

November 2019

The Halo Project aims to inspire and work with our communities to enhance, protect and connect with this landscape. The Halo Project is overseen by the Landscape Connections Trust (LCT) and employs staff who work with a network of volunteers on four conservation projects:



**PREDATOR
FREE**



**FOREST HABITAT
RESTORATION**



**FRESHWATER
ENHANCEMENT**



**SEABIRD HABITAT
RESTORATION**



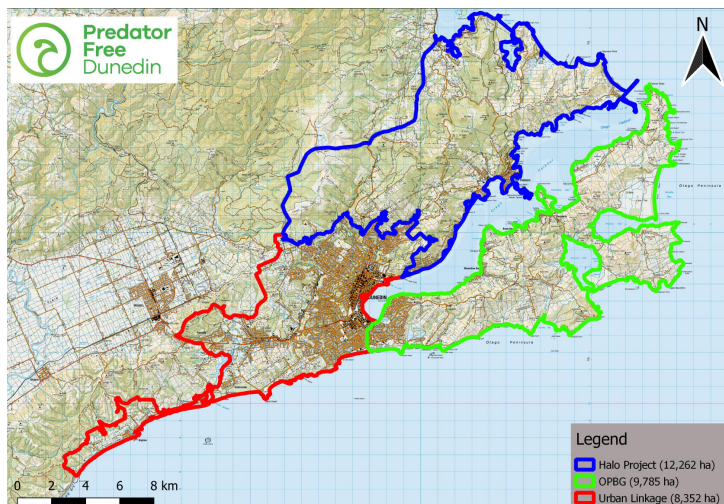
PREDATOR FREE Update

Predator Free Dunedin (PFD) was formed in October 2018.

PFD has 22 member organisations including local iwi, the Department of Conservation (DOC), Dunedin City Council (DCC), Otago Regional Council (ORC), the University of Otago, Otago Polytechnic and Orokonui Ecosanctuary.

The Halo Project is establishing Predator Free work across 12,500 ha, north of Dunedin.

If you're already a volunteer for the Halo Project, it means you are automatically a volunteer for PFD, hence why you are on the PFD email list and receive regular updates from them too.



Overview of Predator Free Dunedin's Operational Areas
(The Halo Project looks after the 12,500ha in blue)

Predator Free at a Glance

The Halo Project is a delivery partner to PFD. Other delivery partners are Otago Peninsula Biodiversity Group (OPBG) and the DCC.

Our commitment to PFD is to work with the local community to establish and maintain best practice stoat and possum control across 12,500 hectares of land north of Dunedin, surrounding Orokonui Ecosanctuary.

See www.predatorfreedunedin.org for more details about PFD. (Please note the .nz is no longer part of the PFD web address.)

To deliver this work we collaborate with:
PFD, OSPRI and Orokonui Ecosanctuary.

We are funded by:
PFD, DCC, ORC & OSPRI.

Our team:

- **Jonah Kitto-Verhoef** – Predator Free Operations Manager
- **Sanjay Thakur** – Predator Free Coordinator
- **Kate Tanner** – Predator Free Coordinator
- **Rhys Millar** – Project Manager (part time)

Predator Free successes:

- One third of the Halo Project's operational area has complete stoat control coverage.
- Total number of active traps on the ground: 790 (and that is increasing by the day!)
- Total number of recorded pests removed: 1807 (also increasing by the day!)



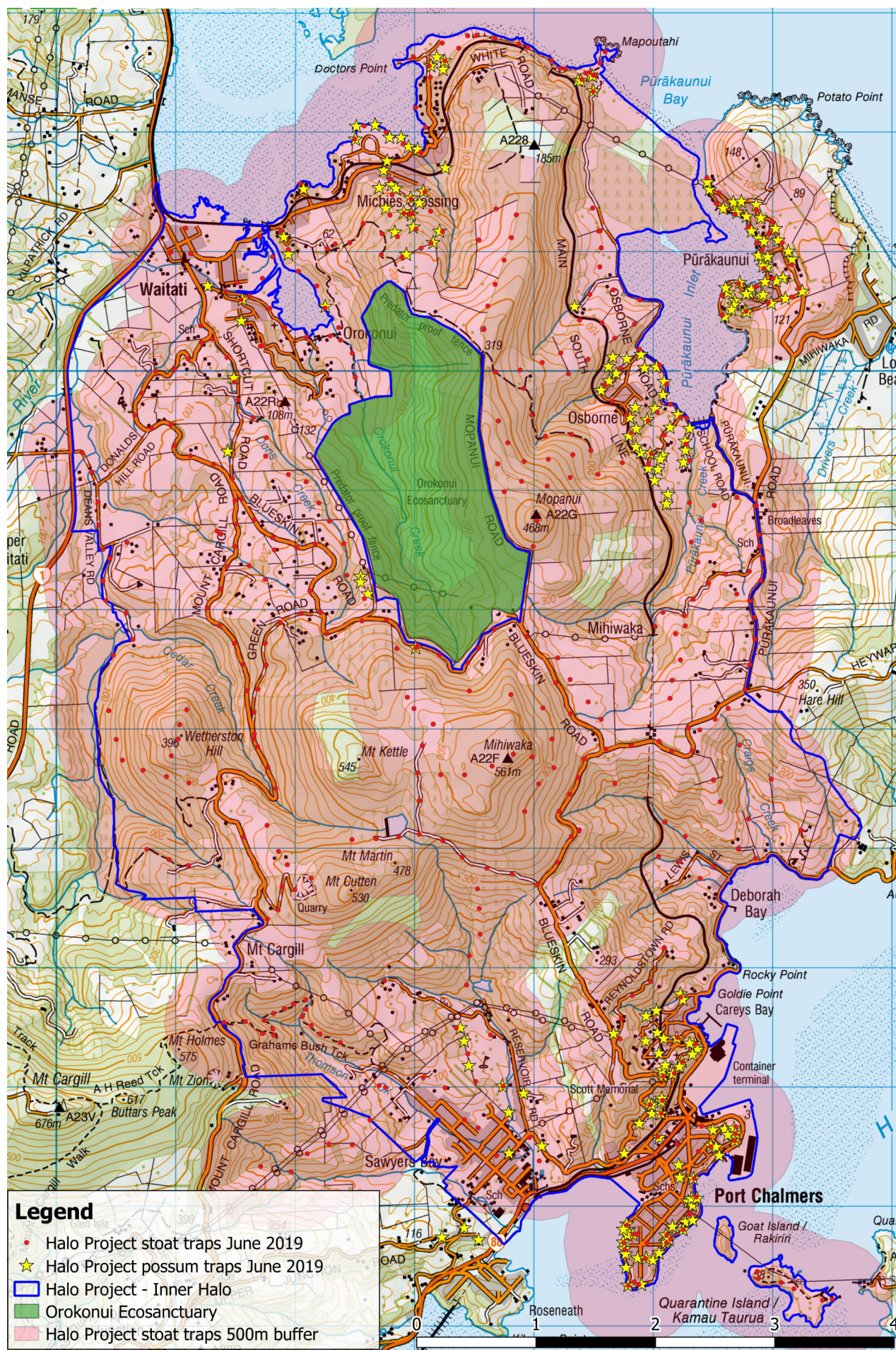
PREDATOR FREE (continued)

Inner Halo Stoat Network, by Sanjay

The Halo Project team passed a significant milestone this winter by completing the setup of stoat trapping networks across the entire Inner Halo Project area.

Over the past two years a total of around 450 stoat traps have been deployed (a mix of DOC150s, DOC200s and Goodnature A24s) spread across 25 trapping networks. Combined, these traps are now permanently suppressing the numbers of stoats in the 4,000ha "Halo" area encircling Orokonui Ecosanctuary. Knocking stoat numbers down and keeping them at low levels within this landscape scale will make a real difference to native biodiversity in the area.

Getting the last of the traps in place was certainly a satisfying achievement, but of course the traps will only be effective if they are regularly checked and re-baited. For this labour-intensive work the Halo Project depends, almost entirely, on the many volunteers who generously give up their time to contribute to this restoration work. If you are one of these people, THANK YOU!



The Halo Project's Inner Halo Possum and Stoat Trap Coverage (each stoat trap has a 500m buffer, shown in pink)



PREDATOR FREE (continued)

Trail Camera Study, by Jonah

How many stoats are still around? The Halo Project has been working with Manaaki Whenua Landcare Research (MWLCR) to help answer this question.

Recently we installed 45 trail cameras across the Predator Free project area, within currently trapped areas and in areas we will expand stoat trapping into, over the coming months and years.

The cameras spent 22 nights in the field, directed at lure packages made up of fresh rabbit, dehydrated rabbit and ferret scent. The cameras captured many thousands of images, including some amazing shots of native birds such as South Island kākā, titipounamu (rifleman) and the kahu (Australasian harrier hawk).

We also got some great shots of some of the major threats to our biodiversity: cats (49), ferrets (7), weasel (1) and the target of the study, stoats (12).

We haven't received the final results just yet, due to the huge number of images that need checking. Scientists at the MWLCR Lincoln facility are using new artificial intelligence computer software to check the images, categorising those with animals and those without, helping us sort through the >100,000 images generated. This study will directly contribute to a national understanding of how best to conduct photo

monitoring, with the intension of creating a reliable and robust measure of predator abundance.

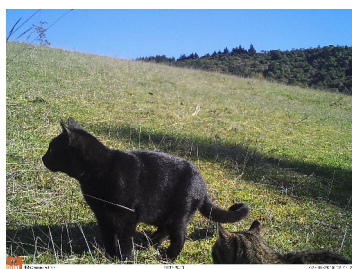
Good news is that initial numbers indicate that the current stoat control network is doing a good job at suppressing stoats to low levels. Only three of the 12 stoats captured in photos were from within the Inner Halo, with the other nine in the Outer Halo, mostly congregated in bush remnants and forestry areas.

The trail cameras showed a high number of cats in these areas where we are working to remove mustelids. Along with mustelids (stoats, ferrets and weasels), cats are a huge threat to native biodiversity, covering large territories and consuming high numbers of insects, lizards and birds. We can all help reduce the scale of this problem – If you have a domestic cat, please be a responsible cat owner and ensure that cats are neutered, microchipped, well fed, kept indoors (especially overnight, including dawn and dusk) and consider not replacing your cat. See our article (below) on FREE microchips for your companion cats.

The trail cameras have clearly shown the spread of unique and vulnerable wildlife far beyond Orokonui Ecosanctuary, and over the coming years we expect to see much more of this. Let's do our bit to keep them safe!



Kahu (Australasian harrier hawk)



Cats near nesting rifleman



South Island Kākā (during the day but in low light due to forest)



Ferret in forest (at night)

Free microchips & NZCAR registration for companion cats within the Halo Project area, by Niki

We have over 180 microchips and registration forms for the NZ Companion Animal Register (NZCAR) to give away for companion cats within the Halo Project area. We are working with Pet Doctors at the Gardens Vets who will only charge for the cost of the consultation. If you have a pet cat and are taking your pet to the vet for another reason already and ask for a microchip, then you will only be charged the cost of the consultation with the vet (\$55). If you book to see the vet nurse for a microchip only, it will cost just the price of the consultation with the vet nurse (\$20).

If you want to book in for a microchip for your cat, contact the Gardens Vets on 03-473 0387

Visit them at 14 Bank St, North East Valley, Dunedin

Email them at thegardens@nzpetdoctors.co.nz



Backyard Possum Control (in partnership with OSPRI), by Kate

OSPRI are busy again this year with their rural TB Free programme, which has seen them remove more than 4,899 possums from Flagstaff this year and approx. 20,000 from the wider area over the last 2.5 years.

If you live rurally, it's likely you've had or will have High Country Contracting (OSPRI contractors) removing possums from your property. The Halo Project's current commitment is in urban areas, and to work with residents in Pūrākaunui, Waitati, Doctors Point, Sawyers Bay, Port Chalmers and Careys Bay to remove possums from backyards.

If you have a backyard trap, we really appreciate the work you do alongside that being undertaken by OSPRI.



Kate putting bait into a backyard possum trap

OSPRI



PREDATOR FREE (continued)

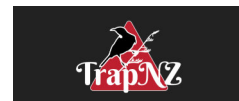
Trap Portal Update, by Sanjay

Those of you who are regular users of the Halo Project Trap Portal will be interested to know that we are currently in the process of changing over to using TrapNZ (trap.nz) for managing all of our trapping data.

We've assessed the TrapNZ website and believe it offers a range of significant benefits over our old system. TrapNZ is widely used across New Zealand and has an intuitive interface, so we're hoping for a smooth transition.

We're currently encouraging all trappers who are still using the old Halo Portal to read our instructions on how to change to TrapNZ.

See our website for these instructions. Thank you!



Volunteers attending Trap NZ workshop



Nathan from OPBG (left) and Sanjay (right) presenting findings at the TrapNZ workshop



FOREST HABITAT RESTORATION

Forest Restoration Project, by James

The aim of the Forest Restoration Project is to improve the quality and quantity of forest habitat throughout the Halo Project area.

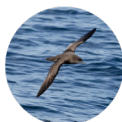
We're currently working with nine landowners on a wide range of properties and forest habitat types; from bare pasture sites (soon to become forest) to mature podocarp forest, and everything in between.

We're on the way towards increasing biodiversity at these sites and hope to work with several community groups and organisations to put the trees in the ground.

We are also looking to develop a seed sourcing initiative for planting in 2020. If you are interested in seed sourcing and propagation activities please email James at james@haloproject.org.nz or call 03 395 9753.



Fragrant tree daisy: A rare plant growing in one of our restoration sites



SEABIRD HABITAT RESTORATION

Monitoring Little Blue Penguins, by James

We've been monitoring little blue penguins (LBP) around the coastline for a number of years. On a sunny Saturday afternoon in September, 16 volunteers helped us with the first of two LBP surveys for the 2019/20 breeding season at Doctors Point and Mapoutahi. While it can be difficult to compare year to year results, this survey's result (19 penguins observed and several other nests showing evidence of recent use) is well up on the previous year's result (five birds counted), and bodes well for the LBP population in the area. Results could suggest the population is recovering from the 2014 stoat attacks. Most birds appeared to be nesting, which hopefully equates to more chicks fledging this year!

A huge thanks to all the volunteers who helped on the day – The survey couldn't have happened without you! Also, a special thanks to AAPES (Animal Aquatic Plant Ecology Society) Otago members.



James and Kate with the volunteer penguin counters

What you can do to protect our little blue penguins and other wildlife:

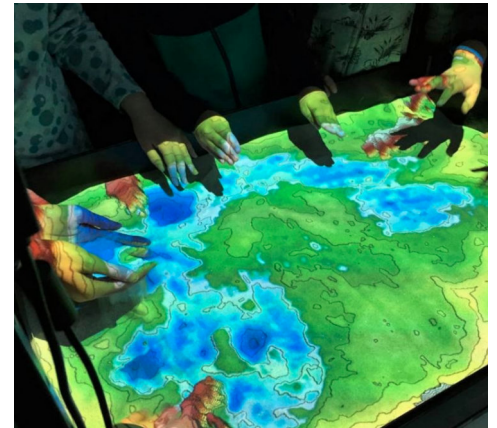
- If you spot wildlife on the beach take time to inform others of the sighting and make sure you give the animals plenty of space.
- If you find sick wildlife please report immediately to DOC at 0800 DOC HOT (0800 362 468).
- Walk your dog on a lead when on or near the beach. Even if your dog isn't known to attack wildlife their presence can still be very stressful to animals, which impacts breeding and eating.



FRESHWATER ENHANCEMENT

Source to Sea Project, by John

The first stage of the Source to Sea project has now finished. This project involved three local schools (Pūrākaunui, Waitati and Warrington) looking at the wellbeing of their local waterways. The students looked closely at the catchments of Pūrākaunui Creek, Don's Creek and Carey's Creek respectively. The study was multi-faceted and included field work as well as investigations of history, Māori values, recreation, changes in land use and vegetation over time using a Geographic Information System, water quality testing, and surveys of fish and invertebrates. The students also enjoyed a session with the University of Otago Department of Marine Studies "Aquavan" seeing its stream flow model showing what a catchment is. Some of the highlights included working with University of Otago School of Surveying fellow Aubrey Miller, water quality and stream life presenter Taylor Davies-Colley from Orokonui Ecosanctuary, and Brendan Flack (Kāi Tahu, Kai Te Ruahikihiki) from Kāti Huirapa Rūnaka ki Puketeraki, who gave a Māori perspective of the area. After visiting selected areas of their catchments and meeting with landowners, the students formulated action plans for sustainable action to enhance and monitor their waterways. The students all shared their learning journey, findings and action plans at three well attended community / school gatherings.



During a visit to the university, the students used an augmented reality sandbox that can replicate a catchment in 3D by altering the sand level.

Pūrākaunui School's study of Pūrākaunui Creek

The students discovered that this stream has a rich Māori and European history. The intrepid explorers even found the derelict old bridge in the bush that students used to get to school for nearly one hundred years. The GIS showed that there have been distinct stages of vegetation in the catchment, and there is now greater bush cover than eighty years ago. The water quality of the creek was generally good, although turbidity readings were higher than the other waterways (Don's and Careys creeks). The students noted some variables that may have influenced this. Encouraging numbers of banded kokopu were found as well as koura and a wide range of invertebrates.

Pūrākaunui School's Action Plan

- Approach NZR for support with removal of rubbish found in bush near Mihiwaka tunnel.
- Carry out riparian planting project at mouth of Pūrākaunui Creek with the full support of landowner.
- Carry out further monitoring of water quality, GIS information and in-stream life, to build a database.



Pūrākaunui School's Source to Sea adventurers

Waitati School's study of Don's Creek

Through their explorations and use of the GIS, the Waitati students found out that this creek has had a rich and varied history. They found out about the flaxmill, the water supply to Orokonui Hospital, the breaking up of the land into smaller blocks for returning soldiers after WW1, attempts at establishing a vineyard, and the recent rapid increase in lifestyle blocks. Based on the measurements taken, the students concluded that water quality is generally very good. The water level was low because of semi-drought conditions, but a very large number of koura, and small numbers of kokopu were found.

Waitati School's Action Plan

- Undertake a riparian planting programme on the banks of the creek, at the western boundary of the school.
- Further investigate a long term project with the full support of the landowner to establish a walking track adjacent to the stream with associated plantings, next to Shortcut Road.
- Carry out further monitoring of water quality, GIS information and in-stream life, to build a database.



Waitati School's team measuring stream depth

Warrington School's study of Careys Creek

The students explored the old dam in the headwaters of the creek, from which water was piped many kilometres to the Seacliff Asylum. The students used the GIS tool to ascertain that there has always been extensive vegetation in the catchment, but there is a greater percentage of exotic forest now. Water quality tests were very positive. This water quality was reflected in the wide range of fish and invertebrates surveyed. The students even caught (and released) a beautiful long-finned eel that only just fitted inside the trap.

Warrington School's Action Plan

- Further investigate a riparian planting project with the full support of the landowner near the bridge on the coast road.
- Carry out further monitoring of water quality, GIS information and in-stream life, to build a database.



John and a couple of Warrington School's team looking for critters

Where to next?

We'll continue to support these three schools as they implement their action plans and continue monitoring, while introducing Karitāne, Port Chalmers, Sawyers Bay and St. Leonards schools to the Source to Sea project. Thanks to the support of Curious Minds NZ and the DCC, and in 2020 the additional support from the Hugo Charitable Trust.



A huge thank you to our volunteers, members & supporters:

Volunteers and active residents are pivotal to maintaining the healthy, resilient landscape we call our home. Rural landowners, urban residents, conservation students, sponsors and supporters contribute enormously to the success of this ambitious conservation project, which now has over 200 members.

We recently hosted a Celebration of Achievement party at Orokonui Ecosanctuary to recognise the efforts and ongoing commitment of our many generous, hard-working volunteers. Cheers to you all!



LCT Chairperson, Dave Sharp, saying a heartfelt thank you



Some of our volunteers



Kids corner

A big thank you to:

- Zeagold for providing free-range chicken eggs which the predator-free project uses as lures for traps.
- Bay Road Peanut Butter for providing peanut butter for our monitoring.
- Port Otago for providing office space located in the heart of Port Chalmers.
- Blueskin Nurseries for housing our container since the beginning of the Halo project.

Exciting Bird Sightings:

Increased kākā sightings outside the ecosanctuary this year; specifically 4 reports from Carey's Bay in May/June 2019 and one from Carr St in NE Valley.

A kakaruwai (South Island robin) was spotted at Ross Creek (the first time in 20 years). South Island robins are listed as 'At Risk – Declining' in the NZ Threat Classification system.

Let us know if you have any exciting bird sightings by contacting us at info@haloproject.org.nz



South Island kākā



South Island robin

What can you do to help?

Lots of things!

The Halo Project needs people to help with jobs such as data entry, predator trapping, track clearing and predator and biodiversity monitoring.

If you are keen on lending a hand, please get in touch with Kate (kate@haloproject.org.nz) or Sanjay (sanjay@haloproject.org.nz).

If you interested in working for us, keep an eye on our blog where we post job opportunities: www.haloproject.org.nz/blog.

The Halo Project is funded by:

