbarium specimen were misleading and it was deciphered to probably be in the Manganuku Stream in the Waioeka Gorge. The conversation had just turned to the fact that there was no reason for the plant not still being there, when forty-five plants were found right beside the track. The plants was probably even growing on the original rock face.

New species discovered

This plant has variously been described as "probably *Pimelea prostrata* var. *erecta*", or *P. arenaria*. Recent work seems to indicate that it is a separate taxon allied to *P. prostrata* var. *erecta* but differing in several characters, not least it's very large habit and growing on sand dunes. About two hundred plants are known.

Fun but fruitless searches for an endangered plant and extinct plants

Cape Kidnappers was recently visited looking for the endangered (and possibly extinct in the Conservancy) Cook's scurvy grass (*Lepidium oleraceum*) and the extinct *Stellaria elatinoides*. Lots of fun was had scrambling up and down steep crumbly faces. Unfortunately neither plant was found.

Sebaea ovata could not be relocated in the Ahuriri Estuary, but there are many places in this area that still need to be checked.

Iphigenia novae-zelandiae and *Myosotis petiolata* var. *petiolata* (both thought to be extinct in the North Island) were surveyed for in the Titiokura and Te Waka areas of the Maungaharuru Range. Neither were found but again there are lots of areas of suitable habitat not surveyed. The other *Myosotis* species (*M. saxosa*, *M. pygmaea* var. *pygmaea*, *M. pygmaea* var. *drucei*) recorded from here were not found.

Celmisia aff. *gracilentata* (a) (CHR 282958; Te Mata Peak), last recorded in 1970, was searched for on Te Mata

Peak, the variety of individuals seen indicates that there is one variable taxon on this peak that is possibly endemic to the site, but this requires further investigation.

Not all bad for one of our smallest reserves

A revisit of the Huramua Nature Reserve, a tiny patch of trees on the Wairoa Plains, to count the nationally endangered heart-leaved kohuhu (*Pittosporum obcordatum*). Over one hundred plants were found, making it the most common tree in the reserve. Numbers seem similar to the last census, but one freak accident could wipe out this population. Forty seedlings have been tagged to determine survival and recruitment.

Kakabeak

The recent Kakabeak Recovery Group meeting at Lake Waikaremoana was very successful at bringing together most of the people involved in the conservation of the two species of kakabeak. The meeting stimulated some survey work in the Ruakituri River area. A "lost" population last seen in 1990 was rediscovered from a helicopter, another population was found when following up a memory of seeing it 20 years ago, and a site where the plant had died after drought in 1999 was checked and five plants including some seedlings were found. Urgent action was taken to save the kakabeak at Bartlett's after a recent visit (the first in several years) discovered it was being badly browsed. The tree was sprayed with 'Treepel' to deter goats.

One hundred year old Cook's scurvy grass seed back to life

An attempt is being made, in conjunction with the Auckland Museum Herbarium and the Auckland Botanical Gardens, to attempt to germinate seed from a specimen collected by Cockayne in 1905 from Whangaokena (East Island). If this is successful then it would open the doors for other extinct *Lepidium oleraceum* specimens.

WANGANUI

From Nick Peet, Graeme La Cock, Rosemary Miller, and Astrid Dijkgraaf

Sebaea goes north

Sebaea ovata, a small gentian of ephemeral dune wetlands, has been translocated to three locations on the Pouto Peninsula near Dargaville. *Sebaea ovata* was thought to be extinct until rediscovered in the Whanganui area at Whitiāu Scientific Reserve in 1989 with another population discovered at Hawken's Lagoon Conservation Area in 2000. They are the only known natural populations of *Sebaea ovata*. Unfortunately both populations are declining and are threatened by extreme weather, weeds, vehicles, and stock damage among other things. We decided to establish additional populations at other locations to try to ensure the survival of the plant. Department of Conservation staff took cultivated *Sebaea ovata* from the Wanganui area to Pouto Peninsula. About half of the 300 plants have been planted

on Maori land, with additional benefits of greatly improving relationships and understanding between Northland iwi and Northland Conservancy staff.

Golden hybrids

Apparently most of the golden totara that you can buy from garden centres originates from one rather battered male tree growing near Makiriki Road, Marton. Dr Brian Molloy used flavonoid analysis to determine that this tree was a hybrid of *Podocarpus acutifolia* x *P. totara*, which is unusual in itself because *P. acutifolia* occurs in Marlborough, Nelson and Westland, but not on the North Island. A second (even more) golden totara was found further up Rangitawa Stream on 30 November 2002 and although its possible hybrid origin has not yet been proven this could be an interesting discovery since the newly found tree is female. It is also noteworthy that *P. acutifolia* is a shrub and both these trees are definitely trees; the newly discovered tree has a trunk of approximately 60 cm diameter and is at least 10 m high.

More *Tupeia* found

Eddie Te Huia from Pipiriki spotted some *Tupeia* while we were searching for dactylanthus clumps at the original Taylor dactylanthus site. This extends the range in the area about 20 km north up the Parapas from the one known plant. This previously known plant has been caged and is doing well. This new find (three plants so far) may be because of the high level of possum control at the site.

In the 8 or 9 years since the aerial 1080 drop at Paengaroa, followed by ground control, the *Tupeia* has flourished to such an extent that some mistletoes are now 3 m across, and some host maire trees are looking decidedly sick.

Chestnut / grey teal hybrids in Wanganui

A local farmer recently reported a funny looking duck on one of his stock ponds. On visiting the site with local members of OSNZ, a female chestnut teal *Anas castanea* was found with two ducklings. The bird had apparently bred at the site in the previous year. However, a second adult was also present which didn't fit all the characteristics of brown teal. Brent and Sav Saville from OSNZ recently revisited the site and saw the bird that most resembles a female chestnut teal, two other chestnut-tinged teal which were probably well grown young, and a couple of half grown ducklings, one tinged with chestnut and one just grey. One of the chestnut tinged birds only had that colouring on the head, breast, and neck while its closed wings had grey teal like plumage.

It seems likely that the birds are chestnut teal / grey teal hybrids. Chestnut teal have not been recorded breeding in New Zealand before. It breeds in southwest and southeast Australia principally in the coastal wetlands of Victoria and Tasmania. There have been regular records of birds from the Manawatu area and breeding has been suspected there.

Large galaxiids in Taranaki

Information on the distribution of shortjaw kokopu, koaro, banded kokopu and giant kokopu in Taranaki was presented in a poster paper at the recent Limnology Society Conference on the West Coast. Our maps even drew envious looks from our regional council colleagues, not often we get to impress Taranaki Regional Council with technology. A report on our large galaxiid survey is being prepared and will be used to support bids for further research into trout, native fish interactions, and to encourage the regional council to target certain catchments for riparian enhancement.

SCIENCE AND RESEARCH

From Murray Williams

Attending the International Ornithological Congress

Every four years there is a scientific talkfest about bird biology; in 1990 it was in Christchurch and a great meeting it was too. Since 1994, the former ICBP conference on bird conservation has been amalgamated with the Ornithological Congress and this year, in Beijing, almost 40% of the 1000+ papers and posters had an overtly conservation bent (see www.ioc.org.cn/program). I was one of fourteen New Zealanders in attendance but the only one from DOC, which made it hard to cover all presentations of relevance to our conservation activities, so the first message is keep August 2006 free and apply to go to the next congress in Hamburg, Germany.

My takeaway messages and highlights from this Congress were:

- Use of PVA's in species conservation planning. A lot of emphasis was given to this in symposia and workshops and their value in defining research and management focus highlighted. I left convinced a PVA ought to be part of our species recovery SOP with models updated annually at recovery group meetings.
- The march of technology. Results from satellite TXS studies were extensively reported, and from birds as small as 400 gms. Expensive (yes, \$4-5k each) but a very cost effective means for identifying habitat networks for mobile species and habitat selection for reasonably sedentary ones. Results from French seabird foraging studies were stunning.
- The ubiquity of genetic analyses. I almost got sick of hearing the letters "DNA". Nevertheless, nuclear and mitochondrial DNA analyses are clearly transforming understanding of phylogeny, mating systems, population structure, dynamics and evolution, and resource use. I left bemused that DOC seems to be one of the few major conservation agencies worldwide not to have significant in-house capability in this ubiquitously applicable field of science.
- Concern for genetic diversity. Many papers reported on the nature and extent of genetic diversity within and between existing taxa. A focus on describing and preserving biological diversity at the genetic level was apparent, just as we chart our conservation management towards higher and less diverse realms. Many countries are

establishing tissue banks to facilitate analyses of genetic diversity.

- Novel techniques. Stable isotope analysis of feathers for identifying habitat selection by birds during migration (passerines), and feeding relationships among closely related seabirds (prions, petrels) caught my attention as a potentially useful and non-invasive analytical tool. Heart rate monitors for measuring energy expenditure also appealed.

- Role of banding offices. In Asia, Europe, and North America, banding offices are being exploited as important sources of long-term data, especially for interpreting climate change, and as biological data recording facilities e.g. maintaining tissue collections. There is also much innovation in band and tag data management and interaction with the public e.g. phone and web-reporting facilities, web-based movement and survival analyses. Our banding office presently operates well behind this international front line.

- Global decline of birds in agricultural environments. In Europe and Asia significant reductions in bird populations and species diversity in agricultural landscapes is being observed. It affects even the commonest species like sparrows and is being attributed to the intensity of modern agriculture and the scarcity of food for birds during winter.

- Conservation management as experiments. Many papers and posters, especially those from North America, reported conservation management actions within a distinctly experimental framework and with clearly made predictions or hypotheses. What I found so

appealing was the way this approach allowed the managers to conduct their work in a way that allowed them to draw unambiguous conclusions, they had removed potential ambiguity at the design stage.

The biggest "downer" of the conference was the environment, inability to see the sun over eight days because of the pollution cloud, and the sighting of only fifteen birds total. Some place for a bird conference.

If you are interested in my contribution to the conference, about grey and mallard ducks in a symposium concerning outcomes of alien waterfowl introductions worldwide, check out WGNCR-37585 (written version) or WGNCR-37499 (spoken version).

NELSON/MARLBOROUGH

From Ian Millar, Shannel Courtney, and Cathy Jones

Hutton's shearwater

Assessing the total population of Hutton's shearwater has been a bit of a problem given that non-breeding birds are not included in the usual calculations of colony size and burrow density. Graeme Taylor led a crew into the colony in early spring to mark a large sample (two thousand birds) of all ages while they were still sitting on the snow waiting for the thaw to reveal their burrows. At this time of year non-breeders are also present on the colony. While these birds were marked across their white fronts with spray paint another

team, led by Dave Walford, waited out off the Kaikoura Coast to observe flocks of birds as they returned to feed at sea. Some promising data emerged on the ratio of marked to unmarked birds and it is likely that a good estimate of total population will be obtained.

A quick trip in late November to follow up reports of petrels being heard coming ashore at White Bluffs. The area would certainly provide predator free habitat for any species that could find a niche to breed in these impressive but fragile bluffs composed of mudstone and loosely cemented conglomerates. While we didn't hear any birds, the remains of two prions were found. Several explanations exist for their presence and their fate, but it is possible that we have a site similar to that discovered by Graeme Loh in Otago.

A conservation volunteer holiday held in the upper Wairau Valley was successful in identifying several new sites for the category I threatened snail *Rhytida* "Wairau River". Murray Efford from Landcare (Dunedin) confirmed that photographs of some of the snails found were indeed *Rhytida* "Wairau River", and that four out of the five juvenile specimens collected are consistent with this species. Volunteers enjoyed participating in the survey, and the large group size allowed us to search eleven sites relatively intensively and swiftly. All but three of those sites produced snails or snail shells. We now know that *Rhytida* "Wairau River" is relatively widespread in the upper Wairau Valley between Six Mile Creek and Judges Creek. Future survey effort is likely to focus on extending the known range of this

species in Nelson Lakes National Park, and on determining whether the snail lives at all altitudes in the beech forest.

An unnamed moth species of the genus *Dichromodes*, discovered only 5 years ago and only known from a couple of kilometres of foreshore at Cloudy Bay, near Blenheim, has recently been found at another site to the south. Although the range extension is not large, the new site is quite a different habitat from the original one so the species, whose larvae feed on lichens on stones, may prove to be more widespread.

More *Olearia polita* and *Coprosma obconica* finds

On the heels of the breakthrough find of glossy twig daisy in the Wangapeka, four new populations have been discovered in the nearby Sherry Catchment, all on swampy alluvium and toeslopes on the margins of forest remnants. This adds another several hundred individuals to the total population, including some of the largest and oldest individuals, most of which are on unprotected private land. While undertaking a census of the tree daisies another surprise find was two good sized populations of *Coprosma obconica*. This is on the heels of the discovery of a few hundred plants of this species at the source of the Buller in July (see Rarebits 46), substantially boosting the number of known individuals of this species.

Mount Murchison hebe survey

A census and distribution survey was undertaken in December of a newly discovered hebe, which appears to be confined to the alpine tops of Mt. Murchison in southern Nelson. Despite an extensive survey over all likely habitats along the tops, we could not extend its range beyond the original discovery locality, a 100 x 200 m strip of mountain slope, which supports around 1500 individuals. The unremarkable nature of the habitat, lack of other associated endemics and apparent extreme range restriction poses a puzzle as to how this species has arisen, and why it doesn't occur further a field. Despite previous surveys of nearby mountain ranges and a trawl through herbaria, no other localities have turned up. Although the population appears stable and intact, there is the grave threat of destruction by pigs, as their ploughman ship over hectares of nearby carpet grass can attest.

Brachyscome "Ward"

Survey on the South Marlborough coast has increased our knowledge of a most attractive small daisy, *Brachyscome* "Ward". We now know we have three sub-populations, two of which contain fairly large numbers of mature plants. The plants have lost some habitat through quarrying and are potentially under threat from crumbling cliffs and fire, but generally seem to be holding their own. It is likely that grazing is helping to maintain their habitat. The results of the survey will provide a case for decreasing the plant's conservation status from nationally critical to nationally endangered.

WEST COAST

From Phil Knightbridge, Glen Newton, Jane Tansell, and Paul van Klink

Coprosma wallii

A population of several hundred *Coprosma wallii* was confirmed at Sunny Flat in the Haast Valley and adjacent to State Highway 6 towards Pleasant Flat during inspections of grazing licences. No *Coprosma wallii* were found downstream of this flat. The Sunny Flat population were mostly sub-canopy beneath a lowland ribbonwood-kaikomako canopy. Protection of the bulk of this population will require fencing to keep grazing cattle out.

Tawaki

The annual banding return study (both RH metal flipper bands and transponders) at Monro Beach (MB) and Jackson Head (JH), tawaki colonies was again repeated in July this year. One hundred and five birds were captured (23 MB, 82 JH) including one that hadn't been observed since it was banded in 1994. Of the captured birds 57.3% were banded at JH and 56.5% at MB. Transponders were implanted into all unbanded birds caught at JH. These have been used since 1999 and provide a comparison of tawaki survivorship with the commonly used metal flipper bands. Survivorship figures from the banding returns are yet to be calculated.

Counts of nests at Murphy Beach, MB, and JH were completed in

August. A total of 51 nests were observed (fifteen at Murphy Beach, fifteen at MB, and 21 at JH). The numbers appear comparable to previous years although there is considerable variation between years (1994-2001).

A survey of the coastline between Teer Creek and Stafford River, south of Jackson Bay, was also completed in August by Jane Tansell, Glen Newton, and Amber Tate. One hundred and sixteen nests were found during the survey over 17 sites. This compares with 45 and 32 nests found in the area in 1993 and 1994 respectively. Comparison of findings was difficult however due to differing search effort between 1993, 1994, and 2002. However, all sites are logged onto a GPS and it is planned that a return visit to the sites in the future will give a better indication of population trends.

OTAGO

From Bruce McKinlay and John Barkla

Buff weka

As reported in the last Rare bits Bruce McKinlay and Stu Thorne of Otago Conservancy, and representatives of the Papatipu Runanga of Otago have travelled to the Chathams and made a successful return with thirty buff weka which were initially released into an aviary on Te Peka Karara in Lake Wanaka. The trapping of the birds on the Chathams was well supported by the Preece family and local DOC staff. Since then the birds have settled in

well and taken to the food like there is no tomorrow. Even to the extent that we had one die from systemic gout which we think was related to too much protein in the diet. From the beginning of November we have progressively undertaken a soft release with about four birds being selected on a weekly basis for release. Most of the birds have coped well with this strategy with one pair even laying eggs just after their release. Four birds have however set their sights on further horizons by swimming off the island. One is definitely still in the locality, two others have yet to be tracked and one was killed on the road near Lake Hawea a walk of about 10 km in a straight line but a bit longer as the weka walks in two days.

Just last week we had a formal celebration of the return of the weka to the South Island which was a moving affair involving speakers from Ngai Tahu, DOC and the local community. In particular Mark Solomon from Te Runanga o Ngai Tahu celebrated the project as another step in the evolving process of Ngai Tahu and the Crown working together on conservation projects.

Mohua

After the last mast event numbers of mohua in the Caples have decreased dramatically. Mice numbers have bottomed out but recent mice tracking has shown a 30% tracking rate in the Caples. In the Catlins mohua are much more vocal this season compared to last spring and it appears that there are more groups present and that they are present in as many 1000 m grid squares as in the past.

Kauru River Longjaw *Galaxias*

In September Pete Ravenscroft carried out the monthly survey of the Kauru River with contractor Ross Dungey and they found similar numbers of adults to previous surveys. Pete has caught larvae which have been confirmed as long-jaws. They were found outside the known range for the adults, being in the Kakanui, 200 m downstream from the confluence with the Kauru. They were also noted further up the Kauru. The variety of sizes (8–26 mm) noted leads him to believe that either they spawn at different times or that some eggs take longer to develop.

Backwaters appear to be critical for larvae with large numbers being seen and Pete has a feeling that the adults probably spawn in backwaters where water seeps from the gravel.

The most recent survey for Kauru Stream longjaws has extended the range of the fish by another 6–8 km down into the Kakanui and up the Kauru. Longjaw larvae were abundant along the margins almost everywhere surveyed. This raises questions about survival and what are the threats to the larvae and adults that have caused the restricted distribution (approximately 6 km of the Kauru river) seen up till now.

Yellow-eyed penguin

At the end of last years breeding a number of adult yellow-eyed penguins were recovered dead along the coast. Additionally during the winter, numbers of YEP seemed to be lower than normal on beaches where counts have been made. Dean

Nelson reports that nest searches this spring confirmed that something had happened with a reduction in nest numbers of around 29% compared to last year along the Otago coast. Having said all that those birds that have nested appear to be doing well.

Albatross

It looks like being another bumper season at Taiaroa Head. Lyndon Perriman says that 89 albatross have been sighted there this spring and 32 eggs have been laid with 29 so far being confirmed as fertile. Lyndon also reports that one particular Hooker's sealion has focused on hunting last year's fur seal pups around Taiaroa Head. So far this has netted him at least six pups and one adult female fur seal over the last six months. It appears that the sealion splashes around and makes the pups panic into the sea where they are caught.

Pisa Flats monitoring

The cessation of stock grazing at this nationally important threatened plant site prompted Trudy Murdoch and John Barkla to establish monitoring transects to provide a baseline against which future trends in vegetation can be measured. Birds seem to appreciate the reserve already, black fronted tern, banded dotterel and South Island pied oystercatcher have all been seen nesting there. Such is the pace of vineyard development in the Upper Clutha Valley, it is likely the reserve will be surrounded by grapes in the near future.

Inland *Lepidiums* and "grassy species"

Central Otago Area staff recently hosted the recovery group meeting for Threatened Grassy Plants of Dry Fertile Sites. With Canterbury and Nelson/Marlborough staff in attendance it was a good opportunity to visit local sites containing some of the species covered by the plan including *Simplicia laxa* and *Carex inopinata*. As well, several inland *Lepidium* sites were looked at prompting discussion on monitoring techniques, recovery actions and progress to date with the *Plantago coronopus* weed control trials.

Cook's scurvy grass

A pleasing number of *Lepidium oleraceum* seem to have survived Port Otago's repairs to the Aramoana Mole, affirming the merits of early consultation. Nearby on the Otago Peninsula the Yellow-eyed Penguin Trust has had spectacular results with their plantings of *Lepidium*. Plants grown from local seed were made available from the Department and these have now formed large clumps of robust plants in their new habitat. David Blair from the Trust, motivated by this success, has propagated more plants for other Trust coastal restoration projects.

NORTHLAND

From Lisa Forester and Emma Neill

Threatened plants

The critically endangered beach annual *Atriplex hollowayi* is off to a

promising start this season with over 150 wild seedlings coming up on the two Far North beaches so far and another 400 big healthy planted *Atriplex* already well into flowering. This year's bumper crop could be due to a combination of the wet winter, lack of big easterly storms over the last couple of years and perhaps two seasons of intense management ensuring that wild plants had maximum seed output. *Atriplex* grown from seed by Te Pahi staff were planted at the two remaining wild sites as well as two other sites in the Far north in the hopes of establishing new populations at localities where the plant used to grow.

Sebaea ovata, a little gentian which used to grow at coastal wetlands throughout the country, was translocated from seed taken from the last remaining two small sites at Wanganui to a new home on the Pouto Penninsular recently. It is feared that if new populations are not established the plant will become extinct in the short term. *Sebaea* has not been seen in Northland since earlier last century. In a moving powhiri Te Uri o Hau Iwi and Northland staff welcomed the taonga as well as Nga Rauru and Ngati Apa representatives and staff from Wanganui on to the Pouto Waikaretu Marae. After lunch it was off into some of the biggest and most pristine dune wetlands in New Zealand with 150 plants being put onto iwi land and 150 plants going several kilometres south on land the Department administers. An intense two weekly monitoring programme will be undertaken in partnership between staff and Iwi to see how the plants fare over the summer. The

plants were germinated at Percy Reserve in Lower Hutt and grown on at a Wanganui Prison.

Old *Rorripa divaricata* sites dating back beyond 1984 were checked on Lady Alice Island at the Hen and Chickens. All sites except one, which had a vague location description, had young plants in them and since then members of the Islands Weed Team have found several new sites.

Pateke

At Mimiwhangata Coastal Park, another breeding season for pateke is drawing to a close. An adult population of 27 to 37 birds with transmitters attached have been closely monitored from May to October, and all nesting attempts and hatching rates recorded. Harness failures and transmitters malfunctioning prematurely have caused the sample size to fluctuate and many headaches for staff.

With just one unfledged brood left on the ground produced from radio tagged adult females, there have been a total of 41 fully feathered juvenile pateke at the banding age of 8 weeks. Set monitoring targets have been met with 20 of those juveniles having transmitters attached. At time of writing these birds were dispersing from natal territories.

ISLAND ROUNDUP

From Paul Cashmore and Keith Owen

Mokoia Island

Fifteen hihi (eight males and seven females) were transferred from Mokoia to Kapiti, Mt Bruce in mid August till November as a result of a management decision to shift them to Kapiti, Mt Bruce to improve their chances of survival. No birds now remain on Mokoia. The Kapiti birds are being monitored.

Recent monitoring of mistletoe seed (*Tupeia*) planting from last season and previous years has still failed to find any plants establishing on the fivefinger hosts. It also appears that *Rorippa divaricata* has not re-established on the island following re-introduction of plants several years ago.