



No. 119

# Newsletter

June 2022

Welcome to this update on the Friends of Flora's biodiversity enhancement work.

## Report for twelve months ended March 2022 – Robin Toy

Our readers may find of interest the information contained within this brief summary, covering the diversity of activity undertaken and that planned for the current 2022/2023 year: -

**Mustelid control** – This trapping is a core activity for FOF, with 52 volunteers having spent 309 days on monthly checks. The stoat trap network has had 1,348 stations, each having a double trap.

**Mustelid trapping expansion** – Two new lines have (since) been installed, with 27 trap boxes on the Barron Flat track and 32 trap boxes extending into the Upper Grecian, to expand our protection of roroa and whio.

**Roroa monitoring** – Acoustic recorder monitoring (175 nights) showed call rates in the core area appear to be stabilizing, having increased for the previous four years. Additional roroa occupation has been discovered north (Barron Flat) and south (Peel Valley) of the project area.

The last two papers of a trilogy from this kiwi project have now been published in *Nortornis*.

**Forest bird counts** - All scheduled bird monitoring occurred. This fifth year of acoustic recording demonstrates value to the Flora to hard-to-monitor species: morepork, kea, kaka, roroa and long-tailed cuckoo. Additional 5MBC (minute bird counts) were added to the core counts to cover the altitudinal range seen in the project area (total 427 counts at 99 stations). Rifleman were absent at lower altitudes; other species show little change. Cameras were trained on the entrance to the kea nest cave for nine months; one chick fledged despite visits to nest entrance by stoats and feral cats.

**DOC-led mistletoe survey and monitoring of marble clematis and the forget-me-not, *Myosotis arnoldii*** – The Mistletoe survey on Starvation Ridge was completed (82 plants found) as a baseline for future monitoring. *Clematis/Myosotis* monitoring survey was completed – both species are more numerous than when (last) surveyed 20 years ago.

**Use tracking tunnels to monitor weta and alpine lizards** – Monitoring was completed as per plan (weta using 50 tunnels Jan-Mar; lizard using 91 tunnels Dec-Mar and 25 tunnels from Apr-Nov). Tracking levels steady, with little rodent activity this season.

**Forest rodent abundance using tracking tunnels** – Monitoring was completed using 13 lines of tunnels, four times a year. Rodent tracking continues at low levels. A 14<sup>th</sup> line has been introduced to strengthen monitoring at low altitudes.

## An acoustic census - fact or dream? – Robin Toy

In 2018 we removed the transmitters from the rorua translocated into the Flora. Every year since we have put out a grid of acoustic recorders to monitor changes in call rates. Together with additional recorders placed outside the grid from time-to-time, this shows that the Flora rorua population is expanding and infilling. But, we can't be sure exactly how many kiwi are there.

At a recent kiwi hui Lesley, Martin, Sandy and myself caught up with Laura Molles and Carol Bedoya who for several years have been developing software to identify individual kiwi from their calls. In the last couple of years, they have made huge progress. A pre-print of their research contains incredible graphics showing how calls from each rorua cluster tightly, and separately from those of other individuals. They do this by 'integrating a fuzzy classification and clustering methodology (LAMDA) into a Convolutional Deep Clustering Neural Network (CDCN)'. Hmm, that's way over my head, but the implications are exciting. If we are able to use Laura and Carol's techniques, we might be able to tell which of the translocated kiwi are still resident and how many new individuals have joined them. The recordings we continue to make each year, could enable us to follow not only the population of rorua in the Flora, but the fate of individuals.

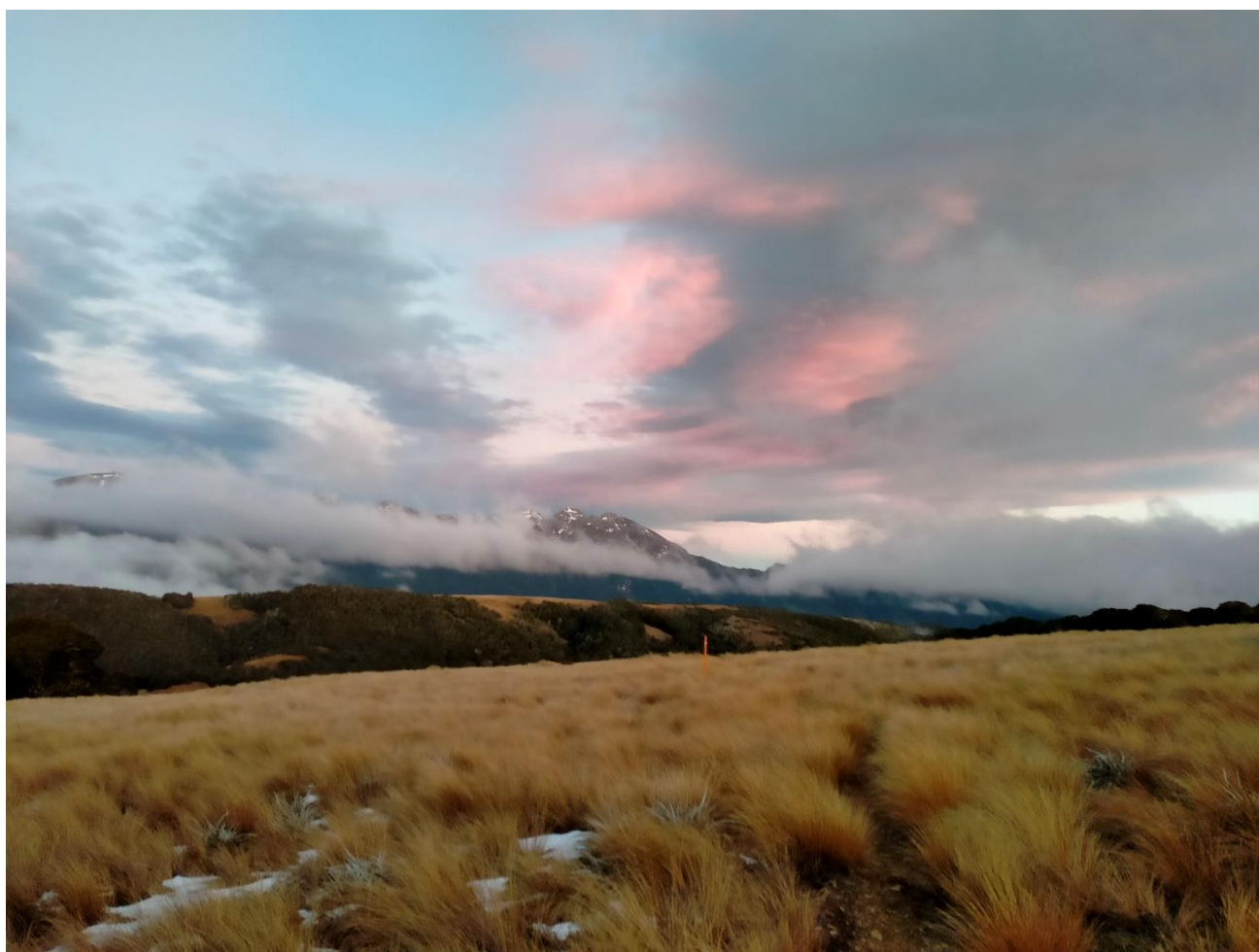
That seems like a giant leap forward...so watch this space!

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And... talking of space... our March FOF Newsletter was a real bumper edition, however we've been somewhat short on material for this winter edition. So, what better way to make up for the shortfall, than to show you some of the beauty that we experience within the Flora and on the Tablelands, in winter.....

First off, Warren and Hamish recently checking traps on their way up Lodestone - *Chrissy Kaneen*





A couple of views over the Tablelands – yes, checking traps again! – *Chrissy Kaneen*



Flora Hut, now in its 95<sup>th</sup> year, continues to be a popular stop over for trampers and day walkers alike, and we thank DOC for retaining, and maintaining, this key asset. With Matariki fresh in our minds, together with its relationship to our earth and sky, this magic image taken by Tim Fell - a valued FOF volunteer – is particularly special. Thanks, Tim, for sharing it!

## From the Chair – Sandy Toy

FOF's AGM in May was our 21<sup>st</sup> - a special occasion. Our guest speaker, Kevin Hackwell, gave a thought-provoking talk about how Aotearoa's native forests act as carbon sinks and why investing in herbivore control makes economic as well as ecological sense. Aotearoa's indigenous forests store about 70% of the total carbon stored in all vegetation, so ensuring these sinks are as effective as possible is important in managing our national carbon budget. Herbivores impact this balance through direct consumption of vegetation, through killing mature trees, by reducing the carbon storage capacity of forest soils through reducing the litter layer and reducing the ability of soils to oxidise methane by compacting them. Healthy forests and forest soils also store more water, thereby mitigating impacts from flood, reduce risk of fires, maintain cooler temperatures and of course provide a home to our special and threatened biodiversity. See <https://www.forestandbird.org.nz/sites/default/files/2021-06/Protecting%20our%20natural%20ecosystems%27%20carbon%20sinks%20-%20Forest%20%26%20Bird%20report.pdf> for more information.

In the Flora, it was a pleasure to report that despite the challenges of COVID, FOF volunteer activity had increased to around 6,000 hours; once again we extended our trapping network as well as expanding our biodiversity monitoring activity. FOF is a volunteer group and FOF volunteers are legendary. It's gratifying to see the high regard with which the Friends of Flora is held by colleagues at national meetings and conferences.

Our volunteers come in many different shapes and guises, and together we make a team.

I want to acknowledge two volunteers who have moved onto new activities since the AGM: Regan Bridge who has deployed so many of our trap boxes, as well as removing heaps of old boxes from the field; and Stew Fowler who has maintained order in the FOF shed for many years. Thank you both, and thanks to all our volunteers.

The AGM was also the opportunity to acknowledge our many generous donors and sponsors. Volunteer work cannot happen without funding support for bait, tracking tunnel cards, trail cameras, fuel vouchers, traps etc. The generosity of our supporters underpins everything we do. Thank you all.

Winter is a time for review, and the FOF committee has been working with DOC on updating our joint five-year operational plan. There's no shortage of exciting new projects to consider. We look forward to even greater biodiversity gains in future.

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