



Newsletter

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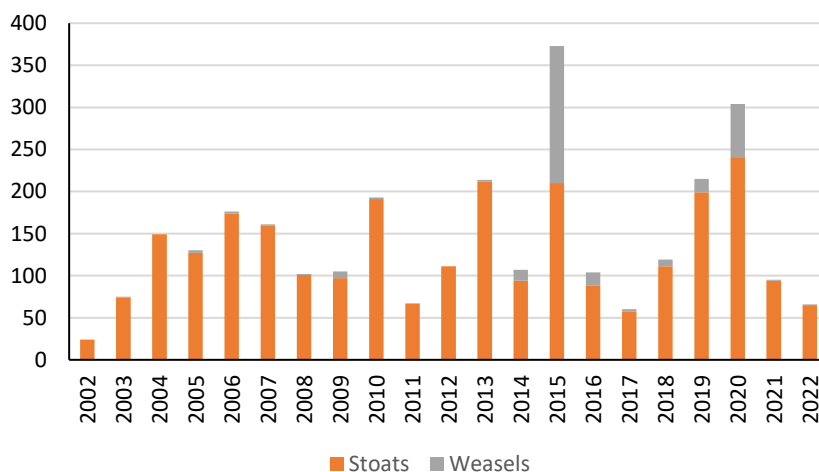
December 2022

Welcome to this year's end update on the Friends of Flora's biodiversity enhancement activities and findings.

Trap catches 2022 - Robin Toy

Drawing to the close of the year, let's reflect on FOF's trapping effort: 23,542 trap checks, catching 64 stoats and two weasels. Of course, numbers caught don't matter, what's not caught is what does the damage. So, we are reassured by FOF's monitoring that shows successful breeding of kea and whio within the FOF trapping area. Mustelid kills have declined over the last couple of years despite an increased number of traps:

Mustelid catches in Friends of Flora traps



Mustelid numbers respond to rodent numbers, and in 2022 the rat tracking in tracking tunnels averaged 9% compared to 46% in 2020. The decline is welcome, but 9% is still too high for rat-sensitive species (see *Bird Counts*). To trap rats effectively, we'd need more than 30,000 traps, an impossible challenge at present. Beech trees are flowering in the Flora at the moment, if heavy seedfall ensues, we expect rodent numbers will rise.

Small bird counts – Robin Toy

November is bird count month, five-minute bird counts (5MBC). The method is simple, walk to a count location, count every bird you see or hear in 5-minutes and try not to count any individual twice. Then move to the next location and do the same again. Friends of Flora (FOF) and Birds NZ have been doing this in the Flora since 2005, initially in the mid-Flora valley but since 2020 we have expanded the number of count stations to cover all altitudes with forest habitat. In 2022 we did 387 counts. The results show a worrying trend with declines in several rat-sensitive species.

Titipounamu/rifleman used to be common in the mid-Flora valley. Now, they're not found at the lowest altitudes, their numbers at mid-altitudes have declined by 90%, and by 50% at higher altitudes. Pipipi/brown creeper has always been scarce in the mid-Flora valley counts, more abundant at higher altitudes, but between 2016 and 2020 there was a decline at all altitudes. Yellow-crowned kākariki counts have never been high in the mid-Flora valley, but none have been detected here since 2019 and there has been a decline at higher altitudes.

We conclude that the relatively high altitude of the FOF project area may not provide a secure refuge as previously thought, especially if there is increased frequency of masting and consequent rodent irruptions. Other factors such as competition for food from non-native vespid wasps may also impact bird populations.

Weka were almost absent in the Flora prior to 2010. From 2013 they were detected in counts but they do not appear to have increased since 2015. They are the only species for which 5MBC have demonstrated an increase over the 17-year monitoring period. Counts of other species have not shown consistent changes despite the changing predator picture, but altitudinal differences in counts are evident. Bird community dynamics are complex – our monitoring continues.

Kea Update – Chrissy Kaneen

After a few months of monitoring the kea nest in the Flora, and watching the daily goings on, once we had retrieved the cam footage we are excited to say we have all had an early Christmas present - as of the 4th of December - sighting a **new kea chick!**

It was only seen exiting the nest a couple of times, as we collected the data the next morning, so there may - fingers crossed - be another chick still hiding away. And unfortunately, with the other footage we have seen, I would be hiding away too! After not seeing a stoat since we reinstalled the cameras this season, there has been quite a lot of action, and we believe a kea chick was taken from the site on the 26th of October.

To say this is heart breaking is an understatement, but it just again reinforces why we maintain our extensive predator control programme within the Flora - and for all the volunteers out there doing the hard yards, we again say 'THANK YOU'.

But these two kea parents are not timid either, chasing the intruders away at times. So hopefully this little chick has a chance! We'll have an update in our next newsletter.....



Population of threatened Pitpat found in Deep Creek – Laura Parks, DOC Biodiversity Ranger.

Following up on a single observation from Deep Creek in 2016, a day of dedicated surveillance was carried out for the Threatened – Nationally Vulnerable *Pittosporum Patulum* to see how many individuals are present and whether a large enough population exists to warrant monitoring for ungulate impact.

In a small stretch of forest, 21 trees were found. Excitingly, 3 were found in flower! This is rare to see for this species, as it is incredibly slow growing and highly palatable, so it often gets browsed before it reaches maturity. The two largest trees were 4 and 5m tall—a very rare sight!

Further surveillance downstream is required to locate enough individuals for a robust data set, but an excellent start was made.



Giants in trouble - Sandy Toy

Ok, the Flora giant wētā is quite a small giant, weighing about 7 g with the larger females up to 40 mm in length. Nonetheless, *Deinacrida tibiospina*, the Mt. Arthur giant wētā is special. It occurs only in the alpine areas of mountain ranges in Kahurangi, at very low densities, so it's vulnerable to local extinctions. Its relatively large size likely makes it an attractive feast for rats and mice compared with a tiny native cockroach or a few seeds. In recent years, rodents have moved into higher altitudes and in years when the tussock flowers *en masse*, rodent numbers spike – bad news for wētā. FOF's alpine team have spent several nights looking for night critters in the tussock. Wētā are hard to find but when we did find a female she froze motionless in the light of the head torch. This habit of freezing when disturbed is likely to be a useful defence against native reptile and bird predators but is disastrous against night hunting rodents that use smell to detect their prey. This vulnerability has resulted in the wētā being assessed as **critically threatened** in the latest review of the conservation status of all 162 known taxa of Orthoptera (wētā, crickets and grasshoppers) in Aotearoa. The total world population is less than 1000 mature individuals with a high ongoing or forecast decline of 50–70%. That's scary... For more information look at the report

<https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs39entire.pdf>.

FOF has used low-impact tracking tunnels to monitor populations of the wētā since 2016. Great work on the part of our alpine team. But the report is an alarm call - Aotearoa needs tools to control mice in alpine areas at a landscape scale.



Deinacrida tibiospina nymph – making footprints. Photo – Martin Howard



Another work day in the Flora – Peter, Mike, Robin, Sandy, Martin, Lesley, Ruedi and Maya – taking new alpine monitoring tunnels to the upper Wharepapa slopes..... *Photo - Gerald Bruce-Smith*



..... Where they are laid out for the Alpine project team work. *Photo – Lesley Hadley*

Whio survey of Flora and Grecian streams – Dec 2022 – Ivan Rogers and Paul Ewers.

The scheduled Friends of Flora whio surveys took place either side of Christmas, yielding mixed results. There was an anticipation of a low bird count due to a decline being currently observed in two previously well-stocked waterways - the Rolling and Waingaro rivers. However the survey in the Flora Stream undertaken on Christmas Eve revealed five pairs and a single male - one of the pairs having three ducklings. Just outside of the survey area a further family group was photographed by DOC's Leon Berard a few weeks prior. So not bad at all for the Flora, given that whio are fickle breeders.

Unfortunately the Grecian Stream team who walked in on Boxing Day could only find three pairs and a single male, the poorest result since surveys began in the Grecian - and perhaps reflecting the decline observed in other parts of Kahurangi. A potential cause of the poor result is predation pressure - given there is at least one feral cat active in the Grecian – or, the whio food supply being reduced by frequent high water events in winter and spring.

The decline is patchy, however – as DOC staff encountered no fewer than four family groups when surveying the Pearse catchment earlier in the month.

Many thanks to the survey team - Paul, Shaun, Pamela, Steve, Martin and Ivan.



A Flora whio feeding with their duckling. *Photo & Copyright – Leon Berard, DOC Biodiversity Ranger.*

From the Chair - Sandy Toy

I had the privilege of spending the night before Christmas up the hill having completed the 50 odd crossings of the Grecian required to service the traps on that line. There is no prettier place in the world than the Upper Grecian in the early morning. Looking up at the back face of Crusader, I reflected on how much FOF has achieved in 2022. A year ago we marked out the trap locations in the upper Grecian along the route recced by Paul. Within a couple of months the traps had been made, delivered by helicopter, distributed and activated. They are now doing their job protecting the who who call this river home, and providing the first line of defence against invasion of stoats into the core Flora project area. This was a huge volunteer team effort, and it is replicated every month with volunteers servicing more than 2500 traps at 1350 stations.

Together with DOC, FOF has documented fantastic biodiversity wins in the Flora this year: threatened native mistletoe flourishing as a result of low possum numbers in recent years (we saw some flowering on Christmas Day); roroa, great spotted kiwi spreading out from the core project area; our monitored kea chick fledging despite numerous adventures; marble clematis, which occurs only on our maunga - nowhere else in the world - more abundant than it was twenty years ago; discovery of the rare and beautiful forest ringlet butterfly for the first time in 53 years. And that's just the beginning.

But we can't be complacent, collectively we are not addressing many of the threats to our precious biodiversity and some of the taonga of the Flora are disappearing on our watch. If you love being in the backcountry, want to make a difference to restoring the biodiversity of the Flora and are able to commit to volunteering, please get in touch via our web page www.fof.org.nz.

Summer has finally arrived and with it we look forward to new projects and approaches. There is a new focus on the many threatened plants in the Flora, lead by DOC Ranger Laura Parks. We welcome Masters student Brodie Abel as part of a new partnership with the University of Otago to learn more about the less well known threats - in Brodie's case - wasps. Meanwhile thanks to all the FOF volunteers, your mahi is inspiring. Thanks to our partners in DOC, your support sustains us, and thank you to all our supporters and wonderful funders.

All the best for 2023 to all our readers.

An increasingly common sight within the Flora. 180deg view on my trap line. *Photo – Gerald Bruce-Smith*

