Maukahuka

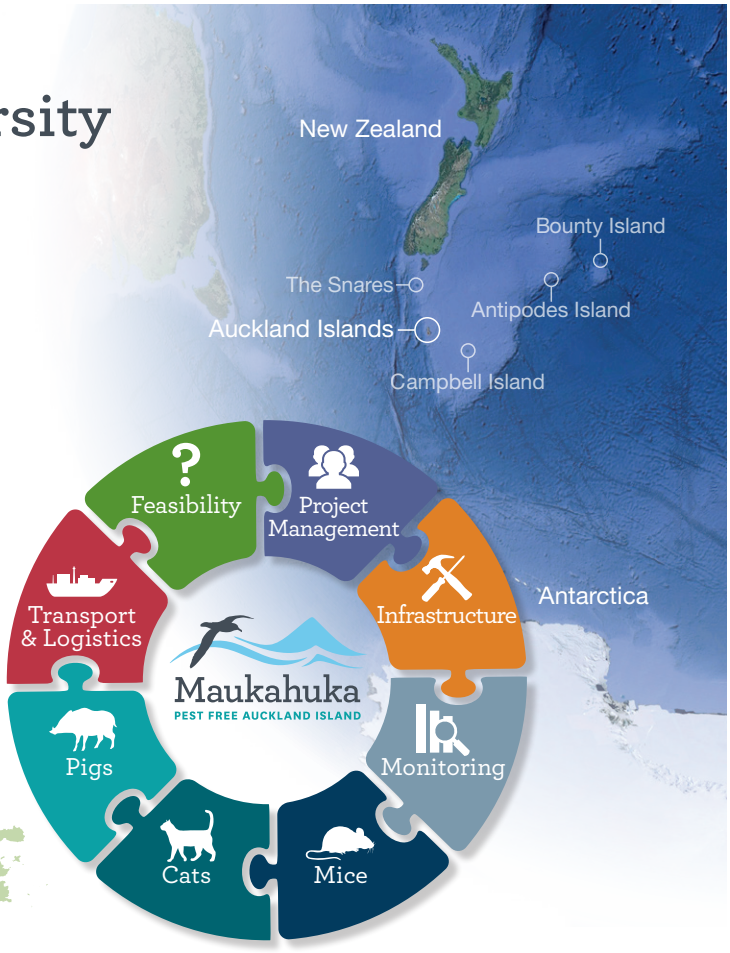
PEST FREE AUCKLAND ISLAND

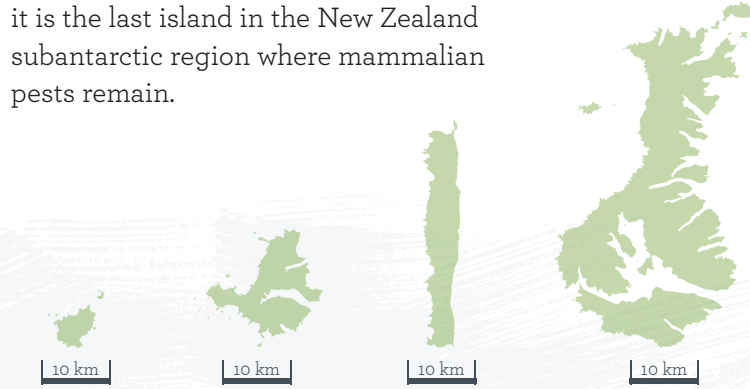
PROJECT OVERVIEW

Saving our island biodiversity from introduced pests

The Auckland Islands (57,000 ha), in the New Zealand Subantarctic Islands, are a Nature Reserve, World Heritage site, and home to some of the world's most extraordinary natural heritage. There are over 400 plant and animal species here that are restricted to the New Zealand subantarctic region and more than 100 species of endemic flora and fauna.

Auckland Island (46,000 ha) has populations of feral pigs, cats and mice that have inflicted severe ecological damage over the past 150–200 years. After more than 25 years of conservation effort, it is the last island in the New Zealand subantarctic region where mammalian pests remain.





Antipodes Island
2,100 ha
Declared PEST FREE in 2018

Campbell Island Motu Ihupuku
11,000 ha
Declared PEST FREE in 2005

Macquarie Island
13,000 ha
Declared PEST FREE in 2014

Auckland Islands
57,000 ha

What's the problem?

Is it technically and operationally feasible to remove all pigs, cats and mice from Auckland Island?

- It's a large and complex island eradication.
- The island is remote and undertaking work is logistically challenging.

Department of Conservation
Te Papa Atawhai

Te Rūnanga o NGĀI TAHU

Project Lead | Stephen Horn | shorn@doc.govt.nz

Work already completed

Feasibility investigations & project planning totalling $2m to date.

Large-scale summer field trials Nov 18–Mar 19.

Initial findings presented to DOC's Island Eradication Advisory Group.

Feasibility report to be finalised by Aug 2019.

Research and development, e.g., native species monitoring, transport, logistics and infrastructure options, GIS analysis to identify potential infrastructure sites, usefulness of a pig fence, thermal imagery to aid aerial hunting, low bait sow rate for mice.

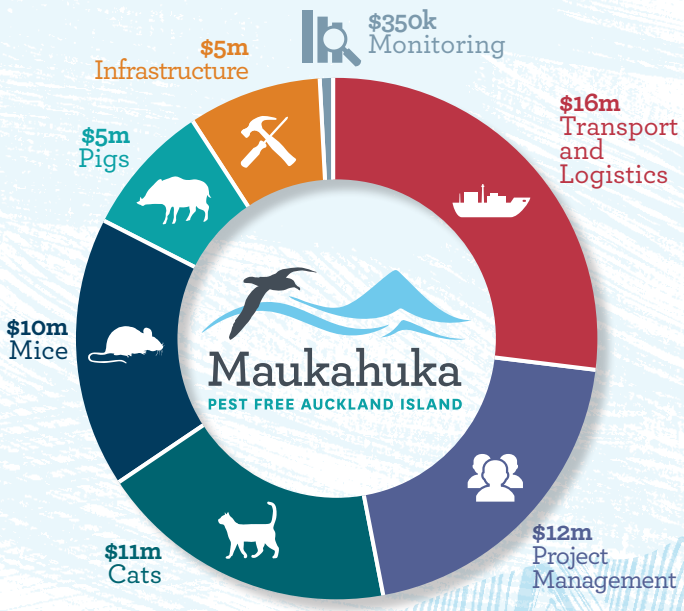
Operational planning.

Development of Project Management systems, budget and resource estimates for both 19/20 and overall program.

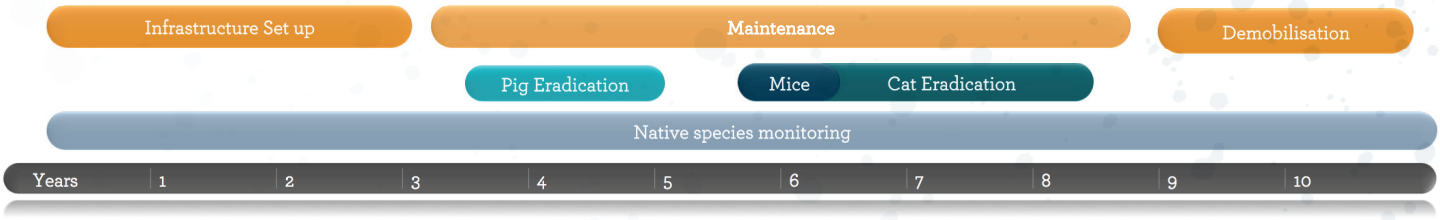
Business case planning.

Key findings

- A high level of confidence that pigs can be removed.
- Confidence that mice can be removed.
- Logistics required for the project are expensive.
- Transport options are challenging.
- Cats are detectable with trail cameras.
- Monitoring of cat activity will influence operational design.
- Cat eradication will very likely depend on the development and registration of an aerially-distributed toxic bait for cats.
- Project cost estimation: $60m +/- 30% over 10 years.



Where to from here?



Infrastructure

- Tracks
- Huts
- Heli pads & hangars
- Fuel storage
- Fences
- Mainland support (warehousing, trucks, biosecurity/logistics staff)
- Communications (internet, VHF)

Pigs

- Three fenced management blocks
- Feeders and traps
- Thermal assisted aerial hunting
- Ground hunting with dogs
- Judas pigs to aid validation

Mice

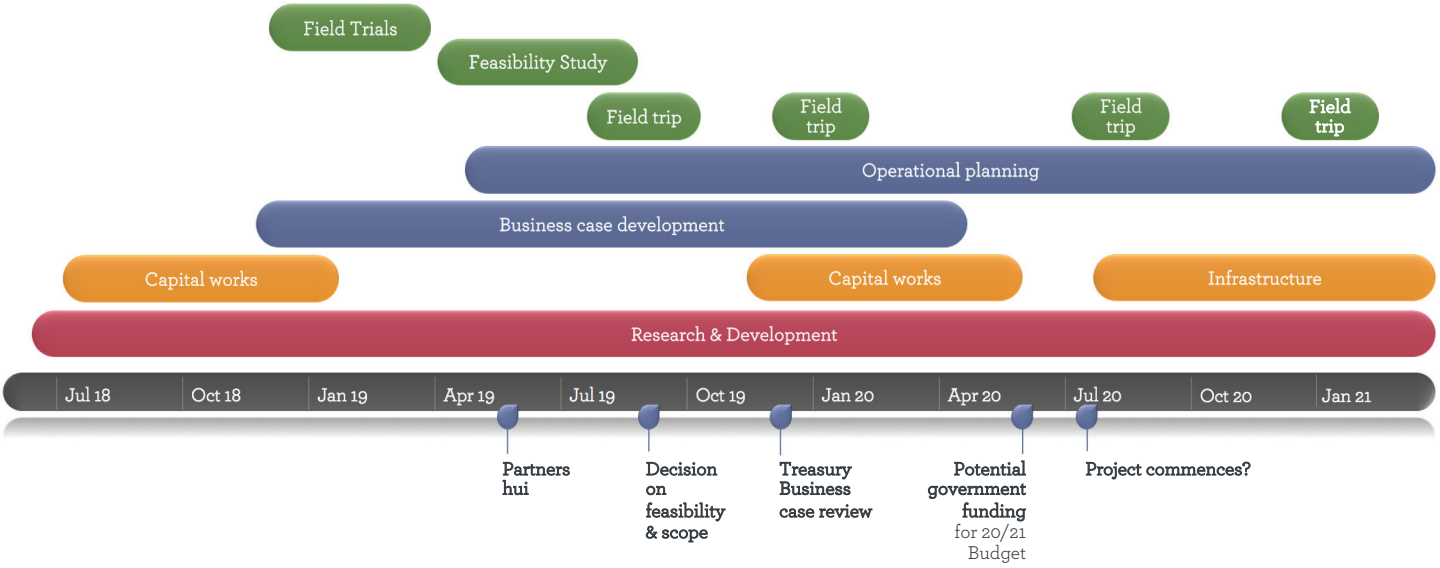
- Two aerial applications of rodent baits containing brodifacoum

Cats

- Knockdown by secondary poisoning from mice
- Aerial toxic sausage bait
- Cameras and dogs to detect cats and validate absence
- Traps, toxin, dogs to respond and mop up

Demobilisation

- Remove infrastructure and waste
- Dispose or sell assets



Challenges and risks

- Physical constraints of the site.
- Significant increase in scale and complexity.
- Building capacity for the project.
- Safety issues.
- Securing funding and support for the duration.
- Changes in the political climate.

Opportunities

- Collaboration, e.g. development of high-resolution thermal imaging capability, shipping solutions.
- Important lessons for other projects (e.g., Predator-free Rakiura).
- Pilot project which may support the creation of a Southern Ocean alliance.
- To improve resilience of species facing several other serious environmental threats (e.g., through climate change, fisheries). Securing this island is important.
- Raising awareness of the region through the project using media and education.

Remaining uncertainties

- Cat methodology (need to develop a cat toxin that can be distributed by air).
- Logistics (passenger and cargo transport).
- Infrastructure solutions.
- Technology developments to monitor and process data.

Benefits

Will achieve pest-free NZ Subantarctic and Pest Free 2050 interim goal pest-free islands.

Will expand the total available pest-free habitat in the Auckland Islands group by 420%.

Will provide ongoing landscape-scale change across 46,000 ha.

There will be synergies between baiting for mice and cats.

Will immediately halt predation, browsing and competition impacts of pigs, cats and mice on native species.

Recovery of Auckland Island will likely be through natural responses and repopulation from neighbouring pest-free islands and require minimal managed restoration.

All 38 native bird species have the potential to recover if there is full eradication of pigs, cats and mice, because nearby pest-free islands will act as a reservoir of biodiversity.

Rapid recovery of 280+ species of native insects, including 90+ endemic species, will provide pollination and nutrient cycling that will aid the recovery of 196+ species of native flora.

Multi-species eradication is, overall, more cost effective than individual operations spread over a longer timeframe, because capability and capacity can be retained and there is a shared benefit in the infrastructure and logistical support.

The project will improve resilience of native species against the increasing threat of climate change, which the subantarctic islands are particularly at risk from, by restoring ecological integrity and biodiversity richness.

Will be a one-off cost with zero future investment in pest management beyond standard biosecurity.

Will put NZ at the forefront of eradications globally.

Will provide a suitable business/project model that can be used for other conservation projects, including through the Sub-Antarctic Alliance.

Partnerships/ collaboration will create relationships that are likely to benefit future work.

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Google Earth
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Image Landsat/Copernicus
Image U.S. Geological Survey
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Published by: Department of Conservation,
Private Bag 4715, Christchurch Mail Centre, Christchurch 8140,
New Zealand | May 2019

New Zealand Government