

BHCT 2020 Operational Summary

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2020, the year of highs and lows:

2020 was definitely a tough year for everyone with the covid pandemic, and it was as equally tough for nature in Northland New Zealand too.

Winter 2020 saw the second year in a row of well below average rainfall, driving the important groundwater table further into deficit. Plants that are normally able to marginally survive on Bream Head/Te Whara's steep, rocky, exposed faces and thin soils, such as taraire and manuka, quickly engaged their survival instinct to drop leaves and on some exposed northern faces, unlike the taraire, a high percentage of manuka has been unable to survive. This has opened up light wells for pastoral and invasive weeds such as smilax and mothplant to thrive, as well as the loss of canopy for restoration progress.

Birds, particularly kiwi who need the moist humus to seek food, were forced down out of the reserve to low lying areas with far less protection. The five minute bird counts reflected this trend for most of the other species who reside in the reserve, with nearly all species showing a call count abundance percentage decrease from the years prior to the droughts. Possum trap catch rates did level off with that of 2019, but both years were higher than the low rates of 2016 - 2018. School visits dropped due mainly to Covid 19 restrictions and uncertainties.

The Trust operations team decided, after the successful survival of all the grey faced petrel (gfp) chicks in the 2017/18 breeding season, on the back of the 1080 operation in the prior spring, to implement this tool again in order to try and protect the gfp and all other endemic species in the reserve. Unfortunately this time round the positive effect of our intensive rodent control programme meant that there were very few rodents to deliver the toxin to the stoats.

Following the 2020-1080 operation several stoats were seen running across Ocean Beach Road toward the reserve on numerous occasions by several local Ocean Beach/Urquhart Bay residents. In December 2020, after many months without any catches, the Trust rangers and volunteers trapped 17 stoats. A mixture of adult and juvenile stoats were caught indicating a large reinvasion of non-residential* adult stoats from outside the reserve (adult stoats caught were *non-residential stoats because they were not trap shy and would have been caught in the reserve if they were residential prior to December). The tragic end result for the 2020 gfp chicks was total elimination by stoat(s) whose predation in the burrows was caught on camera. Other bird and lizard species will have suffered from this reinvasion also. On a positive note, the Trust rangers were able to reduce the catches to just five stoats in January 2021 and no catches in February. A full reserve stoat dog survey in late April 2021 only provided two indications of stoat presence (the rangers are working hard to catch these rogue stoats).

While 2020 was a difficult year we also enjoyed many operational successes:

- Winning NRC's award for best 'Environmental Action in Pest Management'
- The 2020 rodent annual average residual tracking index (RTI) for rats returned an astonishingly low 0.22% (+/- 0.33%), which is the lowest ever RTI for the Trust and a continuation of the downward trend.
- BHCT managed to attain and retain two excellent contract rangers
- Official opening of our excellent operational headquarter facility
- Installation and management of the buffer predator control network
- More pest plants were controlled over more area than ever before through mature plant containment and the establishment of the FoRT monthly weed volunteer programme.
- The ranger team have now installed the econode remote reporting devices to the 36 DOC200 traps on Ocean Beach Road and the boundary, and a mature stoat has already been caught on the mayonnaise lure in Autumn 2021 (a time when mature stoats are difficult to catch).
- We reached the milestone of 60 volunteers involved on the ground with the operational mahi and quite a few of these are in the more youthful age category than has been traditionally involved, perhaps a reflection of people focusing since Covid19?
- The 2020 Lizard survey was fairly even with previous surveys but what was exciting was the discovery of lizards in a 'control' survey area that had never previously returned any lizard species (this is why that area was chosen as a site - to hopefully one day show population migration within the reserve).

- Assisting this result is the intensive mouse control operation at both the *Placostylus hongii* (pupurangi/flax snail) and Bream Head/Te Whara skink sites, which returned an exceptionally low mice RTI of only 2%.
- The invertebrates RTI was also very pleasing again this year and continues to climb in proportional relativity to the decrease in rodent pest abundance. 2020 saw a wonderful annual average RTI of key invertebrates in the reserve of 35% (+/-3%). This means that if one were to place a tracking tunnel laced with peanut butter anywhere in the reserve for one night they have a 35% chance of finding a key invertebrate.
- Kiwi coast Bellbird/Pateke survey showed Bellbirds locked into BHSR at the time of year that they would not be migrating to and from the islands.
- A new toxin known as Double Tap was added to the 1200+ bait stations throughout the reserve in late 2020, and the bait stations lowered to just above ground level. This serves several purposes but the main ones being that it will be a good switch out of toxin, with its peanut butter lure it should be more palatable for Norway rats and a lot easier for them to attain with the lowered stations.

A combined two-year drought and a stoat reinvasion has not helped with the vision to restore BHSR to its former times prior to humans. The Trust must embark on a far more ambitious path than very low suppression and take the reserve to zero invasive predators (ZIP) if we are to enjoy the full day bird song and future translocations of lost species. The operations team is therefore already well on the way to planning for this shift up in operations and will be setting the platform over the next two years (2021-end of 2022) to start implementing by 2023. To try and better protect sensitive species such as the gfp, more intensive measures are being implemented prior to the 2021 breeding season including directly targeting stoats with PAPP, new lures, more cameras and other trap tools. During the next two years we aim to install an intensive boundary network of predator control and surveillance devices along Ocean Beach Road, capturing invaders early and allowing the Trust to monitor how these predators are moving through the landscape.

The next BHCT five-year operations plan will highlight this foundation work and then add in the necessary mahi for years 3-5, envisaged to contain the ZIP systems which should allow for further translocations of selected sensitive endemic species back to Te Whara/Bream Head. Funding applications, such as the one with Foundation North, have already been designed around this approach with funds sought initially to install the platform devices and systems in preparation for the ZIP programme during 2023. Finally, the arrival of NRC's Predator Free Whangarei project, with its beginnings at BHSR this coming winter will complement the direction BHCT is driving toward over the next five years and beyond. This larger landscape approach will have a huge impact in reducing the pressure BHSR receives from invading terrestrial predators from the land bridge to the north of Te Whara/Bream Head. With a zero-predator environment at BHSR, and some help from the rain gods, the future vision of all day bird song, increased lizards, invertebrates, freshwater species and improved habitat is more realistically achievable!