

2016



Battle for our Birds NEWSLETTER 1

Time in WAITUTU

The Battle for our Birds has moved up a gear throughout the country.

As DOC staff prepare for potential pest control activity, it is timely to reflect on the background research that drives us to defend large tracts of native forest to protect the ecosystems and wildlife within them.

Long-term studies of pest control outcomes require the dedication and commitment of people over many years.

The results become valuable tools that help to shape future pest management strategies. For a number of years the Department of Conservation has been studying Waitutu Forest in the south-eastern area of Fiordland National Park.



Waitutu FOREST

Waitutu Forest is one of the largest tracts of unmodified lowland forest remaining in the country. The forest is a diverse mix of beech, podocarp and hardwood. It contains a healthy selection of mistletoe with five species occurring in the area.

In 1985, a Wildlife Service study by Elliot and Ogle¹ stated: "Waitutu has possibly the densest and largest population of kākā on mainland New Zealand."

Quarterly rodent, mustelid and seed rain monitoring has been conducted in the area since 2002. This showed the mustelid monitoring index to be consistently high at 80 to 100% year-round until 2008 when the first attempts at landscape scale stoat control in this area commenced. Stoats remained a constant threat to birdlife during this period. Possums were recent invaders into the area west of the Waitutu River and also threatened many of our native species.



Ileostylus sp.



Peraxilla sp. flowers on the forest floor.



Climbing to a kākā nest.



Possums were recent invaders to Waitutu.



Possum predation on a kākā.

¹ Elliott, G.P.; Ogle, C.C. 1985: Wildlife and wildlife habitat values of Waitutu Forest, western Southland. NZ Wildlife Service Fauna Survey Unit Report No. 39. Department of Internal Affairs, Wellington.

Studying the KĀKĀ POPULATION

In 2004, DOC began a study of the significant and apparently healthy population of kākā. Using mist nests they caught about 120 birds. There were no juveniles caught or seen. The sex ratio was heavily skewed in favour of males ranging from 6:1 to 12:1 over all five study sites.



Waitutu kākā mist netting.



120 birds caught.



No juveniles caught or seen.

The female kākā had transmitters attached and were tracked through a few nesting seasons. Many were killed by predators and no chicks were fledged. This was an ageing kākā population on the verge of collapse. Kākā, like many of our more threatened native species, are cavity nesters and the female alone incubates

the eggs and feeds the chicks. While birds that nest on a branch are able to fly away when a predator approaches, species that nest deep within tree cavities are trapped and often killed. When 32 ruru were caught, only two of them were female, one of which was killed by a stoat within a few days. The study also found that mohua/

yellowhead and other small forest birds were in low numbers. In addition, DOC discovered that the mistletoe was disappearing rapidly as the possum population expanded. Possums were late to get into much of western Fiordland, not appearing in western Waitutu in any significant numbers until 2010.



Kākā killed on nest.



Kākā killed by stoat.

Pest control IN ACTION

Robust monitoring by DOC provided evidence of the dire position in Waitutu. The Māori landowners (SILNA) are key stakeholders and with the Nature Heritage Fund

(NHF), supported DOC's efforts to prevent further losses. A contribution of \$1.7 million from NHF helped to control predators over 30,000 ha of Waitutu.



Black water creek, Lake Poteriteri.

The fate of native species has been tracked since research and monitoring began. At Poteriteri and Waitutu study sites, ground control protects birdlife from stoats between heavy seeding seasons (mast events) of both beech and podocarp species. Since 2002 significant mast seeding events for beech species have occurred 5 times (in 2003, 2005, 2009, 2014 and 2016) and for podocarps (particularly rimu) 8 times (2002, 2003, 2006, 2009, 2011, 2013, 2014 and 2016). Simultaneous mast events for beech and rimu have occurred in four of these years.

Biodegradable 1080-laced cereal baits have successfully been used from the south coast north to the Princess Mountains and between Big River and Wairaurahiri River to coincide with mast events.

- 2010 - DOC stopped trapping before the aerial 1080 operation and did not restart until 2 years later when stoats started to reappear in the system.
- 2014 - DOC stopped trapping before the aerial 1080 operation and restarted 6 months later when stoats started reappearing in the system. This was a mast with significantly higher production of beech seeds.
- 2016 - This year Poteriteri has recorded one of the heaviest seedfalls of both beech and podocarp seeds in the South Island. The inevitable massive predator irruption must be controlled. Planning is well underway for aerial control over all of Waitutu in 2016.



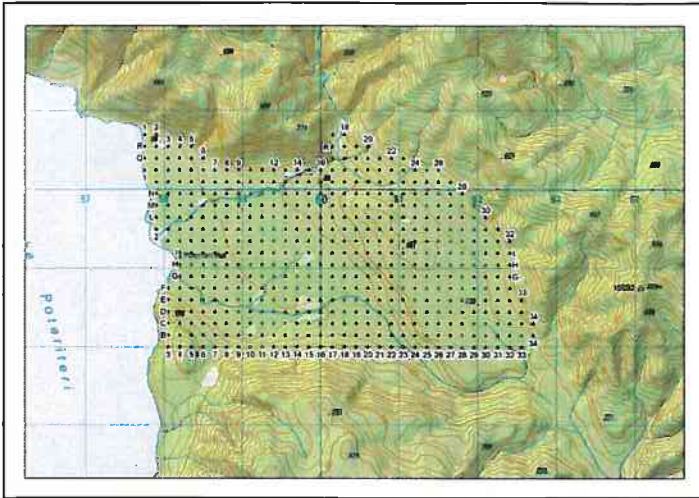
Stoat in DOC150.



Tracking tunnel rat prints.

Monitoring

The Poteriteri study site is one of five study sites within the Waitutu Forest restoration project. It has an extensive forest bird monitoring grid set-up, established in 2006.

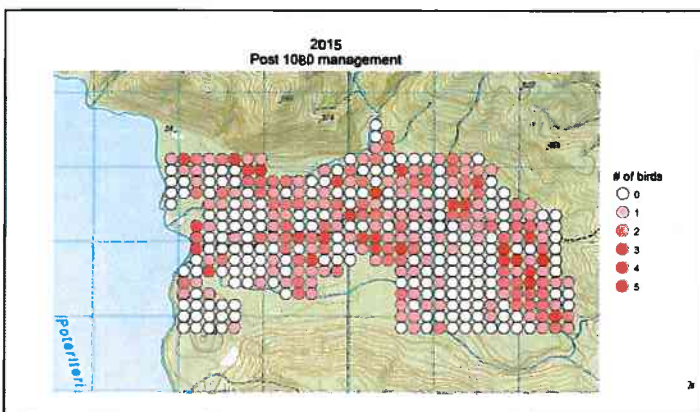
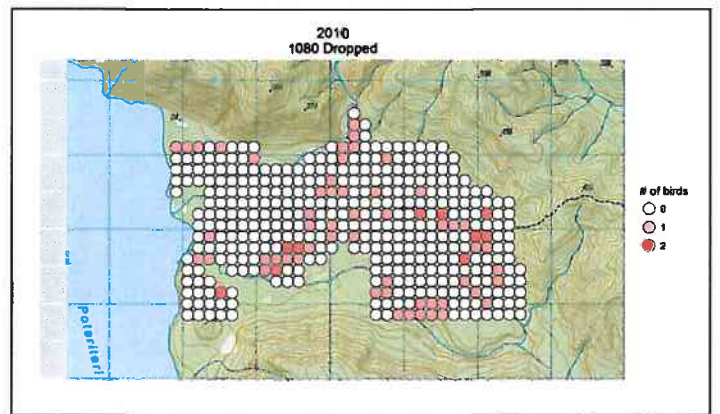
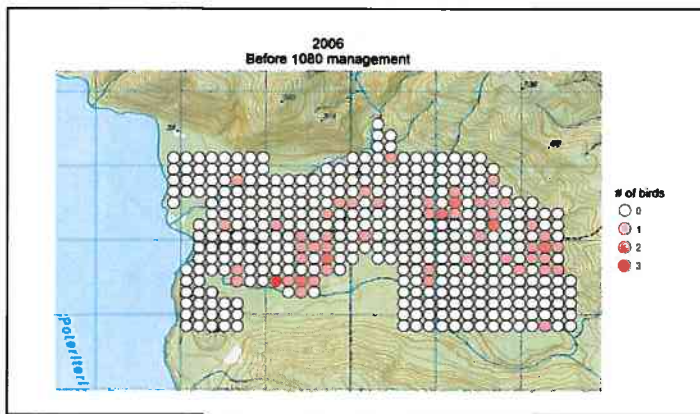


Poteriteri study site.



Robin.

Pest control WORKS!



Bird counts are recorded at 350 monitoring points in a 150 m x 150 m grid throughout the Poteriteri and Waitutu monitored areas.

Since 2006, a 5-minute bird count has been conducted every November at each point on the Poteriteri grid. DOC counts all forest birds seen or heard at each listening site. Robins are more conspicuous so their population changes are more obvious. There has been an obvious change in both the number of robins and locations where they have been recorded. There are also measurable increases in abundance of most species - particularly kākā and korimako/bellbird.



Lake Poteriteri.

What is the monitoring and research **TELLING US?**

By carrying out sustained pest control over longer periods and monitoring the outcomes, DOC has gathered evidence that there are a lot more kākā in the system. Juvenile kākā are often seen and nesting females are fledging chicks. The final stage in the monitoring is to recapture a bunch of kākā this year to see how the population demographics may have changed.

There is good reason to think that slow-breeding kākā populations will have benefited from sustained pest control. Kākā sex ratios should be more in balance and productivity should be far greater than before the pest control operations began.

In the meantime, DOC has conclusive evidence that the population density of robins has grown rapidly over the past 8 years. This is also true for other species, like bellbirds, that showed increasing populations after pest control.

After all, the birdsong tells us.



Bellbird song.



Female kākā wearing transmitter.



Kākā chicks in the nest.



Banded kākā chick.