



Oho Mai Puketi

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Newsletter of the Puketi Forest Trust

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Message from the Chairman, John Dawn

We now have continuous effective possum control throughout the 650 hectare core management area. Department of Conservation post-treatment monitoring in late March gave an average wax tag bite-mark index of 9% (it was 29% pre-treatment), which met the contract target, triggering a \$30,000 contract payment. This money will be used to continue servicing the possum traps over the next two years. Considering that trapping had been going less than 6 months and that March is a peak possum dispersal season, the result is very satisfactory. Trapping continues of course, and possum numbers will be reduced further through the winter. Purchase and installation of the traps and initial servicing were funded by the NZ Lottery Grants Board, Oxford Sports Trust Inc, Pub Charity, ASB Community Trust and donations from members. The Trapinator possum traps are working well. The trustees are pleased with the success of this venture and grateful to DOC for awarding the 2010 Puketi possum control contract to the trust.

It seems surprisingly soon to me, but several people have already reported responses in the bush to the removal of possums. We can expect much greater responses over the next few years.

With further grants from The Lion Foundation and the Oxford Sports Trust, clearing of treefalls from the traplines in the core area has been substantially completed. This makes trap servicing much easier, keeps up the morale of the trapping contractors and keeps servicing costs down. We intend doing a smaller amount of treefall clearing each year in future, to maintain these benefits.

The trustees are still working their way through consultation for the re-introduction of kokako to Puketi. This is taking longer than we had planned, which is a little frustrating, but it is important to get a proposal that is agreeable to all involved and, most importantly, will give the best outcome for the birds. We will get there in the end.

Several volunteering opportunities are coming up: We are planning a thorough census of toutouwai (robins) during July, (details page 5), permanent forest monitoring plots will be re-measured in October (details page 6), and a few more people are needed on the roster for servicing traplines T7 and T8. This involves a pleasant morning's walk along the Waihoanga stream, reasonable fitness required. Contact Ian Wilson, (09) 401 9056.

The Department of Conservation is seeking input for a review of the Northland Conservation Management Strategy, a plan that will guide management of public conservation land over the next ten years. If you haven't already done so, express your views through their website: www.doc.govt.nz/northlandcms or collect a survey form from the DOC office. Telling DOC about the ways you value Puketi Forest will support the aims of the trust.

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The trustees gratefully acknowledge the following organisations which have made grants, significant donations or contributions in kind to the trust since the last newsletter:

ASB Community Trust

BNZ Save The Kiwi Trust

Oxford Sports Trust Inc

New Zealand Lottery Grants Board

The Lion Foundation

Department of Conservation,
Bay of Islands Area Office

Possums

The history of possums on Kapiti Island has provided some useful lessons. Possums were liberated at the northern end of the island in 1893, only four years before Kapiti became a reserve. It was not long before the vegetation showed signs of possum damage. In 1922, 2299 possums were trapped and in 1955 another 2600. There was a strong lobby for more intensive possum control.

In 1967, botanist Alan Esler of Massey University published the first complete account of Kapiti's vegetation, in which he warned that "The present opossum population is high and is causing considerable damage to the vegetation". Sanderson (the founder of Forest and Bird) had said the same thing in the past but this was the first time a professional scientist had drawn attention to the problem and it was finally taken seriously.

However, in 1968, instead of a sustained campaign against the possums, trapping was stopped altogether to assess "whether or not opossums without control will in fact increase or harm the vegetation and birdlife." In 1977 a report noted that although vegetation damage had generally not been irreversible, some species such as fuchsia were being destroyed and might disappear: damage to the crowns of some species was in the vicinity of 90-100% and there was no sign of regeneration. A reduction in the number of parakeets, pigeons, tui, bellbirds, robins, tomtits and whiteheads was also worrying. By the time trapping was resumed in 1980 the possum population had grown to an estimated 20,000, an average of 10 per hectare. The suspension of possum trapping for 11 years provided useful evidence of the growth of an unfettered population of possums in a finite location, and the impact on the bush and birds – but at the cost of severe damage to the island's ecology.

When trapping resumed in 1980, it quickly reduced the possums; in two years 15,000 were killed. Despite this impressive tally there was a residual possum population that would require ongoing control. The Forest Service was convinced that eradication was impossible but Dick Veitch, a Wildlife Service officer who had just completed a campaign to clear Little Barrier Island of wild cats, thought otherwise. Eradication began in 1982. Over the next two years tracks were cut about 100 metres apart and traps laid along them (similar to the layout of the Puketi core area). The team started at the southern end and worked their way up the island until, in 1984, the "rolling front" reached the northern coast. In that time 3933 possums were caught. In 1985 the exterminators returned to the south end and once again worked their way up the island, this time with dogs specially trained to hunt possums. By March 1987 the three dog-handlers and their dogs had scoured Kapiti from end to end and in two years caught only 48 possums, which showed how effective the original rolling front had been. Kapiti was now free of a pest that had been there for almost a century. As early as 1982 the results were obvious. Everywhere new growth was evident - from the tops of the trees to the forest floor. Now that their nests were no longer raided by possums, birds also benefited and the greater density of plant species could now support a greater population and a wider range of birds.

The Kapiti example shows that it is not too difficult to remove three quarters of the possums from an area but the next 20% requires a great deal more work and expense and the last few are very expensive to eradicate. Eradication is worthwhile on an island but not in a mainland situation where reinvasion is inevitable. The question then is, at what level will possums not cause significant damage? Research has shown that if possum numbers are below 5% residual trap catch (RTC), native flora and fauna can flourish. RTC is the percentage of leg-hold traps, set on the ground, that catch a possum in one night. In Puketi we cannot set traps on the ground due to the presence of kiwi. Therefore possums are monitored using wax tags which the possums bite out of curiosity leaving obvious bite-marks. It has been estimated that 4-5% bite-marks is the same as 1% RTC. In the Puketi core area we aim to keep possums below 5% RTC all year round. Since Trapinator kill traps were installed late last year at 100 metres intervals along the existing rat lines (which are themselves 100m apart), the Trust's contractors have trapped over 1,450 possums. Monitoring by the Department of Conservation in late March using wax tags gave a result of 9% bite-marks (approximately 2% RTC) – so we are on target.

The reduction of possums in the Trust's core area of Puketi and the resulting recovery of possum-palatable species is already being commented on by a number of people:

- Ian Candy, who takes night walks around the Waihoanga Gorge Kauri walk, has told us that it is months since he has seen a possum. They used to be seen on every walk.
- Jill Mortensen, who has a farm next to the forest, has had fruit ripen on her fruit trees for the first time in 25 years.

- June Wilson, who regularly walks in the forest, has commented on the vast number of berries that litter the forest floor including handfuls of those from the swamp maire (*Syzygium maire*) which is targeted by possums.
- Angela Wickham noticed a kiekie (*Freycinetia banksii*) flowering near the first big kauri on the Waihoanga Gorge Kauri walk. The flowers of kiekie have a tropical appearance, being 7-15 cm long, surrounded by white bracts. The bracts are sweet and soft to eat and were sought by Maoris and early settlers. Today they are seldom seen as possums also enjoy them.
- Gaylene Neho observed kohekohe (*Dysoxylum spectabile*) flower panicles, 20cm long, erupting from the bare trunks of a number of these beautiful trees. Possums are particularly fond of kohekohe and the flowers are seldom seen on trees unless possums are controlled to very low numbers.
- One of the robin monitors noticed a northern rata (*Metrosideros robusta*) with a few flowers on it. Now that this “ice cream” species is not being continuously defoliated it is expected that these trees will be covered in flowers in a few years - something not seen in Puketi for many years.
- The possum-palatable shrub, colensoa (*Colensoa physaloides*), has been found growing vigorously on trap-line T7.

Katrina Upperton wrote to the editor of *The Bay Chronicle*; “I had a chance to refresh with Puketi on the Waihoanga Gorge Kauri Walk. Despite knowing this track over many years, I was blown away by the new vibrancy in the forest life. The birdsong was constant, I heard or saw many kukupa, [native pigeons], tui, robin and warblers. What a treasure. My thanks to all those involved in the efforts to restore Puketi.”

Plants of Puketi Thrive now Possum Numbers are Low

Kiekie flower



Photo: Angela Wickham

The kiekie is spectacular climber and will happily climb the tallest forest trees as well as scramble over fallen trunks or rocks.

Swamp maire berries



Photo: Ian Wilson

The swamp maire or maire tawaki occurs in swampy and boggy forests. Because it has breathing roots, like the mangrove, the swamp maire can grow in very wet ground, even with free water around it. Drainage of swamps and attacks by possums have reduced the abundance of this tree.

Kohekohe

Kohekohe belongs to the mahogany family. The Maori thought highly of the wood because of its water-worthiness. As the soft wood of the pukatea symbolised the coward, the brave man was likened to the kohekohe canoe which was swift and strong.



Photo: Ian Wilson



Kohekohe flowers in the late autumn/early winter with the drooping, waxy, white flowers springing from the bare parts of the trunk or branch. The removal of 124 possums from trap lines T7 & T8 (six/hectare), which volunteers set out in December, has allowed this tree, with its handsome glossy leaves, to flourish. The ground along T7 is littered with fallen flowers. In a year's time when the hard, thick skinned, walnut sized capsules are ripe they will gradually open exposing the brilliant scarlet covering of the seeds. A special thanks to Jill Mortensen and the other volunteers who service these two lines.

Measuring Progress

Autumn Bird Count

In the autumn birds are surveyed at 15 listening stations located approximately 500 metres apart through the core area. For five minutes all birds seen and/or heard are recorded (the standard 5 minute bird count). In Puketi we extend the standard method by a further five minutes during which polystyrene is rubbed against damp glass to attract birds that may be present but not already seen and/or heard. Both standard and total counts are recorded. Total counts have less variation and show trends more clearly, and are reported here. Last year an average of 13.7 birds was recorded at each station while this year the average increased to 16.5.

Fantails. By 2009 the number of fantails had increased fivefold since rat trapping began. Although numbers have been down the last two years, fantails are still present at over half the stations and are twice as numerous as they were originally.

Grey warblers. A total of 28 were recorded and they were seen at 14 of the 15 stations.

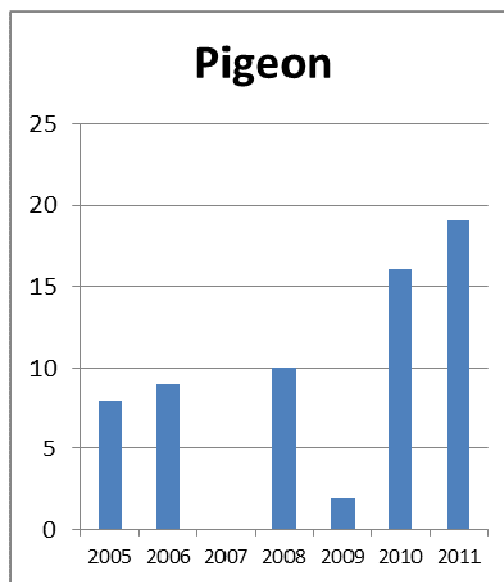
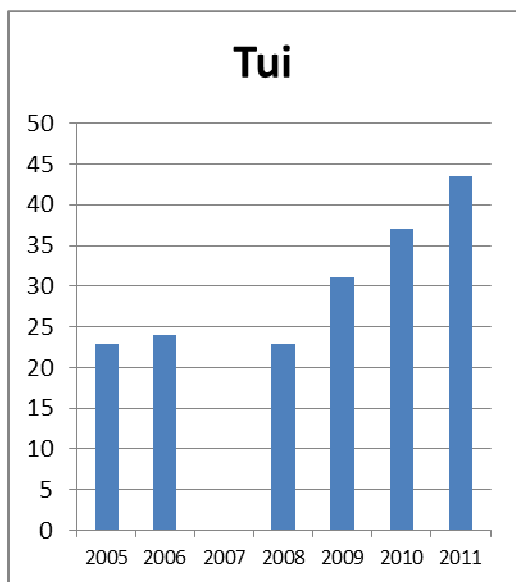
Tomtits. A total of 19 were recorded and they were found at 13 of the 15 stations. Because the female is more timid it was generally the male that was seen.

Silvereyes. Seen at all 15 stations. A total of 98 were recorded.

Native pigeons (kereru, kukupa). A total of 19 were counted at 12 stations.

Tui. Recorded at all stations and averaged just under three.

Pigeons and tuis are considered the most useful indicator species for measuring the success of mammalian pest control in mature native forests. The numbers of pigeons and tui recorded during the autumn bird count have increased again this year. (See graphs below – no monitoring was done in 2007).



Kiwi monitoring

At the time of writing, annual kiwi monitoring is under way. This involves listening for kiwi calls for the first two hours of darkness on four calm nights in May/June/July when there is no moon. The trust is lucky to have a team of dedicated and enthusiastic kiwi listeners. To date, calls per hour are up but it is too soon to determine whether the number of birds has increased or whether they are just calling more frequently.

An automatic detection device is being developed but it will be a while before it takes the place of people. It only picks up 80% of calls and does not give the direction unless four of the devices are used at any one location. However it will have a role at remote sites to determine the presence or absence of kiwi – no one enjoys walking long distances, sitting out night after night and hearing nothing.

Rat monitoring

This autumn there has been an abundance of fruit in the core area which has led to an increase in the number of rats caught during that time. Rats were monitored using tracking tunnels in April/May, with an average tracking index of just under 9%, not too much above our target of 5%. We expect to have numbers back to below 5% over the winter so that numbers are low during the breeding season.

Robin monitoring

As reported in the last newsletter the robins have had a successful breeding season. Since then BO (the very first robin we caught in 2009, who had two chicks before Christmas), has been seen with two more chicks. Another robin was seen by one of the rat trappers, feeding a newly fledged chick in April.

During the two weeks from 16th July (school holidays) the Trust is planning an extensive survey of all the areas where robins are likely to have spread. This will involve walking along trap lines with meal worms and an MP3 player, playing song and recording sightings. Experience is not necessary as people go out in pairs and only one needs previous experience. You can start before the 16th if you wish. Tricia Hodgson has instructions, recording sheets, maps and, meal worms. There is a spare MP3 player. If you are able to help or would like more information, please contact Tricia (09) 407 6239.

Report from the Department of Conservation

All possum hunting blocks in Puketi/Omahuta are currently allocated to fur recovery hunters. Hopefully their efforts are relieving the impact of possums on the forest around the trust's management area. Department staff are using cyanide to complete possum control in the Onekura Ecological Area (the north part of Puketi Forest along the Mokau Ridge, home to the endangered fern *Davallia tasmanii* subsp. *cristata* and parasitic flowering plant *Dactylanthus taylori*). Pre-treatment monitoring will be carried out shortly in Omahuta prior to the possum control contractors starting work there.

The goat cullers have worked another 32 hunter days with some extra funds that became available. By targeting locations of recent goat sightings they have achieved good results, but these wily animals are almost impossible to eliminate from dense forest.

In October this year, Landcare Research and DOC will be re-measuring a series of permanent 20x20 metre monitoring plots in Puketi. Thirty of these plots were installed in 2002 on lines running from the Waipapa Stream to the ridge tops. They are used to monitor long term trends in forest structure and composition. This will be the second measurement. The measurement teams will include staff from DOC and Landcare Research, contractors and volunteers. Interested people with some botanical ID and field skills are asked to contact DOC.

It is pleasing to note that land owners in the Puketotara area just east of Puketi have begun discussions with the Northland Regional Council with a view to setting up a Community Pest Control Area (CPCA) on their farms. This will protect kiwi and other native wildlife in the forest remnants on their properties and will complement pest control by the Puketi Forest Trust and another CPCA already operating on the south side of Puketi Road.

Kiwi calls are now heard frequently from the Puketi Forest Headquarters, an indication of results from the trust's pest control. Another two kiwi listening sites will be added nearby to monitor this part of the forest.

New Species of Leaf Slug Found In Puketi/Omahuta Forest.

Gary Barker of Landcare Research recently found this slug in Omahuta (contiguous with Puketi Forest). It is a new species of the genus *Athoracophorus*, so far known from one specimen and a photo of another individual. Gary is working on a formal description of it.

There are about 30 species of native New Zealand slugs. All have a characteristic leaf-vein pattern on their upper side. Their biology is poorly known. They are thought to live mainly on algae and fungi on the surface of plants, but unlike introduced species, do not damage the plants. Native leaf-veined slugs have only one pair of tentacles: introduced slugs have two.



The new Omahuta leaf vein slug. Photo: Masha Minor.

Puketi features in the latest School Journal

For all of us who attended primary schools in New Zealand, the School Journal was very much part of our school days. Some will remember the thin paper pages that we inserted into our journal covers, others will be more familiar with the booklets – now produced with coloured photos and lively articles and stories. The latest Part 2 School Journal (for 8-10 year olds) features Puketi and our robins. So now the result of your support is being read by children all over New Zealand. How did this come about? Tricia Hodgson, who coordinates and records the robin monitoring, also does relief teaching at Riverview Primary School in Kerikeri. Her involvement with the reintroduction of toutouwai inspired teacher Trish Puharich and her class to raise meal worms for the 2010 robin capture and translocation and the children assisted with the release. This led to another teacher, Sue Gibbison, writing an account of preparing the forest for the robins, the capture and transfer, and the joy children are having seeing robins in Puketi. It is a delightful and instructive article – thanks Sue.