Reintroduction Specialist Group

Oceania Newsletter

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Visit the RSG Oceania Website at:

http://www.massey.ac.nz/~darmstro/rsg.htm

IN THIS ISSUE...

David Given (1943–2005)

Oceania lost one its great conservationists with the death of RSG member David Given, from cancer, on 27 November 2005. David was well known for his pioneering work on conservation of New Zealand plants and for his international work with the IUCN. As well as being a long-time member of the RSG, he was a member of the Conservation Breeding and Sustainable Use specialist groups, chaired the Pteridophyte Specialist Group and Plant Conservation Committee, and served on the Species Survival Commission Steering Committee. In recognition of his service to the IUCN, David received the Sir Peter Scott Award for Conservation Merit in 2004. David was author of over 200 scientific papers and four books, mainly on evolution and systematics of New Zealand flora, and had a small strap fern, *Grammitis givenii*, named after him in 1976. The New Zealand Plant Conservation Network has recently establishment the David Given Threatened Plant Research Scholarship in David's honour, and this scholarship will support research on NZ threatened plants. People wishing to donate to the scholarship can do so through the network (info@nzpcn.org.nz).

Community Translocation Workshop, 29-20 November 2006

A two-day workshop focusing on community-led reintroduction projects was recently held at Pukeatua, New Zealand. The workshop was organised by Jo Ritchie from Natural Logic Ltd, and focused on helping community groups understand the issues involved in planning, undertaking and monitoring reintroductions, and on modifying the translocation proposal process to facilitate initiatives from community groups. Presentations were given by representatives of the Reintroduction Specialist Group, New Zealand Department of Conservation, Auckland Regional Council, Karori Sanctuary, Maugatautari Ecological Island Trust, Nga whenua rahui, and community groups involved in reintroduction. Contact Jo Ritchie (jor@clear.net.nz) for more information.

Upcoming International Reintroduction Conferences

The first two international reintroduction conferences will take place in 2008. The first conference will be held 14-16 April at Lincoln Park Zoo, Chicago, and will be co-hosted by the zoo and the IUCN Reintroduction Specialist Group (RSG). Topics covered at this conference will include experimental design and adaptive management, captive-born animals and behavioural issues, disease, use of RSG guidelines, and methodological tools. The second conference be held at the London Zoo, probably in May, and will focus on the science and management of bird reintroductions. Topics covered will include reintroduction site selection, development of sensible strategies for pathogen and genetic management, and post-release monitoring and modelling. Contact Carrie Schloss (cschloss@lpzoo.org) at Lincoln Park Zoo for further information on the Chicago conference, and John Ewen (John.Ewen@ioz.ac.uk) at the London Zoological Society for further information on the London conference.

Salmonella Outbreak Postpones Hihi Reintroduction

Hihi, or stitchbids (*Notiomystis cincta*) were due be reintroduced to the Ark in Park (Waitakere Ranges, North Island) starting in February 2006. However, the reintroduction was postponed due to a salmonella outbreak among hihi in the source population on Tiritiri Matangi Island. Salmonella was not detected in the disease screening conducted for the translocation in December 2005, but several dead hihi were found in February 2006 during ongoing research on the island, and confirmed to have died due to the strain *Salmonella*

Typhimurium DT 195. The lack of previous detection of this strain in New Zealand, despite intensive screening in hihi and other bird species, suggests the outbreak should be considered an emerging infection disease (EID). The outbreak appears to have killed close to half the hihi on Tiritiri Matangi, but seemed to quickly run its course and not cause any subsequent mortality after February. Further screening in December 2006 was test for salmonella and other pathogens, and the reintroduction will go ahead in February and May 2007 if no serious pathogens are detected and there is no subsequent mortality outbreak. A population model built from 10 years of data on Tiritiri Matangi has been used to project impacts of removals due to mortality and translocation, and shows that the removals will not put the Tiritiri Matangi population at risk. Contact John Ewen (John.Ewen@ioz.ac.uk) for information on the salmonella outbreak, Doug Armstrong (D.P.Armstrong@massey.ac.nz) for information on population modeling, and Sandra Jack, Project Manager, Ark in the Park (arkinthepark@paradise.net.nz) for information on the reintroduction.

Plans for Takahe Reintroduction

The takahe (*Porphyro mantelli*) is an endemic rail that was once widespread throughout New Zealand, but whose natural range is now restricted to the Murchison Mountains area of Fiordland. Since its 'rediscovery' in 1948, the takahe and its habitat have been the focus of intensive management, including the translocation of 'excess' eggs, raising of chicks at the Burwood Bush Captive Rearing facility, and introduction of takahe to offshore islands. The Murchison Mountains takahe population has increased markedly in recent years, due mainly to the combined effects of this nest management and habitat recovery following deer control, and is now probably approaching carrying capacity (*ca* 70 breeding pairs). As such, the recovery programme is at a point where establishing a second viable mainland population is of the highest priority. Prospective sites for this re-introduction are currently being short-listed, with their suitability determined by factors such as amount and connectedness of habitat, access and infrastructure, history of takahe inhabitation, and extent of predator and deer control currently in place. Research has shown that we may 'harvest' a set number of juveniles from the Murchison Mountain and off-shore island sites (via Burwood Bush) to found and supplement the new population, whist maintaining the health of these source populations. The success of this endeavour will provide further defence against the threat of extinction, and enhance public advocacy for both takahe and conservation in general. Contact Glen Greaves, Department of Conservation, Te Anau (ggreaves@doc.govt.nz).

Recent New Zealand Reintroductions

Click **HERE** for previous reintroductions!

Snails, Darkling Beetles and Turbott's Weevils to Lady Alice Island

In September 2006, 43 *Amborhytida tarangensis* snails, 42 large darkling beetles (*Mimopeus opaculus*) and 30 Turbott's weevils (*Anagotis turbotti*) were translocated onto Lady Alice Island in the Marotere Group (Hen & Chickens Islands). The snails came from Taranga (Hen) Island, and the weevils and beetles from Muriwhenua Island a small predator free islet in the Marotere Group. The snails were released into an area previously chosen as suitable near Koputotara Point. They were released in two groups a few metres apart. Fourteen of the snails were fitted with transponders so their fate/movements can be followed in a years time. The beetles and weevils were released into cages in West Bay. The cages were used in the hope that both species can become established before being released to face a suite of native predators including saddlebacks, moreporks, tuatara and Duvaucel's geckos. Half of the weevils were released into a cage placed over a ngaio shrub, one of their preferred

food species. The others were released into a cage over a karaka sapling, another favourite food species. The larvae of both species are known to also use these trees/shrubs for boring into. Most of the beetles were released here too. Their food requirements are not well known but are believed to frequently graze algae growing on the trunks of smooth barked trees. A few were released outside the cages in the hope they will survived a direct release. Some of both species will be released outside the cages once breeding in proven. Contact Richard Parrish (trishandrichard@xtra.co.nz), Ian Stringer, Department of Conservation, Research (istringer@doc.govt.nz) or Bryce Lummis (Department of Conservation, Whangarei Area).

Speargrass Weevils to Mana Island

An insurance population of the regionally critical Speargrass weevil (*Lyperobius huttoni*) is being established on Mana Island (217ha) off the Wellington coast. 15 weevils (5 males and 10 females), collected from speargrass plants (*Aciphylla squarrosa*) on the Wellington south coast, were released on Mana Island between March and August 2006. A total of 20 weevils will be translocated by January 2007. The Wellington south coast weevils represent the only North Island population of *L. huttoni* and are found at much lower altitudes than south island *L. huttoni* populations. DNA investigation suggests that they are the same species but the results have not been conclusive. The Wellington population has been decimated following habitat destruction by feral pigs, goats and hares and predation by rodents. Numbers have dropped to less than 200 individuals and management in situ has failed to halt the decline. While there are no records of *L. huttoni* occurring on Mana, the island shares a similar climate with the south coast and supports a large population of speargrass in an introduced predator free environment. It is hoped the translocated weevils will establish on Mana Island and provide a source for future relocations to the mainland. Contact Andrew Morrison, Department of Conservation, Poneke Area Office (admorrison@doc.govt.nz).

Northern Rata to Karori Sanctuary

Northern rata (*Metrosideros robusta*) is being reintroduced to Karori Wildlife Sanctuary, a 225 predator-fenced area in Wellington (225 ha mainland restoration area surrounded by a mammal-proof fence, central Wellington, North Island). From 2004-2006 over 200 seedlings have been planted in the sanctuary to restore the lowland forest community. Propagules have been locally sourced and grown by Forest and Bird members, and seedlings have been planted in the ground by volunteers. These plantings will continue as plants become available. In 2006 18 small rata plants were provided and placed in the forks of Hinau trees in the sanctuary by Wellington City Council staff, to initiate trials to determine if rata could be established epiphytically. Additional plants will be made available for experimentation in future years. Contact Raewyn Empson, Karori Sanctuary (raewyn@sanctuary.org.nz).

Maud Island Frogs to Karori Wildlife Sanctuary

Maud Island frogs (*Leiopelma pakeka*) are also being reintroduced to Karori Wildlife Sanctuary. 30 mainly female frogs from Canterbury University were translocated to the sanctuary February-March 2006, and 30 mainly male frogs from Maud Island were translocated in October 2006. This is the first reintroduction of the *Leiopelma hamiltoni-pakeka* group of terrestrial frogs to any mainland site. The frogs have been placed temporarily into two “mouse-proof” enclosures where they have been monitored to assess survival and condition. The frogs transferred in October were screened for chytrid fungus and have been maintained under quarantine conditions in an enclosure separate to the other frogs. In early 2007 frogs from both enclosures will be recaptured and sorted into two experimental regimes – half will be returned to a mouse-proof enclosure and half will be placed into an adjacent rock pile to determine if this species can survive in the presence of mice. This

research is being undertaken as a MSc project. Contact Raewyn Empson (raewyn@sanctuary.org.nz) or Kerri Lukis (lukiskerr@student.vuw.ac.nz).

Forest Geckos to Matiu/Somes Island

In April 2005, 25 Southern North Island forest geckos (*Hoplodactylus aff. granulatus*) were released from captivity onto Matiu/Somes Island (24.9 ha, in Wellington Harbour). It is not known if forest geckos originally inhabited Matiu/Somes Island but evidence suggests that they were once wide spread throughout the Wellington area. Matiu/Somes Island is in the process of being restored to its original coastal forest community and has been pest free since 1989 when rats and mice were eradicated. The geckos were sourced from local breeders and consisted of animals bred from Wellington ecological district sourced stock. 9 Males, 8 females and 8 juveniles were released into purpose built gecko boxes attached to trees on the island. Prior to the release, each gecko was photographed for identification purposes and disease screened by the team at the New Zealand Wildlife Health Centre. Three of the released geckos, including a gravid female, have been found in the gecko boxes during post release monitoring, indicating the geckos are surviving and breeding on the island. Contact Andrew Morrison (admorrison@doc.govt.nz).

Ornate Skinks to Matiu/Somes Island

On 4 November 2006, 26 ornate skinks (*Cyclodina ornata*) (8 males, 11 females, and 6 juveniles) were released onto mammalian predator free Matiu/Somes Island (24.9 ha, in Wellington Harbour). While it is unclear whether ornate skinks were originally on Matiu/Somes, the species is identified for translocation in the Matiu/Somes management plan and will advance the task of restoring a coastal forest community representative of the Wellington ecological district. The source of animals was unusual, over half of the 26 skinks were caught and brought home alive by a single pet cat in the Wellington suburb of Kelburn, the rest were salvaged from a garden undergoing landscaping in Wellington city. The skinks were held in captivity over winter in preparation for a release in spring. Brett Gartrells team at the New Zealand Wildlife Health Centre screened the skinks for diseases and, after confirming that a photo id could be used to identify individuals, each skink had mug shots taken and an identification booklet was made for future monitoring. The skinks were released under roof tiles and macrocarpa logs which will serve as monitoring points. Contact Andrew Morrison (admorrison@doc.govt.nz)

North Island Saddlebacks to Bushy Park

North Island saddlebacks (*Philesturnus rufusater*) were reintroduced to Bushy Park Reserve near Wanganui in May-June 2006. The reintroduction is part of the restoration programme for Bushy Park, which was enclosed by a predator-proof fence in May 2005 and mammalian predators subsequently eradicated. The reserve has 87 ha of relatively pristine pukatea-tawa-podocarp-mixed broadleaf forest. 40 birds were sourced from Mokoia Island in Lake Rotorua. As part of Joanne Thorne's MSc project, the plan for the release was to keep 10 birds under quarantine for two weeks and treat with Baycox (for coccidiosis) and Sporonox (for aspergillosis), keep 10 birds under quarantine with no treatment, release 10 birds immediately with treatment, and release 10 birds immediately with no treatment. The aim of this experiment was to assess the impact of the quarantine and treatment procedures now being routinely enforced in reintroductions. However, the occurrence of Plasmodium (malaria) in four of the initial 20 birds meant that we were required to quarantine and treat all birds, and the initial birds were held more than one month before release. Two birds subsequently died in the holding aviary, and many others disappeared shortly after release, leaving a population of about 20 birds at the start of the breeding season in September. This

post-release survival is similar to that at Boundary Stream, where birds were held for 30 days, but much lower than in other saddleback reintroductions (see below). Contact Joanne Thorne, Massey University (jothorne@xtra.co.nz) or Doug Armstrong (D.P.Armstrong@massey.ac.nz).

North Island Saddlebacks to Motuihe Island

20 North Island saddleback were translocated from Tiritiri Matangi to Motuihe Island (179 ha, Hauraki Gulf, near Auckland) in August 2005. Birds were captured using mist nets and lure calls, and were held in an aviary on Tiritiri Matangi where they were provided with a variety of food including live invertebrates, fruit and natural forage, before transportation by boat to Motuihe. An August 2006 survey showed a minimum of 14 of the original translocated birds, and 11 juveniles from the 2005/2006 breeding season are present on the island. The minimum survival of translocated saddleback on Motuihe (70%) in the year following release was higher than that on Cuvier (41%), Stanley (46%) and Little Barrier (44%) Islands, and only slightly lower than that on Tiritiri Matangi (79%) and Mokoia (81%). It is unknown if saddleback were historically present on Motuihe but the introduction is consistent with the goals of the Motuihe Restoration Project. Contact Kevin Parker (k.parker@massey.ac.nz).

Kokako in Hunua Ranges

14 kokako from Mapara (King country, central North Island) were translocated to the Hunuas in August-September 2006 to supplement the existing kokako population, which was thought to consist of about 10 pairs. Calls of Mapara dialect kokako were played over a loudspeaker system at the release site in the hope that this would encourage translocated birds to stay at the site. From Forest & Bird 322: 4.

North Island Robins to Matiu/Somes Island

On 5 April 2006, 21 North Island robins (*Petroica longipes*) from Kapiti Island were hard released on Matiu/Somes Island. Matiu/Somes Island is a 24.9ha pest free (since rodent eradication in 1989) scientific reserve that lies in Wellington Harbour. The island was cleared for grazing in the late 1800's and early 1900's, displacing many of the original plants and animals. Lower Hutt Forest and Bird have led an intensive revegetation programme (since 1981), aiming to re-establish the coastal forest community that would have existed on the island. While there are no historical records of robins on Matiu/Somes it is assumed they would have been present as they were once widespread in the Wellington region. Robins were caught with clap traps from locations at both ends of Kapiti I. to maximise genetic diversity. Plumage colour and tarsus measurements were used to ensure an even mix of male and females were transferred. Existing pairs were caught where possible. Six pairs have nested on Matiu/Somes this season, producing a total of six fledglings by early November 2006. Contact Andrew Morrison (admorrison@doc.govt.nz).

Fluttering Shearwaters to Mana Island

Fluttering shearwaters were reintroduced to Mana Island in January 2006 when 40 chicks were translocated from Long Island in the Marlborough Sounds. Chicks were captured and translocated 1-3 weeks prior to fledging, then given daily feeding of artificial diet ("Brunswick" sardine smoothies) in pre-prepared "breeding" burrows until fledging. These burrows were on regenerating coastal cliffs on western side of Mana Island. Bones have been found on Mana indicating the species had been on the island in the past, but no birds have nested on the island in recent time. The aim is to restore the nutrient cycles associated with seabird colonies, and facilitate recovery of species (eg., high nutrient threatened plants,

reptiles). Mice have been eradicated from Mana Island, and results from previous seabird reintroductions using similar techniques suggest this reintroduction will be successful. Up to 100 additional chicks with be translocated in each of the next two years, and chicks will continue to be translocated at different ages to determining when chicks establish site fidelity. From Lynn Adams, Department of Conservation, Wellington Conservancy (ladams@doc.govt.nz).

Hutton's Shearwaters to Kaikoura Peninsula

Hutton's shearwaters (titi) from the Seaward Kaikoura Range were translocated to artificial burrows at Kaikoura Peninsula in March-April 2006 (from Forest & Bird 320: 10). This follows up the trial of 10 chicks done last year (see 2005 newsletter), and is part of a reintroduction that was planned over three years, but I don't know how many chicks were translocated in 2006 (Ed).

Brown Teal to Coromandel Peninsula

Brown Teal, or Pateke (*Anas chlorotis*), have been released at Port Charles, Coromandel Peninsula, North Island, over the last 4 years to supplement the population. 38 were released 38 in 2003, 42 in 2004, 62 in 2005 = 62, and 72 in 2006, always with birds that were 6-11 months of age and with an approximately 1:1 sex ratio. A release of 50 further birds is planned for January 2007. The release site has about 500 ha of wetland, pasture, and forest, and the species existed at the site in small numbers, down from the large numbers found historically. The aim is to establish a viable breeding population outside the species' strongholds on Great Barrier Island and eastern Northland. The release site was chosen for a number of reasons, including its situation in the centre of the Moehau Kiwi Sanctuary's 30000 ha mustelid control area. Specific cat control was established, and is maintained year round by another local landowner. Birds were bred by the Pateke Captive Breeder Network (20 breeders nationwide), co-ordinated by Kevin Evans (Pateke Captive Breeding Co-ordinator), using captive stock originating from Great Barrier Island. Six weeks prior to each release, all birds were transferred to Isaacs Wildlife Centre in Christchurch for quarantine and disease screening. Before release, birds had colour bands and had radio transmitters attached, were transported from Christchurch to Auckland, then flown by helicopter to the release site. Supplementary food was provided at the release site. Released birds are monitored using telemetry and visually monitored by a local landowner daily for first month, then twice weekly for 12 months. Flock counts are done at several locations each February. The released birds have had an average of 65% survival for the 12 months after release. The main cause of death is now vehicle strike, followed by cat predation, and measures are being taken to reduce the incidence of vehicle strike. Monitoring in 2005-06 and 2006-07 will determine wild bred juvenile survival to breeding age. There is ongoing predator and habitat restoration, all with active participation from land owners who have been pivotal to the success of the project. Contact Jason Roxburgh, Department of Conservation, Hauraki Area Office (jroxburgh@doc.govt.nz).

Brown Teal to Tuhua/Mayor Island

Brown Teal were reintroduced to Tuhua/Mayor Island in the western Bay of Plenty in February 2006 when 28 birds were released. Mammalian predators were previously eradicated. From Forest & Bird 320: 15.

Blue Ducks in Kahurangi National Park

11 blue ducks were released in the Wangapeka River catchment of Kahurangi National Park in Mach 2006 to supplement the population. The catchment is now protected by stoat trapping, and eggs are collected from other parts of the park, hatched and reared at the Peakock Springs wildlife centre, and juveniles released in the managed area. There were three birds in the catchment when management began, and 27 following the recent supplementation. From Forest & Bird 320: 9.

Orange-fronted Parakeets to Chalky Island

Orange-fronted parakeets were reintroduced to Chalky Island (Te Kakahu o Tamatea), Fiordland, when 31 captive-reared birds were released in December 2005 and February 2006. The birds were captive-bred juveniles from the Isaac Wildlife Trust's Peacock Springs site. They were flown by plane to Invercarbill, then by helicopter to Chalky Island. Most birds were still alive when transmitters expired (six weeks after release?) and four pairs were found nesting in late March 2006. From Forest & Bird 320: 5.

Kiwi and Takahe to Maungatautari

Nine brown kiwi and two takahe have been reintroduced to the predator-fenced 60 ha cells at Maungatautari mountain. Many more reintroductions are planned for coming years as the entire 3400-ha mountain is enclosed by a predator proof fence and mammalian predators eradicated. Contact Chris Smuts-Kennedy (smuts@hnpl.net).

North Island Brown Kiwi to Tuhua/Mayor Island

Seven kiwi from a 8630-ha pine forest owned by Kiwi Foresty Group, eastern Bay of Plenty, have been translocated to Tuhua/Mayor Island in the western Bay of Plenty. From Forest & Bird 321: 13.

Weka to Abel Tasman National Park

Weka were reintroduced to Totaranui in Abel Tasman National Park when 9 birds from Long Island, Marlborough Sounds, were translocated. Once abundant in the park, they were last seen at Totaranui in 2001. They were kept in an aviary at the release site for one month before release. There is stoat trapping in the area. From Forest & Bird 321: 13.

Recent Australian Reintroductions

Click **HERE** for previous reintroductions!

Grevillea althroferorum, Western Australia

Just 298 plants of *Grevillea althroferorum* (split-leaved Grevillea) still exist in the wild. The species is restricted to two small and considerably disjunct populations (the populations are separated by 200km of mainly cleared farmland) north of Perth, Western Australia. In September 2005, the Department of Conservation and Land Management introduced 73 plants grown from cuttings to South Eneabba Nature Reserve. Although the species has never been recorded at this site the habitat has similar soils and associated vegetation. A watering system has been installed and half the plants will be watered over the first summer to assess the importance of watering to translocation success. Further planting is planned to ensure the population is viable. A long term monitoring program has been developed to assess the success of this planting. Contact Leonie Monks, Department of Conservation and Land Management, Western Australia (leonie@calm.wa.gov.au).

***Synaphea quartzitica*, Western Australia**

As its name suggests, the Quartz-loving Synaphea (*Synaphea quartzitica*) is found only on quartz and chert hills north of Perth. As it was only known from four populations a decision was made to find a new site with suitable habitat in a nature reserve. Such a site was found north of Watheroo (approximately 200 km north of Perth, Western Australia) and in August 2005 225 plants grown using tissue culture techniques were planted out. Similar to the Split-leaved Grevillea half the plants were watered and the other half left unwatered to assess the need for watering over the first summer. Further updates on this translocation will be available as part of the ongoing monitoring of the translocation. Contact Leonie Monks (leonie@calm.wa.gov.au).

***Lambertia orbifolia*, Western Australia**

A decision was made to translocate Round-leaf Honeysuckle (*Lambertia orbifolia*) after the species was split into two subspecies following genetic work. This meant that the form near Albany, Western Australia (subsequently named *Lambertia orbifolia* subsp. *orbifolia*) was listed as critically endangered because it was known from just two populations of 169 individuals, both of which are infected with aerial canker and dieback (*Phytophthora cinnamomi*). To date we have introduced 714 seedlings and cuttings into a nature reserve a few km away from the known populations. The survival of the first three years of planting is 47% of the 615 plants (the last 106 seedlings were only planted in May so survival data is not yet available). The plants from the first three years have all grown, flowered and set viable seed and at last count 104 naturally recruited seedlings have been found – a positive indication that this population may be self-sustaining. Contact Leonie Monks (leonie@calm.wa.gov.au).

Greater stick-nest Rats to Scotia Wildlife Sanctuary, New South Wales

100 greater stick-nest rats *Leporillus conditor* were reintroduced to a 4000 ha fenced area on Scotia Wildlife Sanctuary in western New South Wales in April 2006. Approximately one third of the rats were sourced from an introduced population on Reevesby Island in South Australia, and the remainder were captive bred animals, previously held in small enclosures at Scotia and Yookamurra Wildlife Sanctuaries. A number of rats from each source population were radio collared. Significant mortality of the collared animals occurred in the first two weeks following translocation, due predominantly to pneumonia, which may have been a result of the stress of translocation and high rates of dispersal. Since this time rats appear to have settled in and have constructed stick nests. Contact Jacqui Richards, Australian Wildlife Sanctuaries (jacqui@australianwildlife.org).

Greater stick-nest Rats to Faure Island, Western Australia

22 greater stick-nest rats were translocated to Faure Island Wildlife Sanctuary in Shark Bay, Western Australia, in September 2006. 16 came from an introduced population on St Peters Island in South Australia and 6 from an introduced population on Salutation Island in Shark Bay. A subset of rats were radio collared, and the South Australian rats dispersed widely, while the Salutation Island animals did not disperse far from the release site. Three of the smallest individuals died immediately post-translocation due to predation by a raptor and similar stresses of translocation. Other collared animals were located amongst dense chenopod shrublands with diurnal resting sites under dense shrubs, but no signs of nest construction were evident. Contact Jacqui Richards, Australian Wildlife Sanctuaries (jacqui@australianwildlife.org).

Brush-tailed Bettongs to Paruna Wildlife Sanctuary, Western Australia

96 woylies or brush-tailed bettongs (*Bettongia penicillata*) were translocated from 280 ha Karakamia to 2,000 ha Paruna Wildlife Sanctuary, in the Avon Valley east of Perth, in July 2006, to supplement the Paruna population. The other aim was to relieve the pressure on the high-density population at Karakamia prior to the warmer and drier summer months. 10 of the woylies were radio collared to monitor survival and dispersal for three months after release and trapping was conducted at the same time throughout the sanctuary. During post-release monitoring three woylies were killed by fox/cat and raptor predation and the remainder did not disperse far from the release site. Over 75% of the released animals were re-trapped in the three months post-release and a number of Paruna-born animals plus animals from a previous release were trapped also. Contact Jacquie Richards, Australian Wildlife Sanctuaries (jacqui@australianwildlife.org).

Southern Brown Bandicoots to Paruna Wildlife Sanctuary, Western Australia

37 quenda or southern brown bandicoots (*Isoodon obesulus*) were translocated from development sites in the Perth metropolitan area, and a handful from wildlife carers, to Paruna Wildlife Sanctuary in 2006. These animals are monitored only during an annual survey and during targeted trapping for reintroduced woylies. Contact Jacquie Richards, Australian Wildlife Sanctuaries (jacqui@australianwildlife.org).

Eastern Bristlebird, New South Wales

The eastern bristlebird (*Dasyornis brachypterus*) is an endangered Australian passerine which is restricted to a few isolated populations. It has poor dispersal ability as it is semi-flightless. It is threatened by habitat loss and fragmentation, inappropriate fire regimes and introduced predators. Reintroduction was identified as a potential strategy to help reduce risks to the species from threats such as widespread intensive fire. Bristlebirds were sourced on Bherwerre Peninsula, Jervis Bay, NSW, one of the largest remaining populations. The release site was on Beecroft Peninsula, only 12 km away and considered to be part of the former range of the species. Previous threats to bristlebirds are now being managed in the release site. In three field seasons over three years, 15 (2003), 20 (2004) and 15 (2005) bristlebirds were caught from the wild, transported to the release location and immediately released. Twenty females and 28 males were released. At the time of writing, the reintroduction was a success. Bristlebirds were calling within days of release and have remained in the release environment for up to four years. Two unbanded bristlebirds were observed in 2005 indicating some breeding has occurred. A minimum of 21 bristlebirds were recorded in the release environment in 2006. The removal of bristlebirds over three years from a limited area in the source population had no detectable impact. Contact David Bain, Institute for Conservation Biology and Law, University of Wollongong (dwb01@uow.edu.au).

Updates on Pacific Island Reintroductions

Kakerori on Atiu Island, Cook Islands

Kakerori, or Rarotonga Monarch (*Pomarea dimidiata*) were introduced to Atiu Island, southern Cook Islands, from 2001-2003. A total of 30 birds were released, with the aim of providing an insurance population given that the species previously had only a single

population of 250-300 birds, on Raratonga. Atiu was chosen because of apparent absence of ship rats, a large area of suitable habitat, no known competitors, no likely impact on other native wildlife, and keen interest by the local community to have kakerori. Initial indications are that the introduction has been successful, with good survival of transferred birds, and successful breeding recorded in a variety of habitat types on Atiu. See Robertson et al. (2006) (citation below) or contact Hugh Robertson, New Zealand Department of Conservation (hrobertson@doc.govt.nz).

Guam Rail on Rota Island, Northern Mariana Islands

Ko'ko' (Guam rails, *Gallirallus owstoni*) are endemic to the island of Guam, but were extirpated by introduced brown tree snakes. However, some birds were taken into captivity in the mid 1980s before they were completely extirpated. A programme to introduce captive-reared ko'ko to snake-free Rota Island, 76 km N of Guam, was initiated in 1989 to conserve the species. Over 700 have been released on Rota to date, mostly at the eastern end of Rota, but the population there appears to be small and unstable, at least partially due to feral cats. In September 2006, when 46 ko'ko' were released in Apanan, located in the southern part of the island. The release site was moved to Apanan as it contains more preferred habitat and is far from a development project currently underway in the east that will attract additional cats. Ko'ko' have also been reintroduced to a 22-ha area on Guam where trapping and a perimeter barrier have been used to reduce abundance of brown tree snakes barrier. Contact Suzanne Medina, medinas@guam.net, or Paul Wenninger, pwenninger@yahoo.com, Department of Agriculture, Guam.

Updates on Previous New Zealand Reintroductions

Reintroductions to Karori Sanctuary

Little spotted kiwi, which were reintroduced from 2000-20001, have bred every year since release and have spread throughout the Sanctuary. Guided night walks provide an opportunity to hear and sometimes see these birds at night. **Brown teal**, which were also reintroduced from 2000-2001, were first detected breeding in late 2002 and breeding has occurred every year since then. There now appears to be competition for preferred wetland habitats, resulting in losses of some birds. Supplementary feeding was discontinued in early 2006 to reduce productivity and competition for territories, and translocation of surplus juveniles to new sites will be undertaken if suitable release sites are identified. **New Zealand Scaup**, which were reintroduced from 2001 to March 2003, first bred in December 2002 and have bred every year since. Scaup can be seen on both lakes, but the limited habitat probably means that some are dispersing outside the sanctuary. **North Island weka**, which were reintroduced to a fenced off portion at the northern end of the sanctuary in 2000, are known to have bred but are generally shy and not readily observed. **Kereru** have been reintroduced into the sanctuary since 2002, using 10 birds rehabilitated after injury. Breeding was not confirmed until January 2006 when a kereru chick fledged from a nest in the sanctuary. **Kaka**, which were reintroduced from 2002-2004, began breeding in the first season and have bred every year since then. Females have bred at one year old and males at 2 years old, which is exciting given that kaka were originally thought to only breed at 3-4 years of age. The population has now increased to at least 48 birds, and they have been increasingly seen in various parts of Wellington with some birds apparently ranging out of the Sanctuary to feed. Some deaths have been documented as a result. **Tomtits**, which were reintroduced from 2001-2004, were confirmed to have bred every year since 2003/04, but recruitment has been low despite good productivity (mean 6.5 young fledged per pair). Competition from the expanding robin population has probably played a role, as tomtits have progressively shifted their territories to the sanctuary perimeter and outside. **North Island robins**, which were reintroduced in 2001-

2002, have bred well (> 3 fledglings per pair in the first three years), and now have about 100 pairs distributed throughout the sanctuary. While robins are found outside the Sanctuary, their survival has been problematic but could improve with predator trapping occurring around much of the sanctuary since 2006. **Whiteheads**, which were reintroduced in 2001-2002, have bred well and are now spread throughout most of the Sanctuary and have expanded into surrounding areas (Wrights Hill and Polhill Gully). **North Island Saddlebacks**, which were reintroduced in 2002, have bred successfully and expanded slowly (from 10 pairs in 2002/03 to 19 pairs in 2005/06) until monitoring ceased in 2006. **Hihi**, which were reintroduced in 2005, had high post-release survival, with 90% of birds known to be alive 5-6 weeks after release. The breeding season exceeded all expectations, with nesting beginning earlier than elsewhere and 89 chicks fledged (5.2 per female). **Bellbirds**, which were reintroduced from 2001-2003, have bred every year since 2002/03. Female survival and recruitment have been problematic, and by the 2005/06 breeding season there were 20 territorial males competing for 5 females. **Tuatara** were reintroduced in December 2005, and animals caught later have shown no significant change in condition. 60 of the 70 tuatara were released into a mouse-free enclosure, but no mouse damage has been detected in the tuatara released outside the enclosure. Contact Raewyn Empson (raewyn@sanctuary.org.nz).

Reintroductions to Ark in the Park

North Island robins, which were reintroduced to the Ark in the Park area (Waitakere Ranges, North Island) in 2005, are having a second good breeding season, with 7 nestlings already fledged in mid November from the 5 pairs being monitored in the core of the project area. **Whiteheads**, which were reintroduced to the Ark in the Park area in 2004, are much more difficult to monitor hence relatively little information is available. However, 4 whiteheads were recently seen in the Pararaha Valley in Karekare (ca. 12 km from the core of the Ark area), an area has just been added to a buffer predator control zone to protect shore nesting birds on the West Coast. Volunteer group "Friends of Whatipu" have been involved in carrying out protection around the Whatipu area for the past 4 years, in association with the Auckland Regional Council, and with help of ASB funding they are now able to extend the area northwards incorporating the Pararaha Valley. It's great to see the Ark's reintroductions benefiting other areas of the Ranges and working alongside all the groups doing predator control in the area. A breeding pair previously detected in another area in Karekare also received predator control thanks to the efforts of dedicated locals. Contact Sandra Jack (arkinthepark@paradise.net.nz).

Reintroductions to Boundary Stream

North Island brown kiwi, which were reintroduced starting in 2000, now have a population of 22 birds with 6 established breeding pairs. 12 chicks have hatched so far in the reserve. **Kokako**, which were reintroduced starting in 2001, produced 5 chicks last year. There are plans to translocate more birds from Te Urewara National Park, and it is hoped that presence of the current population will reduce post-translocation dispersal from the reserve. Contact Denise Fastier, Department of Conservation (dastier@doc.govt.nz).

Maud Island Frogs on Long Island

Maud Island frogs were translocated to Long Island in the Marlborough Sounds in June 2005. These frogs were monitored during the first week following translocation and again in February/March 2006, eight months after the release. Nearly a third of the frogs were recaptured during the Feb/March monitoring trip and these appeared to be in good condition with several gravid females observed. Frogs tended to move in a downhill direction with

resightings of individuals at points from 28 cm to 15.5 m away from the frogs' original release sites. Dispersal from the release site did not appear to be related to good habitat as many frogs moved downhill into areas with less dense rock piles. Contact Jennifer Germano (gerje744@student.otago.ac.nz) or see Germano (2006).

Short-tailed Bats on Kapiti Island

Twenty short-tailed bats were released onto Kapiti Island in April 2005. Bats caught 8 months after release (December) showed balding and had scabs on their ears, and these were probably clinical signs of a mite infestation (resulting from overgrooming). No mites were seen on the bats or in skin scrapings, but they are usually present at low densities and difficult to diagnose except based on clinical signs. Infestations in captive populations tend to lead to death, so probably would have done so in the translocated population had it not been for veterinary treatment. Bats caught at this time showed a slight loss of weight, but were similar to weights from natural populations. Infestation may have occurred either because (1) bats were in poor condition and had low immunocompetence, or (2) bats frequently roosted in the aviary provided and did not show the roost switching behaviour seen in natural populations. This behaviour may occur to prevent parasite build up. Contact Jay Ruffell, University of Auckland (j_dog81@hotmail.com).

North Island Robins in Forest Fragments near Benneydale

Robins are being reintroduced to 5-20 ha forest fragments near Benneydale as part of a project assessing the roles of habitat and metapopulation dynamics on the distribution of this species (see 2005 newsletter). Robins were reintroduced to 6 fragments from April-June 2005, and there was at least one pair present in 7 new fragments in the 2005/06 breeding season (the 7th fragment resulting from dispersal between adjoining fragments). Robins were reintroduced to a further 6 fragments from February-April 2006, but pairs were only established in three of these as all robins dispersed from the other three fragments. Robins bred well in the new fragments in 2005/06, producing 2.3 independent young per female in comparison to 1.7 in 10 fragments with previously established populations. However, overwinter survival appears to have been lower in new fragments than in previously-occupied fragments. Post-translocation dispersal has been closely correlated with connectivity, with most robins leaving fragments that were well connected to other fragments. Contact Doug Armstrong (D.P.Armstrong@massey.ac.nz).

Great Spotted Kiwi at Rotoiti Nature Recovery Project

10 Great Spotted Kiwi (*Apteryx haastii*) were translocated from Kahurangi National Park to Rotoiti Nature Recovery Project, Nelson Lakes National Park, in May 2004. One bird injured in transit now in captivity as a founder for captive breeding. The other 9 settled in the release area with negligible dispersal. Birds transferred as true pairs exhibited less dispersal than artificial pairings. Breeding was detected in year 1 (one nest), with four nests in year 2. One chick has been located providing an opportunity to learn about development of this species. At 6 months this chick is still sheltering with both parents. 1 adult bird died by drowning. Monitoring at source site indicate a slightly elevated call rate, indicating no significant negative effect upon the source population 1 year after collection. A follow-up transfer was recommended and undertaken in June 2006 to increase the founder population. A source site 4km distant from 2004 site was slected.10 birds (4 pair, 2 female) were targeted but proved difficult to capture, with 7 birds transferred (3 pair,1 female). Birds were located and captured using certified night dog and handler. Birds held and transferred in individual transfer boxes which had been modified to prevent injury as occurred 2004. Helicopter transported after holding between 12 and 40 hours. All birds are radio tagged, including

transmitters that detect and report on breeding activity. True pair again dispersed less than artificial pair. No displacement of resident birds from May 2004 was detected. Contact Matt Maitland, Department of Conservation, St Arnaud Area (mmaitland@doc.govt.nz).

South Island Saddlebacks on Erin Island

South Island saddlebacks were released on Erin Island (67 ha in Lake Te Anau, Fiordland) in September 2003 (18 birds) and April 2004 (20 birds). The initial 18 birds had all disappeared by the time of the second release, whereas 7 birds from the second release survived for one year. One pair bred in 2004/05 and 3 pairs bred in 2005/06, increasing the population to 17 birds as of February 2006. However, no saddlebacks were observed in a survey in June 2006, and monitoring since September 2006 has confirmed that there are none left. The potential causes of disappearance include: 1) reinvasion and subsequent predation by one or more stoats, although no stoats were caught in the 16 stoat traps on the island; 2) predation by native NZ falcons, which have been observed in the area; and 3) inadequate food supply especially in autumn-winter, the period when both groups of birds disappeared. The possibility of a limited food supply on Erin I. is partly supported by the observation that all saddlebacks settled in small patches of podocarp forest, where insect abundance and diversity may have been greater than in the main beech forest, which covers > 80% of island. Food shortage could have directly caused starvation or resulted in dispersal to the adjacent mainland where rats and stoats are common. Contact Ian Jamieson (ian.jamieson@stonebow.otago.ac.nz), University of Otago.

Campbell Island Teal on Campbell Island

Campbell Island Teal were reintroduced to Campbell Island in 2004 (50 released), 2005 (55 released), and 2006 (54 released) following eradication of Norway rats in 2001. A Department of Conservation team that visited the island over the 2005/06 summer found ducklings from that breeding season and unbanded adult ducks from the previous breeding season. Contact Peter McClelland (pmcclelland@doc.govt.nz).

Fernbirds on Tiritiri Matangi Island

Fernbirds were translocated to Tiritiri Matangi in 2001 and 2002. Fernbird were rarely seen in the two years following release. However, nests have been detected each breeding season since 2001/2002, unbanded birds are abundant, and the most recent survey (November 2005) shows a minimum population of 60 birds is present on the island. Contact Kevin Parker (k.parker@massey.ac.nz).

Recent Publications on New Zealand Reintroductions

Click **HERE** for complete list!

Armstrong, D.P., Raeburn, R.M., Lewis, R.M., Ravine, D. 2006. Estimating the viability of a reintroduced New Zealand robin population as a function of predator control. Journal of Wildlife Management 70(4): 1020-1027.

Armstrong, D.P., Raeburn, R.M., Lewis, R.M., Ravine, D. 2006. Modeling vital rates of a reintroduced New Zealand robin population as a function of predator control. Journal of Wildlife Management 70(4): 1028-1036.

Armstrong, D.P., Davidson, R.S. 2006. Modelling the reintroduction of island-marooned birds to the New Zealand mainland. New Zealand Journal of Ecology 30: 73-85.

Dimond, W.J., Armstrong, D.P. 2007. Adaptive harvesting of source populations for translocation: a case study using New Zealand robins. Conservation Biology 20: ***-*** (available online).

Gasson, P.A. 2005. Translocation of great spotted kiwi/roa (*Apteryx haastii*) to Rotoiti Nature Recovery Project. Department of Conservation, Nelson/Marlborough Conservancy Occasional Publication No. 67.

Germano, J. 2006. Responses of the Maud Island frog, *Leiopelma pakeka*, to artificial displacement. MSc thesis, University of Otago.

Shadbolt, A. 2006. Re-introduction of South Island fernbird in Christchurch, New Zealand. Reintroduction News 25: 44-45.

Steffens, , Seddon PJ, Mathieu R, et al. 2005. Habitat selection by South Island saddlebacks and Stewart Island robins reintroduced to Ulva Island. New Zealand Journal of Ecology 29(2): 221-229.

Recent Publications on Australian Reintroductions

Click **HERE** for complete list!

Hardman, B., Moro, D. 2006. Importance of diurnal refugia to a hare-wallaby reintroduction in Western Australia. Wildlife Research **33:** 355–359.

Hardman, B., Moro, D. 2006. Optimising reintroduction success by delayed dispersal: Is the release protocol important for hare-wallabies? Biological Conservation 128: 403–411.

Mathews, F. Moro, D., Strachan, R., Gelling, M., Buller, N. 2006. Health surveillance in wildlife reintroductions. Biological Conservation 131: 338–347.

Priddel, D., Carlile, N., Wheeler, R. 2006. Establishment of a **new** breeding colony of Gould's petrel (Pterodroma leucoptera leucoptera) through the creation of artificial nesting habitat and the translocation of nestlings. Biological Conservation 128(4): 553-563.

Rosesetto, M. 2006. Pre-reintroduction planning: assessing the suitability of plant material and planting sites in rainforest remnants of northern NSW Australia. Reintroduction News 25: 49-50.

Sigg, D.P. 2006. Reduced genetic diversity and significant genetic differentiation after translocation: Comparison of the remnant and translocated populations of bridled nailtail wallabies (*Onychogalea fraenata*). Conservation Genetics 7(4): 577-589.

Wood, R. 2006. Translocation and genetics of the giant Gippsland earthworm in Victoria, Australia. Reintroduction News 25: 6-7.

Recent Publications on Pacific Island Reintroductions

Robertson, H.A., Karika, I., Saul, E.K. 2006. Translocation of Rarotonga Monarchs Pomarea dimidiata within the Southern Cook Islands. Bird Conservation International 16(3): 197-215.

Tweed EJ, Foster JT, Woodworth BL, et al. 2006. Breeding biology and success of a reintroduced population of the critically endangered Puaiohi (*Myadestes palmeri*). Auk 123(3): 753-763.

Van der Werf, E.A, Groombridge, J.J., Fretz, J.S. et al. 2006. Decision analysis to guide recovery of the po'ouli, a critically endangered Hawaiian honeycreeper. Biological Conservation 129(3): 383-392.