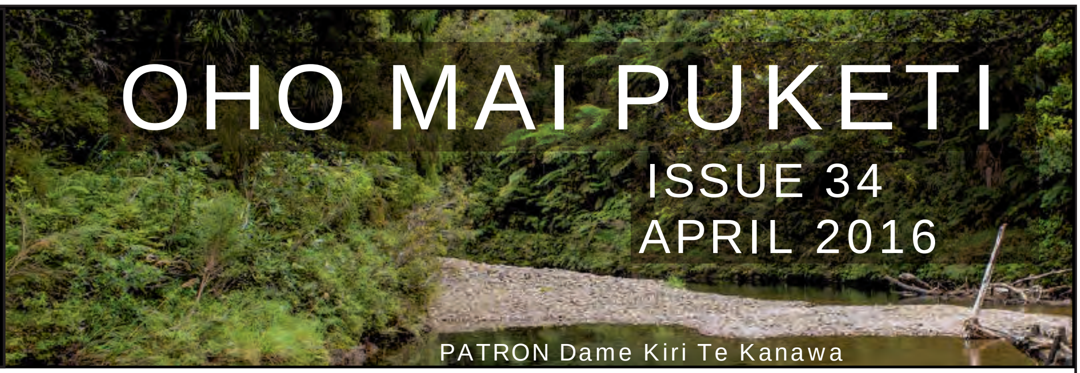
Puketi Forest Trust

# OHO MAI PUKETI

ISSUE 34
APRIL 2016

PATRON Dame Kiri Te Kanawa



## MESSAGE FROM THE CHAIRMAN, DR GARY BRAMLEY

This summer has been fantastic for plant growth in Northland - if this is what an El Nino drought brings, I would be happy to have more! The totara trees near our house have had several flushes of new growth and as I write, the kahikatea are fruiting profusely which is providing great food for the pair of kukupa which swoop around the house regularly these days. This great season, warm and with frequent rain, will have had positive effects in the forest for the wildlife there as well. I'm sure our kukupa move between our place and the forest regularly, although our view of Puketi is looking a bit bare at the moment with all the neighbouring pine forests in the process of being removed.

I was enormously excited to hear that 18 kokako were found in our recent monitoring surveys (which you will read more about below). To date we have released 23 kokako in Puketi and we expected some losses, so to find 18 birds in our first attempt, including evidence of breeding, is a fantastic sign. Let's hope the kokako follow the toutouwai's / robin's example and go from strength to strength. Also good to confirm that long-tailed bats are still present within Puketi, let's hope the northern short-tailed bats are hanging in there too.

In a recent discussion I had with a member of the Department of Conservation nationwide team they noted that our project was unusual because it was founded in response to the high biodiversity values at Puketi, rather than other reasons such as high community engagement or the presence of a single iconic species like kiwi, as is the case for many other community group projects. They considered it to be more valuable for that reason. I had not considered the project in those terms before but agree, to a certain extent, that is true. We were very concerned initially that we not become associated with a particular iconic species (the obvious choice was the kokako because the decline of kokako population to seven lone males was partly the motivation for action). Part of that concern was that if we couldn't achieve what we hoped for that high profile species, we would become associated with a failure. I am confident that we now,

### IN THIS ISSUE



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**SPECIAL THANKS** to the following organisations who have made significant donations or contributions in kind since our last newsletter:

| | | |
|---|---|---|
| Kiwis for kiwi | Oxford Sports Trust Inc | DoC, Far North District Office |
| Foundation North | Tiny Mighty Power | DoC Community Fund |
| Kaikohe New World | | |

Eel in the Pukatea Stream.
Photo by Toby Ricketts.

after 13 years, have a solid base to work from and that we can continue to be effective in the work we undertake. It will be fantastic to see kokako and other species continue to recover and expand throughout the forest as a result of our efforts.

As noted above, the Puketi toutouwai / robin population is doing particularly well within our management area. You will read more about the toutouwai in this issue of the newsletter, including an account of a seven year old male robin (identified by the band combination RR-RM) feeding a chick. All birds caught in 2009 received a red band on one leg to identify them from the birds released in 2010. I'm fairly certain RR-RM was the first bird caught, and since I had the red bands to hand, decided the first bird should get an easy combination to remember. It is fantastic to think the move from Rangitoto Station near Otorohanga has resulted in a long life and hopefully many offspring at Puketi for him. My children, who were aged 4 - 7 at the time, still remember the first robin release vividly.

One of the advantages of trapping over poisoning is that you know reliably how many pests you have removed. You might have read recently that the Kiwi Coast (which is part of the Reconnecting Northland programme) removed 52,000 pests from Northland last year, and 113,000 over the past three years. Puketi is the single largest contributor to that total, and Jill Mortenson, who has trapped more than 2000 pests, has personally removed around 2% of the pests known to be killed in Northland on her own, entirely voluntarily. Well done Jill - a serial killer we can be proud of!

Once again I would like to thank all the trustees, willing volunteers and technically capable contractors for the role they have played in the workings of the Trust. The project would not be as successful as it is without everyone doing their bit - whatever that might be - to move things along.

I hope you find something of interest in this issue of the newsletter. If you have any questions, would like to volunteer or find out more about the work undertaken by the Trust in Puketi Forest, please don't hesitate to contact either myself or one of the other trustees.

An enterprising spider on a stink horn fungus.
Photo by Toby Ricketts.

Photo from nzbirdsonline.org.nz

## KOKAKO BREEDING IN PUKETI ONCE MORE!

A post-breeding season survey of kokako in Puketi has started, with the aims of mapping the location of as many kokako as possible and checking for any evidence of successful breeding. In the first stage of the survey (over 3 days in mid-March 2016) 18 kokako were sighted on the plateau, including 7 pairs and 4 unbanded birds. All the kokako released in Puketi were banded on both legs, so any unbanded kokako observed are assumed to have been raised in Puketi. Recently fledged juveniles have brownish plumage and small pink wattles.

Wildlife contractor Tom Donovan is leading the survey, assisted by Jordyn Paniora from Te Roroa and Trust volunteers. Tom has had considerable experience assisting DOC with kokako management at Mataraua, the source of most of the kokako released in Puketi from 2012 to 2014.

Kokako are not easy to observe, often moving high in the canopy. Fine, calm weather and a start at first light are required. Kokako song and glimpses are followed in the hope of a clear sighting. Good hearing and eyesight, and experience recognising the many varied calls of kokako are necessary. Short segments of recorded kokako calls are played occasionally to elicit responses.

On the first morning, Jordyn found a pair of kokako and was trying to see whether they were banded, when three more kokako approached from another direction. For several minutes he had five kokako interacting around him, two of which he confirmed were unbanded – one of the first pair and one of the other three. Later Tom encountered Jordyn's first pair and watched the unbanded bird feeding a banded female from the 2012 release (feeding is a courtship behaviour). This indicates that the unbanded bird is a male progeny of the released birds from a previous breeding season. The relationships of the 3 other kokako Jordyn saw are not known yet.

The next morning Grant Adams was on the main track when, as he reports: "At 11am I heard a couple of low coarse clucks behind me. A kokako was reasonably low in the canopy and I followed him right back up to trap line RE. This bird was large and fluffy and had a beautiful brown sheen to its coat. His wattles were very faint and small with just a touch of pink colour if I looked hard. Lovely long legs with no bands. I saw him preening his chest and once feeding on some berries. Two adults joined at RE and all three stayed around until I left at 1205. The adults stayed much higher than the young bird. I never heard the young bird call again but the adults were in full voice. Both adults were moulting." The next day Tom identified one of the adults as a male from the 2012 release.

Young kokako being fed on Tiritiri Matangi.
Award winning image captured by Martin Sanders.

The survey will continue during fine weather spells over the next few weeks.

# PUKETI FOREST KAURI CHALLENGE 2016

The second annual Puketi Forest Kauri Challenge was held on 23 January 2016. Over 90 keen trampers of all ages took part and supported the Trust's efforts to restore Puketi Forest by donating $50 to sponsor a year's pest control in one hectare of forest. This donation also entitled participants to a year's membership with the Trust. We extend a warm welcome to all the new members and hope to see you sometime soon at one of our regular volunteer events.

The 2016 Challenge followed the same route as last year, starting at the Forest Headquarters off Waiare Road and winding its way through spectacular forest to a picnic reception at Forest Pools. It provided an opportunity to celebrate the successes of the Trust, including reaching the milestone of 10,000 possums caught and evidence of dramatic improvements in the health of the forest. Participants in the Challenge were able to witness first hand the positive effects of sustained pest control and the scale and extent of the Trust's operations.

The feedback on the 2016 Challenge has been resoundingly positive with a number of participants vowing to recruit their families and friends and take up the Challenge again next year. We will be posting entry forms for the 2017 Challenge on our website (www.puketi.org.nz) soon and encourage you to secure your place by registering early.


Photos by Toby Ricketts and Clinton Tudor

## RECENT KIWI, BAT AND ROBIN SURVEYS

Deepest darkest Puketi.
Photo by Toby Ricketts.

Remote sound recorders are a new technology with exciting potential for wildlife monitoring. They cannot completely replace human kiwi listeners or 5 minute bird counts, but they can collect bird calls over much longer time periods, in remote locations and over several locations at once. Four recorders lent by DOC were set up over the summer at sixteen sites in Puketi Forest to monitor kiwi calls. Male kiwi were recorded at all sites and female at all except three. The recorders can also be used to monitor kokako and any other vocal species. It is possible that an array of recorders could be used to locate and distinguish calls from separate individuals. The trustees are considering purchasing a set of recorders, particularly for monitoring the distribution of kiwi and kokako.

Over the summer, bat recorders (specialised high frequency sound recorders) were also set up in five sites, three where long tailed bats (*Chalinolobus tuberculatus*) had previously been recorded and two new sites where bat activity seemed likely. Long tailed bat calls were recorded at two of the known sites and at both of the new sites. Long-tailed bats are smaller than the lesser short-tailed bat (*Mystacina tuberculata*) and have echo location calls that include a low frequency component that can be heard by some people. They are considered to be the more 'common' of the two bat species and are widely distributed throughout New Zealand. That said, long tailed bats are still classified by the IUCN as vulnerable to extinction so it is very encouraging to confirm their continued presence in Puketi Forest.

Robin activity on the plateau was recorded during the kokako survey in mid March 2016. At least eight different birds were seen or heard. Of particular interest was the sighting of a male robin, identified as RR-RM, feeding a chick. Most robins have finished breeding by now and this is likely to be RR-RM's third clutch. RR-RM was released in 2009 and is now over seven years old. Not bad for a bird with a life expectancy of three years, but still a few years to go to break the current record of sixteen years.

## PEST CONTROL UPDATE

Key to restoring any New Zealand ecosystem is removal of introduced pests. As we are not yet able to achieve complete eradication of pests on the mainland and a pest-proof fence is not feasible for a site like Puketi, reinvasion means that pest control is an ongoing task. That said, reinvasion becomes less of a problem as the area under effective pest management increases. We have observed this in Puketi Forest with lower rates of invasion since we expanded our possum control operations beyond our core area.

Ngaire Tyson, biodiversity coordinator for the NZ Landcare Trust, recently compiled a report on the efforts of 57 Northland conservation groups that undertake pest control along the east coast from just south of Whangarei to a bit south of Kaitaia. These projects have 74,623 hectares under active pest management and have trapped 52,091 introduced mammalian pests during 2015 and killed many more with controlled use of toxins. This brings the number of pests trapped in these areas over the last 3 years to 113,102 with countless more taken out by toxins. A very impressive achievement which must have had a dramatic impact on the health of Northland's forests. As Ngaire says in her report, what would Northland be like if all the pests trapped and poisoned were still out there breeding, munching and destroying?


Ripe mahoe berries. Photo by Toby Ricketts

**Rats**

To maximise the chances of kokako and other birds breeding successfully we need to keep rat numbers down to below 5% residual trap catch / tracking.  In July 2015 the 2375 rat traps in the core area caught 135 rats, a catch rate of 5.7%.  By early August the residual catch was down to 5.1%, but we were still concerned that there may be rats living between the trap lines and that rat numbers would increase later in the spring.  Accordingly pindone was put out in the core area bait stations.  We use pindone because this toxin does not accumulate in the environment and breaks down very quickly.  Because rat numbers were already very low, we put 200 grams in each bait station rather than the 1000 grams which is usual when rat numbers are high.

Following treatment with pindone the rat trap catch fell to 2.0% and was still at only 3.1% in December.  Tracking tunnels evidenced a similar trend with no rat tracks recorded in October/November 2015, rising to 2.5% in December/January.  Rats caught in traps in a 50 hectare control area where pindone was not used rose to 13% which shows how effective toxins like pindone can be at knocking down rat populations at key times.  That said, it has to be noted that without ongoing trapping the result would not have been as good, as rats were still caught in traps after the pindone treatment.

Many projects use a toxin at the start of the breeding season to reduce rat numbers and this normally works well in the short term.  However, rats often recover from a poison operation and bounce back to unacceptable levels in less than four months, having a detrimental impact on late nests.  When the 650 hectare core area was established, we were concerned not just about nest predation in the spring but also about the lizards, insects, snails and other invertebrates that are vulnerable all year round.  We decided to use traps that would be serviced every four weeks, and to install bait stations as a backup if trapping didn't reach targets.  For many years we met out target of 5% or less with traps alone but in recent years have found there are little pockets of rats that live between the trap lines with smaller territories than in the past (no doubt due to an abundance of food) and do not move out to the traps.  Bait in bait stations on the trap lines seems to be effective in drawing these rats out.

**Stoats**

In January the number of stoats trapped by the Trust passed 2,000.  When trapping began in October 2003 there were 345 Fenn traps in 230 tunnels 200 metres apart on 46 kilometres of trap line.  The Trust now has 1044 traps (984 DOC 200s and 60 DOC 250s) 100 metres apart on over 100 kilometres of trap line.  The 133 stoats caught in 2015 was the lowest annual total since 2008 and well down on the 296 caught the previous year.  Hopefully this is evidence of very few resident stoats and less reinvasion due to more conservation groups undertaking predator control in the wider area.

**Possums**

Eighteen months ago the Trust expanded possum control beyond the core area by installing possum traps on five of the stoat lines.  In 2015 possum traps were added to three more stoat lines.  By September we had removed 1,900 possums from these traps bringing the total number of possums trapped by the Trust to over 10,000.  We know that pigs frequently go along the lines pulling the whole possum out of the trap so the actual number of possums killed is likely to be significantly more.

## PUKETI FOREST TRUST AT THE WAIMATE SHOW

The Trust's display at last year's Waimate Show was a big hit with adults and kids alike.  Visitors were invited to take a walk in a recreated Kauri forest (with birdsong and leaf litter underfoot) and the kids got a kick out of setting off the stoat trap with a gold coin donation.

In case you missed it, here are some of the best pictures from the day.


The Puketi Forest Trust stand attracting attention


Trustee Erica Whyte putting the finishing touches on the forest


Kids playing spot "The Possum"

Trustee John Dawn helping the kids set off the DOC 200

"The Possum"

Photos by Marianna Young

# WAIHOANGA GORGE

Photo by Ian Wilson

The Waihoanga Gorge is one of the special features of Puketi Forest. It extends some 1.3 kilometres along the south eastern edge of the forest with steep rocky cliffs on both sides. The Waihoanga stream enters the gorge fifty metres below the bridge at the beginning of the Waihoanga Gorge Kauri Walk, where it plunges over a waterfall. At the top of the cliffs on the northern side are a number of stands of huge mature kauri that escaped felling during the logging boom because bullock teams could not cross the gorge and haul them out.

The Trust's core area originally ended at the top of the cliffs on the northern side of the gorge leaving a 200-500 metre wide strip of forest between there and the farmland to the south with no pest control. At that time it was thought impracticable to put trap-lines through this steep area. However John Dawn, concerned that this strip was a breeding ground for pests that would invade the core area, was determined to find a way down and along the cliffs. In 2010 John found a route down the cliffs and along the southern side of the Waihoanga Stream and volunteers cut a line (T7) along the stream and another along the edge of the forest at the top of the cliffs (T8) and installed 105 traps. T8 has been serviced by Jill Mortensen every day since. She has removed almost 2500 pests (495 rats, 1240 mice, 726 possums, 3 weasels and a feral cat) and other volunteers have removed over 600 from T7 (416 rats, 81 mice, 118 possums and 2 stoats).

Kohekohe in flower. Photo by Xyrandus

The recovery of the flora and fauna within the gorge has rewarded the efforts of the many people who have volunteered their time to look after this special place. Every autumn the kohekohe in and around the gorge is now covered with flowers (that were previously eaten by possums) and seedlings of titoki, (one of the possum's favourite foods) are thriving along with many other species that were under attack.

There are three designated viewing points on the Waihoanga Gorge Kauri Walk. The third gives the best view down the gorge and it is not unusual to see people standing there mesmerised by the antics of the many birds that now frequent this area. Towards the end of last year two pairs of native pigeons were observed performing their spectacular display dives, in which a bird flies upward, stalls, and then dives down on stiffly held wings. Adult tui can also often be seen catching insects on the wing or searching for them amongst foliage to feed to their rapidly growing young, along with nectar and berries as they get older. Just on dark the lucky observer will see long-tailed bats hunting insects where tui hunted earlier and a little later kiwi and moreporks can be heard calling.

Last year John found a way down the cliffs on the northern side and over the past few months volunteers have cut two more lines and installed another 81 rat traps and 40 possum traps. These lines are not as steep as one would expect and in places travel along terraces above the stream where there are a number of large miro, taraire, puriri and kohekohe. The pest control benefits of these extra lines can be expected to further enhance this special part of Puketi Forest.

## DID POSSUMS FINISH OFF KOKAKO IN PUKETI?

Image from Auckland Council website

Following mass extinctions on the mainland a remnant kokako population was discovered in Puketi Forest in 1979. It is surprising that the continuing presence of kokako was not "officially" recorded much earlier than this as subsequent surveys revealed over 100 birds in Puketi (at the time almost 10% of the whole population of this endangered species) and many locals were very familiar with the large grey birds that were then reported as being "all over the forest". The fact that at least some locals called them bellbirds may have been part of the reason their existence was not widely known. Logging for kauri was in progress at the time and the main kauri stands in Puketi Forest lay in the area where the kokako population was most concentrated. A survey revealed that three-quarters of the kokako population was in unlogged forest and none were present in the most recently logged areas. A moratorium on logging in Puketi Forest was imposed by the New Zealand Forest Service in March 1980 to enable an intensive study to be carried out on the habitat requirements of kokako, the importance of kauri forest to them and the possible impact of continued logging on the population.

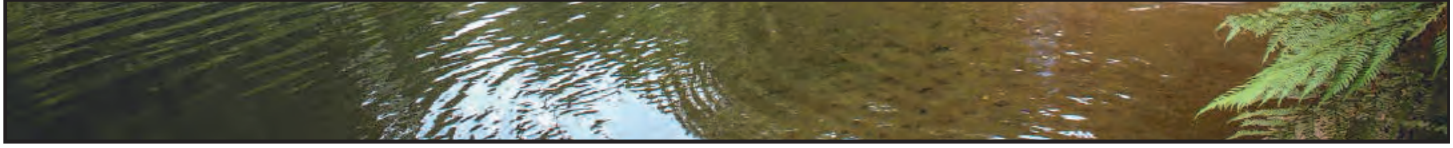
While not considered at the time, it is now known that the plant species that provide important food sources for kokako are also favoured foods of possums and that possums, being opportunistic omnivores, will quite happily munch their way through eggs and chicks found in nests. Although no quantitative data was collected on possum numbers at the time of the logging moratorium, possums had only recently arrived in Northland and it was apparent that possum numbers were increasing rapidly. Possum browse was initially noted at the forest margins along logging roads and it is thought that possums used these roads to penetrate deep into mature forest. Plants tagged alongside these roads for phenology studies bore no evidence of browse early in 1983. The first signs of browse were apparent by winter 1983 and a number of plants had been browsed to death by winter 1984. Ten years later possum palatable species such as tree fuchsia (Fuchsia excorticate) and raukawa (Raukaua edgerleyi) had disappeared from the vegetation plots and it was estimated half the northern rata (Metrosideros robusta) had been killed by continuous possum browsing.

Kokako had managed to hang on in Puketi for many years despite the presence of rats, stoats and feral cats but quickly declined after the arrival of possums. It seems that the reduced abundance of important plant food sources and the added predation pressure on eggs and chicks were the final straws for kokako in Puketi. As noted in the earlier article, the kokako reintroduced by the Trust into Puketi in 2012 and 2014 are now surviving and successfully breeding within our core management area.

## GET INVOLVED - VOLUNTEER WITH THE TRUST

We believe everyone has a talent and something valuable to offer and we try to match people to activities that best suit their interest and capabilities. If you are keen to get involved, there are many ways you could actively contribute to the Trust's work, including:

- Signing up for annual kiwi listening and bird surveys (see below);
- Adopting a trap line (there are options to suit different levels of fitness and capability);
- Helping us install or maintain our traps, including making up boxes to house the traps;
- Assisting with clearing and maintenance of our ever expanding trap line network; and
- Supporting our proposal to re-introduce native frogs, including helping us survey for suitable habitat.



**Kiwi listening**

Photo from wwf.org.nz

This year's kiwi listening survey will take place between **25 May and 12 June 2016** as weather permits. It involves volunteers sitting quietly in the forest listening for kiwi calls for the first two hours of darkness. Volunteers are stationed at one of thirteen easily accessible sites and are tasked with recording male and female kiwi calls, along with approximate direction and distance. Training will be given to new listeners. While four nights of listening are required at each site, this can be shared between multiple volunteers.

Photo from nzbirdsonline.org.nz

**Robin monitoring**

A survey of the robins in the Te Tawa catchment will be carried out on Saturday, **23 July 2016**. If the weather is unsuitable on that day, monitoring will be delayed until the following weekend. There are routes to suit all levels of fitness and training will be provided.

If you would like to take part in this year's kiwi listening or robin monitoring, please contact Ian Wilson - (09) 401 9056.

## REPORT FROM THE DEPARTMENT OF CONSERVATION

It has been a very busy summer for DOC in Puketi with record numbers of campers at Puketi HQ (despite the rain) and high numbers of trampers. The Te Mauri O Waihou led transition of Forest Pools (from an uncontrolled camping area to a picnic area with no camping) has been very successful with large numbers using the swimming holes without the problems of recent years.

As part of the department's response to Kauri Die Back, an experimental cleaning station (one of 4 nationally) has been installed at the start of the Nature Trail (see photo). Further work in upgrading the trail is currently being tendered.


In terms of biodiversity work, the summer weed program in the Puketi Omahuta river systems is nearly complete. Of the three major weed species being treated, Tradescandia has been significantly reduced, Mexican Daisy is also down but Aristea remains a problem.

Numbers of goats culled this year are about average, with the forestry operations in the north of the forest causing considerable population movement. On the possum front, cyanide operations will take place in two northern blocks over the next couple of months, while the 3rd annual monitor of the Trust's extended trapping area will happen in May.

Results are expected soon from recent bat monitoring in Omahuta and at Puketi HQ and the Dactylanthus (wood rose) population (a favourite food of our native bats) was monitored in December.

# PUKETI FOREST TRUST
## Sponsorship Form

**There are several ways you can donate to support the restoration of Puketi Forest.**
**Please choose the method most convenient for you.**

1. **By Mail**: Complete this form and send with a cheque or credit card details to
   The Puketi Forest Trust, PO Box 257, Kaeo 0448, New Zealand.
2. **By Direct Credit**: Puketi Forest Trust, Account No 03-0351-0165464-00 (Westpac, Kerikeri)
   Please advise payment details by posting this form to the address above or email to info@puketi.org.nz.
3. **By credit card or PayPal account through the web site**: www.puketi.org.nz/donate.html
   (payments are processed through the secure PayPal system).

Name ………………………………………………………………………………………..……….

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| I wish to: | Sponsor | _____ hectares for _____ years | @$50 each | $_______________ |
| | Sponsor | _____ kilometres of track @ $1000 per km | | $_______________ |
| | Donate | _____ rat traps @ $10 each | | $_______________ |
| | Donate | _____ stoat traps @ $20 each | | $_______________ |
| | Donate | _____ feral cat traps @ $25 each | | $_______________ |
| | Contribute to the Capital Fund (minimum of $1000) | | | $_______________ |
| | | | **Total Donation** | **$_______________** |

Payment method: **Cheque** (payable to Puketi Forest Trust) ☐.

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Credit card number: _________/_________/_________/_________ Expiry: ______/_____

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**Puketi Forest Trust is a registered charity. Your donation will qualify for a tax credit.**

***Thank you for your support***