

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

Vol.	Date	Page	Conservancy
			19. Aerial Poisoning Quotes
37 Jun -00	4		Monitoring of <i>Dactylanthus</i> ..At Te Kopia, even with low possum numbers following last winter's 1080 operation any uncaged flowers were still destroyed.
37 Jun -00	22		Between the Kermadecs to the north and Campbell in the deep south there are more than 800 islands in and around New Zealand. During the past 15 years we have been able to eradicate rodents from most of those islands (of any size) which are included in the DoC estate. The last four islands on the current list are by our standards very large. Mayor Island is scheduled for this year, with the last three - Raoul, Little Barrier, and Campbell - during the next 4 to 5 years. The recent increase in DoC funding has provided the funds to carry out all four projects. Obtaining consents and solving any technical issues that may arise are all that remains before they too become rodent free
38 Sep -00	14		This project[']s objectives include determining the costs..and benefits..of an aerial 1080 possum poisoning operation to kereru and kaka in Whirinaki Forest Park. This requires the radio-tagging and monitoring of kaka and kereru in a treatment area (Otapaka Ecological Area) and in a non-treatment area (Oriuwaka Ecological Area). The project began in October 1998. To date, 63 kereru have been captured and survived at least a fortnight after being radio-tagged. Of these, 28 (44.4%) have died, giving a mean life expectancy of just 0.9 years!.. Fifty-three kaka have been captured and survived at least a fortnight after being radio-tagged. Of these, 3 (5.7%) have died, giving a mean life expectancy of 20.5 years.. The carrot-1080 aerial possum poisoning operation occurred in May 2000. The prefeed baits were distributed at 5 kg/ha by the contractor, Epro Ltd of Taupo, on 1 May. The poison bait (10 kg/ha, 0.08% 1080, 2435 ha treatment area) was distributed on 17/18 May. Monitoring of bait distribution (10 lines each of 1 km long, with the requirement that there be at least 1 bait in each 50 m segment) indicated a 99.5% coverage. None of 17 kaka (10 male, 7 female) in the treatment area, and 20 (9 male, 11 female) in the non-treatment area died during the fortnight following the poison drop. Similarly, none of 15 kereru in the treatment area died after the poison drop, but 1 of 11 (9.1%) died in the nontreatment area. Five dead birds were found in the treatment area: 3 tomtits, 1 chaffinch and 1 hedge sparrow. Muscle samples have been taken from each and will be tested for 1080 in due course. Possum monitoring in the treatment and non-treatment study areas (six lines of 20 traps in each) during February 2000 resulted in 31.4 and 32.9 captures/100 trap nights respectively. Monitoring was repeated in the treatment area following the poison operation (12-16 June 2000) resulting in 4.4 captures/100 trap nights, just below the objective of 5% RTC. Likewise, the impact of the poison operation on rodent and mustelid populations was monitored using tracking tunnels (10 lines of 10 tunnels in each study area), pre-operation monitoring in April 2000 and postoperation in June, 3 weeks after the drop. The tracking index for rats went from 56 to 76% in the non-treatment area, but 43 to 5% in the treatment area. All rat prints were in one line of tunnels near the boundary of the drop zone. The mouse index declined in the non-treatment area (30 to 14%), but increased in the treatment area (23 to 30%). The mustelid index declined from 2 to 0% in the nontreatment area, and 6 to 0% in the treatment area between the two monitoring sessions.
39 Dec-00	20		After 5 years in the planning, more than a year in the implementation ..Whenua Hou Nature Reserve (Codfish Island) [is] rat free..Non targets were the big issue with emphasis on the bats, fernbirds and kakapo. The kakapo were 'relatively' straightforward, if not easy – find another suitable holding island, set up a new infrastructure for the team and move the birds for the duration of the programme. This meant timing the eradication for a year when the birds were unlikely to breed so as to minimise disturbance. Indications were that 1999 was not going to be a breeding year so things were able to go ahead. Ironically the birds bred on their temporary home, with one of the most productive (egg wise) years ever!.. Trials showed that the fernbirds were at significant risk from the bait, although there is debate over whether it is primary or secondary poisoning, so to safeguard the subspecies it was decided to establish another population on a nearby island..The first attempt to the only available island at the time failed for reasons we'll never know. This meant that we had to eradicate the rats from another island (146 ha Putauhinu) in order to make it suitable for fernbirds. This bait drop was carried out in conjunction with another nearby island (Rarotoka/Centre

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

			<p>Island) in 1997 and proved to be an excellent training run..The eradication on Putauhinu was successful, and 21 fernbird were transferred in November-December 1997.. Back on Whenua Hou it appears that sufficient birds have survived to re-populate the island with the first post drop breeding recorded in 1999.. we decided to hold up to 400 bats in captivity for the duration of the programme. A trial with 50 bats was carried out first with no loses. So before the bait was dropped 385 bats were caught and put into four purpose built aviaries (batteries). Under the watchful eye of a dedicated team they were feed a diet of mealworms that had been feed a nutrient supplement. This proved very acceptable to the bats, with most putting on weight and having to be put on a diet. They were all weighed and checked every 8 days, which was no small task. During the operation only 9 bats were lost up until the week of the final release in late September, when for some unknown reason 45 bats died during the check up, apparently from heat stress. Even with the mass mortality it was an amazing achievement to keep that number of bats in captivity for over 3 months. Overseas experts had indicated that we should expect a mortality rate of up to 50 percent as a matter of course..While it was planned to put on the bait at 8 kg/ha for the first drop, double ups around the cliffs meant that it went on at just over 9 kg/ha..Unfortunately the forecast was not as accurate as hoped and it started raining, albeit lightly, shortly after the drop. While not a major down pour it was sufficient to justify upping the second drop from the planned 4 kg/ha to 8 kg/ha. More bait was ordered and this arrived in time for the second drop on 27 August. Once again the double ups mean that the bait went on at an average of just over 9 kg/ha... The kakapo feeding has now been underway for nearly 2 months with no rat sign. Lines of kakapo food have been set out around the island in an attempt to get selected birds onto the artificial food</p>
40 Mar-01	11		<p>Campbell Is: The plan is to fly the bait on at 3 kg/ha with a 50% overlap resulting in a nominal application rate of 5 kg/ha. Bait trials carried out 2 years ago on Campbell, and about 7 years ago on Kapiti, with an application rate of 5 kg/ ha suggested this will be ample to eradicate Norway rats. The cliffs and shoreline will receive two doses. The contingency for overlap at the interface between the area treated one day and commencement the next fine day is an overlap of several swath widths. The longer we have to wait for the next fine day the greater the overlap. We require about 80 tonne of bait to cover the whole island once, but will take 120 tonnes. It has been confirmed that cats have died out, which simplifies the project</p>
40 Mar-01	11		<p>Raoul Island: Rat eradication is in its preliminary planning state..we are reevaluating some of the close inshore islands, particularly in Fiordland, and main Auckland Island, which has pigs, mice and cats. We already have an operational plan for the pigs. The cats might take a bit longer.</p>
46 Sep -02	12		<p>Mice continue to demonstrate their tenacity, or maybe toxin tolerance, by persisting on Mokoia Island in Lake Rotorua, and Limestone Island in Whangarei Harbour. In both instances, it is despite two or more very determined eradication attempts. They (mice) quickly reach such low levels as to be impossible to detect, only to be re-detected five or six months later in the odd tracking tunnel. Normal pattern then, is for the place to soon become overrun with the critters.</p>
46 Sep -02	12		<p>In the Inner Hauraki Gulf, an attempt is being made to eradicate rabbits from Motuihe Island (for the second time) using 1080 on diced carrot as the knockdown mechanism. Poisoning the Island followed two prefeeds, and the results were an impressive high 90's kill. Follow up will be with the usual arsenal of traps, gassing, guns, and dogs, not necessarily in that order</p>
49 Jun -03	22		<p>Campbell Island: We are delighted to report that we didn't find anything to indicate that rats are still present.. Other factors besides the empty traps, sign searching and Jak having a good sniff around, indicated the absence of rats. These included the presence of wetas, a favourite rat food...Another positive sign was the presence of pipits, a species previously restricted to offshore islets and stacks.. In another few years the island should be swarming with them</p>
53 Jun -04	20		<p>While a lack of information on the pre-kiore eradication abundance of invertebrates on Whenua Hou prevents a direct comparison, Fred believes from the circumstantial evidence that there have been substantial increases in two of the larger species—the "large" land snail <i>Rhytida</i></p>

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

			<i>australis</i> (up to 15 mm in diameter) and the stag beetle
49 Jun -03	4	Auckland	We've also been out re-surveying coastal cress (<i>Lepidium oleraceum</i>) sites in the northern Mokohinau Islands. All our records of cress are 10 years or older, so it was time to re-check them. Six individual plants were found on only one stack. Rat eradication some years ago has left the islands predator-free and now honeycombed with bird burrows
36 Apr -00	10	Bay of Plenty	A further attempt to eradicate mice from [Mokoia] island is planned for late winter if the funds become available.
42 Oct 01	6	Bay of Plenty	A second application of Pestoff 20R (12mm diameter, 2-4 gram) Wanganui No. 7 cereal pellets containing 20ppm brodifacoum was dropped onto Mokoia Island (135.5 ha) by helicopter on 18 September. This will hopefully remove mice from the island. The first drop, undertaken in August reduced mouse numbers significantly, however we know from previous experience that they will increase again without control. It will be a challenge to remove them completely, as earlier attempts to remove them (Sept 1996) were unsuccessful. As part of the project, 25 North Island weka were captured from the island and transferred to Equine Farms, near Rotorua as a safeguard against the loss of this population. These birds will be returned to the island once the operation is completed, and post-operational monitoring of the weka population left on the island is planned.
55 Dec -04	7	Bay of Plenty	An aerial 1080 poison operation using carrots took place over a 440 ha area of the Pongakawa Ecological Area in October as part of a wider operation undertaken by Kaingaroa Timberlands in adjacent pine plantations to control possums. Jeff Hudson has been employed to monitor the adult kokako population; results so far indicate that no birds have been affected.
53 Jun -04	1	Big South Cape Island	In March 1964 muttonbirders returning to Big South Cape reported that a ship rat plague was causing immense damage to property and wildlife on their island..by the time we reached Big South Cape (five months after the first reports) many land bird populations had already been almost totally destroyed.. The Big South Cape disaster also had a massive, enduring impact in shaping future conservation policy and practice both within New Zealand, and on islands around the world. Refined over the decades, predator mitigation, eradication and control has now reached a level where, with ongoing vigilance, it is practicable to: maintain the rat-free status of islands so as to restore ecological values and processes, and; even reinstate predator-sensitive species such as kaka, kokako and kiwi within non predator-fenced mainland habitats! NB: Planning is currently underway to eradicate rats from Big South Cape Island
52 Mar -04	29	Little Barrier Island	The tender documents have been sent out for this eradication attempt on Polynesian rats this winter. This project has been in the pipeline for several years, but was delayed for a variety of reasons. The way has now been cleared, but only after having to go as far as to the Environment Court. There are no particular problems envisaged with this project, but only time will tell. As with all aerial applications of bait, weather patterns will be the big unmanageable.
55 Dec -04	12	Nelson/ Marlborough	sustained possum control through aerial applications of 1080 is starting to have a very pronounced benefit for many <i>Powelliphanta</i> populations in Golden Bay
42 Oct -01	2	Northland	Lizard monitoring on the Chickens Islands was carried out in March. The traps used to monitor pre- and post-kiore eradication lizard abundance were lifted after 9 years and, will probably be continued on a 5-year cycle. The 9 years work showed that there was no significant change in total numbers on rocky beach sites. There were, however, significant increases in lizard captures in forest sites, and considerable differences in the response of different species. Species more frequently caught include ornate skinks, Duvaucel's gecko and Suter's skinks. All are crepuscular or nocturnal species. The diurnal lizards did not change much.
42 Oct -01	2	Northland	a survey of tuatara on Lady Alice Island.. found 43% of the animals he caught were juveniles. These were born either immediately prior to the kiore eradication or since. This indicates a substantial improvement in the status of tuatara on the island.
44 Apr-02	3	Northland	Following the spectacular results from Lady Alice Island (West Bay) last March (Rare Bits 42; where 43% of tuatara seen were juveniles

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

			compared with less than 2% prior to removal of kiore), a survey of Coppermine and Whatupuke Islands was recently carried out. Coppermine Island had kiore removed in 1997. Our survey revealed 15% were juveniles, which is a very good result in just 4 years. On Whatupuke Island, where kiore were eradicated in 1993 (8½ years ago), the result was exactly the same as Lady Alice Island: 43%. In South Cove, on Lady Alice Island, the result was only around 3%, which suggests that results can vary greatly over a single island
36 Apr-00	19	Otago	The stoat trapping response in the Dart went off very well with just under 100 stoats caught. Stoat numbers were well down in the part of the Catlins that was trapped. It seems possible that a recent AHB 1080 possum drop has impacted on stoat numbers.
37 Jun -00	19	Otago	The fernbirds which were transferred to Putauhinu from Whenua Hou as part of the preparations for the eradication on Whenua Hou and as part of the post eradication restoration on Putauhinu have done very well and are rapidly building up numbers. While the bait drop on Whenua Hou certainly knocked the fernbirds they are now starting to show their heads above the manuka again and with breeding confirmed this season
37 Jun -00	19	Otago	Campbell Island: Lowland sites were recently surveyed for large bodied weevils.. There was no sign of ribbed weevil (common in the late 1940s). Hopefully populations remain on nearby islets or possibly at higher elevations. Only remains were found of <i>Oclandius cinereus</i> . It is likely it persists in low numbers on parts of Campbell Island and should respond well to planned Norway rat eradication.
46 Sep -02	9	Otago	Ongoing widespread possum control in the Catlins continues to assist the recovery of <i>Tupeia antarctica</i> mistletoe.
53 Jun -04	15	Otago	Another successful season has ended on Te Peka Karara; the island is extremely popular with day visitors during the summer. On some afternoons there were up to 16 boats pulled up on the island, with picnickers providing entertainment for the weka. Plans for further translocations have been deferred as the preferred site is subject to an extensive ongoing possum operation as part of the Animal Health Board's Tb vector control programme.
53 Jun -04	15	Otago	Beech seed and rat and stoat numbers are all up in the Catlins..Coastal Otago staff are developing an operational plan for the Catlins to be able to implement control work when funds become available. The size of the operational area (12,600 ha) makes the planning phase of the operation just as difficult as any operational actions. Our focus is the protection of the large number of mohua found here (c. 2,000 birds). The key threat to plan for is stoat irruptions, but rats are also going to be part of the plan
55 Dec -04	16	Otago	It's all go at the Operation Ark site in the Catlins. We received money for stoat control but while in the process of preparing an operation plan, issues concerning rats arose; an observed doubling of rat abundance occurred between the start and end of October. Additional funds were secured for rat control leading to a big planning effort for a poisoning operation in two discrete areas with highest mohua densities. A team is now on the ground implementing that plan and getting baits out
52 Mar -04	28	Raoul Island	Raoul Island: The Polynesian rat (kiore) was probably liberated by early Polynesian voyagers several hundred years ago. It is thought that the Norway rat arrived in the early 1920's..mid 1830's Europeans attempted to settle..probably at some stage around then that cats were introduced. Goats were finally eradicated in the mid 1970's after several years of concentrated effort. In July 2002 two Bell 205 (Iroquois) helicopters flew up to Raoul and were used to apply Pestoff 20R to the entire island. Twice. The objective was to eradicate both species of rat, and most (though hopefully all) of the cats through secondary poisoning. Since then, laying of 1080 bait and trapping may have resulted in the eradication of cats.
39 Dec-00	15	Southland	The Campbell Island eradication preparation continues.
40 Mar-01	11	Southland	<i>Tuhua (Mayor Island)</i> : In August last year, 2 applications of Talon 20 P were aerial broadcast to eradicate Norway and Pacific rats. It was anticipated that cats would die from secondary poisoning after eating dead or dying rats full of bait. A sample of cats were radio-tagged prior to the drop. Some indication of home range was determined from those cats, but the severe topography of Tuhua made telemetry difficult. Of

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

			greater benefit was the ability to recover dead cats post drop, and 5 dead cats were found during the weeks following the drop. Autopsy by a veterinary pathologist determined 3 had all the clinical signs of anticoagulant poisoning. The other two showed none of those signs but did have a type of emphysema
42 Oct -01	17	Southland	After years of planning, the Campbell Island rat eradication finally got under way in full on the 26 June when the five helicopters left from Invercargill. Two ship loads of gear and personnel (19 in total) had already gone. The equipment included 120 tonnes of bait and 210 drums of chopper fuel as well as enough food and supplies for three months. After unloading the Jenka.. one of the choppers returned to the mainland, leaving three Jet Rangers to drop the bait and a Squirrel to ferry bait and personnel around. After four days setting up , the first bait was dropped on 2 July. From past weather records, it had been estimated that even if the team stayed on the island for three months, there was a significant chance that we still wouldn't have had enough suitable weather to drop all the bait..Even the cliffs at up to 1000ft high did not deter the team, who simply did them with an onshore wind to help blow the bait onto the many ledges..The weather prevented the helicopters leaving until 27 July, and the last of the team and equipment came off on 22 August.
43 Dec-01	6	Tongariro/ Taupo	It has been documented from a number of aerial 1080 possum control operations that tomtits are one of the more vulnerable non-target species..monitoring compared two techniques – Distance Sampling and Territory Sampling..Initial indications from both monitoring methods (re-sighting of banded male tomtits and distance sampling indexes of populations) show little, if any, impact from the 1080 drop on the tomtits monitored at the study sites. We anticipate that statistical analysis of the results will confirm this.
44 Apr-02	9	Tongariro/ Taupo	Four months after an effective possum and rat knock-down by a 20,000-ha aerial 1080 operation over Tongariro Forest, stoats reappeared in the centre of the forest and began killing kiwi chicks. So far five of the 11 chicks have been predated, and all in the centre of the treatment area..Rodent numbers remain surprisingly low, with the same tracking index recorded in February as in December (< 2.0%).
46 Sep -02	11	Tuhua Island	Tuhua: Following the air drop of bait in 2000, there has been several follow up visits to look for rats and cats. The intention being to eradicate Norway rat and kiore by primary and for cats to all die from secondary poisoning.
45 Jun-02	5	Waikato	Kokako in the Mangatutu Ecological Area (one of the 14 Key Sites identified in the Kokako Recovery Plan) are to be monitored during an aerial 1080 carrot operation being undertaken by the Animal Health Board.. [3 people] have begun territory mapping kokako pairs at Mangatutu, which is the first stage of preparation for the 1080 application due later in the year.
46 Sep -02	3	Waikato	[3 people] have just finished monitoring 17 kokako pairs through an aerial 1080 carrot operation at Pureora. All 17 pairs survived the operation.
47 Dec -02	4	Waikato	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...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.
47 Dec -02	5	Waikato	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

Index to the Rare Bits Newsletters about Threatened Species Work - 19. AERIAL POISONING

Vol., Date Page Conservancy

48 Apr -03	4	Waikato	staff are pleased with the success of recent possum control operations on Mount Pirongia, especially the spin-off benefit for the rare plant <i>Dactylanthus taylorii</i> . A team of DOC staff and three volunteers spent the last week in January on Pirongia's summit monitoring dactylanthus plants that had previously been caged for protection. Most of the 150 caged plants were in good health and flowering profusely, with no sign of possum or rat browse. Especially pleasing was the rare sight of healthy unbrowsed inflorescences erupting from the leaf layer, which enabled the discovery of eight new plants.
49 Jun -03	5	Waikato	Last winter 17 kokako pairs were monitored during an aerial 1080 carrot bait operation at Mangatutu. All pairs survived the operation. The 2002 spring census of kokako at Mapara found a healthy 40 pairs, an increase of 10 pairs in the six months following the post-breeding census. This followed the first pulse of pest control in four years, an exciting result and a great example of the success of pulse management. Meanwhile, the four-yearly survey of kokako at Waipapa this autumn has found 40 pairs, compared to the 16 pairs in 1999. Further testament to the benefit of pest control
50 Sep -03	4	Waikato	Nine young tuatara were released on to Stanley Island (Mercury Group) and eleven to Cuvier Island in May and June. These were the captive bred progeny of adults that were removed from the islands before the rat eradication in the early 1990s
48 Apr -03	8	Wanganui	Egmont National Park: Stoat numbers in the national park appear to have been low since a 1080 drop in August 2002, but with time more mustelids are turning up on trap lines
49 Jun -03	12	Wanganui	A new site for NIBK was found near Makino in the foothills of the western Ruahines. Kiwi call surveys at Ruahine Corner, subject to regular 1080 treatments, have produced a good number of calls
36 Apr-00	3	Wellington	In December white mistletoe..was found..at Ketetahi in Tongariro National Park during the establishment of forest health monitoring plots..Further.. hundreds were found in January on another monitoring line in the same forest, some plants even occurred within the 20 x 20 m forest plots. Most of the plants were heavily browsed. This species will now be used as an indicator of forest health for an upcoming possum control operation.