



Te Matau a Māui project update Interim report

August 2020

Native species thrive where we live, work and play



Teachers making dotterel nests as part of a teacher professional development workshop

Photo: Sonya Sedgwick

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Executive summary

The last six months have been an interesting time for the project team. Many planned events and activities have either been postponed or cancelled due to the impact of Covid-19. However, this situation has also provided an opportunity for innovation, particularly in engaging our community in different ways.

Some of the highlights over the last six months have included:

- The Whakatipu Māhia Trust has been established and is now able to drive eradication, conservation and social outcomes on the peninsular.
- There has been a mixture of research outputs from eradication modelling through to social science survey results. All of which are helping inform project team decisions. (See research update for detail).
- A number of research outputs have been popularised into ‘Good Reads’ on the project website.
- Teacher professional development workshops continue and were enabled through Covid-19 by using virtual technology such as Padlet boards, video and Zoom.
- Tītī continued to be detected returning to Poutiri Ao ō Tāne into February.
- The latest Cape to City bird monitoring report showed some interesting increases and decreases in treatment and non-treatment areas, some of which appear to be in response to the predator control.
- The pest control team have completed phase one of the possum eradication and mustelid and cat suppression programme in Māhia.
- Camera monitoring showed the relative abundance of cats reduced by 61% following suppression in Māhia.

Over the next six months the project team will finalise the research programme for the next 12 months; move into phase 2 of possum eradication on Māhia, while monitoring phase 1; run the Nature Shed at the A&P show; officially open the Ōtātara Outdoor learning centre at EIT; run one of the postponed Hīkoi; run more teacher training workshops and start monitoring for returning seabirds at Poutiri Ao ō Tāne.

1. Project management update

The Whakatipu Māhia project team have now set up a separate Trust which will oversee community engagement and biodiversity enhancement on the Māhia Peninsular. This will enable long-term sustainability of Whakatipu Māhia. The current trustees are: Moana Rongo (Rongomaiwahine Iwi), Pat O'Brien (Whangawehi Catchment Management Group) and Campbell Leckie (Hawke's Bay Regional Council). Landowner representatives will be appointed in due course.

Project management and governance continue to successfully lead the three projects under the same project management structure.



The current Whakatipu Māhia Trustees. From left: Pat O'Brien (Whangawehi Catchment Management Group), Moana Rongo (Rongomaiwahine iwi) and Campbell Leckie (HBRC).

Photo: Wendy Rakete-Stones

1.1 Engagement with Māori

There were a couple of Hīkoi planned under Poutiri Ao ō Tāne. Unfortunately, these were postponed due to Covid-19 impacts. They are being rescheduled for Summer later this year.

Hapū members continue to be engaged through the Community Advisory Groups and the project management team.

Tyne Nelson is working on a Kaupapa Māori research project, looking into local Māori names for native species and the stories behind them. The vision is to use these stories to engage iwi back into their local environment. The draft report has been completed.



Trapping demonstration at Boundary at Boundary Stream.

Photo: Melissa Brignall-Theyer

2. Workstream update: 1 January – 30 June 2020

2.1 Research and monitoring



Waking possum after having a tracking collar attached as part of the possum home range research.

Photo: Peter Sweetapple

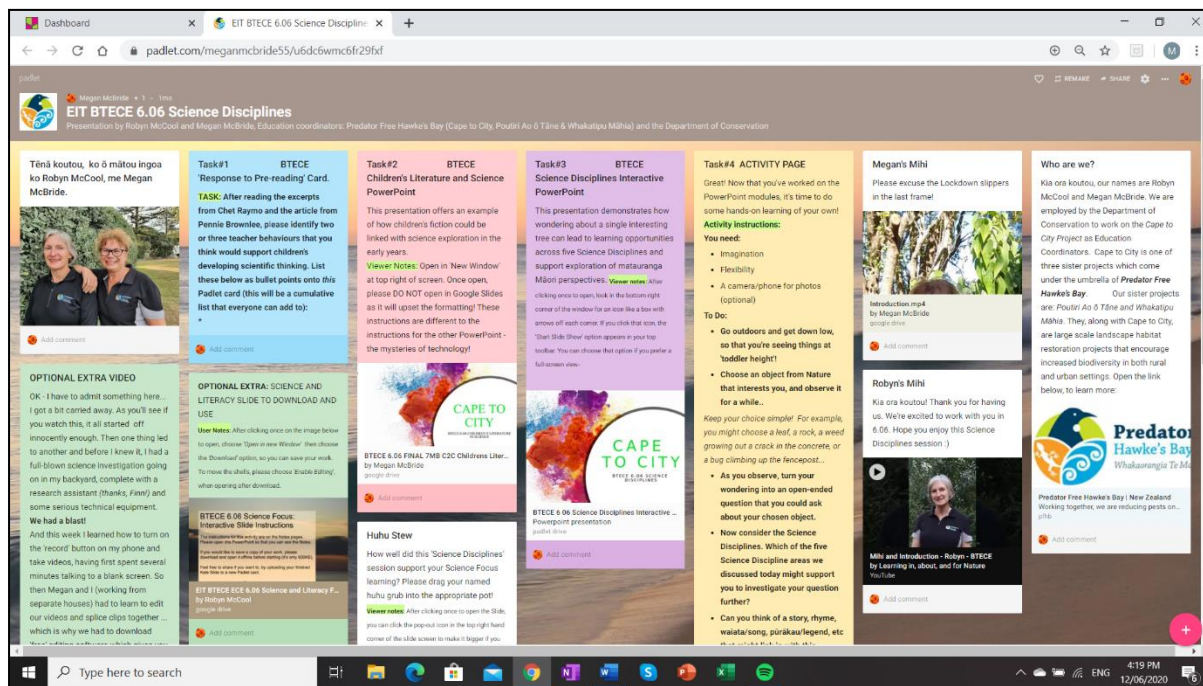
There have been a number of research projects completed over the last six months, this brings the total number of reports completed as part of Te Matau a Māui to 58. The most recent ones are summarised below.

- [Whakatipu Māhia possum eradication modelling \(part II\): modelling the use of barriers to dispersal](#). This report found that possum eradication is feasible for Māhia peninsular, as long as bait station buffers are in place to avoid reinvasion. Passive control methods that rely upon possum investigation and contact with the control device may fail to sample individuals that are less active or too wary to approach the control device. Active control methods (such as the targeted control proposed in Stage 2) may be particularly useful to target the last survivors with a low trappability.
- [Survey on pest management and environmental restoration in Hawke's Bay](#). This survey was a repeat from one completed in 2015 to gauge attitudinal changes in the community. Respondents inside the Cape to City footprint generally showed more positive environmental attitudes and behaviours than respondents outside the footprint.

This was illustrated through more involvement in environmental activities, hearing or seeing more birds and more pest control activities. Kaitiakitanga/stewardship was the motivation for more respondents in 2019 to participate in community plantings, permanently set aside land for native habitat, plant natives in their gardens and/or control pests than in 2015.

- [An application of the I3 framework to feral cat control in Hawke's Bay](#). This research concluded that landowners in Cape to City are very interested in reducing feral cat numbers and would participate in trapping as long as traps were user-friendly and affordable. Their primary motivation for doing this was for the potential positive outcomes for native fauna.
- [Possum home range and movement behaviour on Māhia peninsular: Progress report](#). No dispersal events were recorded, but there was sufficient data to determine home range sizes of 16 possums. The average was 18.9ha but ranged from 8.1ha to 40.3 ha depending on sex and habitat type.
- [Predator and Biodiversity response monitoring in Cape to City: Annual report](#). The results of this report suggest that predator control has reduced the relative abundance of feral cats, stoats, and ferrets. However, although the initial knock-down of feral cat numbers was apparently effective, their relative abundance has now recovered to pre-control levels. Together, tracking tunnels and wētā houses suggest that relative abundances of wētā, skinks, and geckos have increased in the treatment area relative to the non-treatment since predator control began.

2.2 Community engagement



Screenshot of a Padlet board used for virtual teacher training workshops.

Picture supplied by Megan McBride

Community engagement activities over the last six months have included two [newsletters](#), media releases, teacher training workshops (both physical and virtual), popularising the science outputs through the projects [‘good reads’](#) and ongoing facebook posts. Unfortunately, due to the Covid-19 pandemic six teacher training events were cancelled or postponed.

‘The Magic of coastal wetlands’ was the first professional development teacher training workshop run this year in partnership with Enviroschools. The focus was hands-on learning around coastal biodiversity and hazards. In May another workshop under this series was run in a virtual setting via zoom tools. The focus was learning activities teachers can utilise during the season of Matariki.

A lot of new technology skills were learned by the project education facilitators over lockdown to take sessions with Eastern Institute of Technology (EIT) Early Childhood and Primary teaching students. They utilised tools like video editing, Padlet and Zoom to enable interactive learning experiences for the students over lockdown. The sessions were on utilising the environment as a context in science disciplines and pedagogy.

[The Ōtātara Outdoor Learning Centre](#), which is part of the partnership with EIT and the AirNZ Environment Trust partnership has been used by many groups, but obviously not as much as hoped due to Covid-19. The shelter and toilet facility are just about complete to allow for activity during all weather conditions.

Volunteer hours for the last six months were 292. Overall volunteer hours are down due to less translocation associated activity and Covid-19. Volunteer hours were over 800 this time last year.

2.3 Biodiversity and species



Motion sensitive camera image showing a tītī returning in January.

Over the last six months there have been no further translocations, but kaka and seabirds continue to be monitored.

Tītī and possibly kōruru continued to return to the seabird site in Poutiri Ao ō Tāne over Summer and a ranger spotted over 15 flying around one night in February. A [video](#) was created which uses the sound recording from that night and a [DOC Blog](#) was published.

The second Cape to City [Bird monitoring report](#) was finalised. This research showed a surprising number of differences in bird abundance in the two-year time period between reports. Some increases or decreases were generic across treatment and non-treatment areas, while others like tui, titipounamu/rifleman and toutouwai/robin increased in Cape to City. Unfortunately, over the two-year period a number of plantation forests were logged removing habitat for some species.

2.4 Habitat restoration

Weeding and general maintenance of the plantings continues.

2.5 Pest control



Michaela King-Peters and Shane Diphoom installing a wirelessly monitored leghold trap.

Photo: Pouri Rakete-Stones

Over the reporting period the pest control team have completed phase one of the eradication and mustelid and cat suppression programme in Māhia. The team are moving into the next 9000ha laying out the eradication and monitoring network, while continuing to monitor the first 5500ha.

Post control camera monitoring for predators has been undertaken in Phase 1 on Māhia. Before control took place, cameras detected cats on 46 occasions resulting in a CTR of 5.5% (95% CI 4.0-7.2%). After control cats were detected on 28 occasions resulting in a CTR of 3.4% (95% CI 2.2-4.8%). The relative abundance of cats is therefore estimated to have been reduced by 61%.

For stoats, one detection was made pre control resulting in a CTR of 0.01% (95% CI 0.0-0.06%). After control stoats were detected on three occasions resulting in a CTR of 0.04% (95% CI 0.0-0.1). This difference, however, was not statistically significant. No ferrets or weasels were detected on these camera monitoring grids.

The quarterly Cape to City and Poutiri Ao ō Tāne trap checks have been completed for this period.

The tracking tunnels results for rats in Boundary Stream in May were 14%. The previous result for February 2020 was 3%. There is a trend forming with our tracking tunnel results. Since 2018, each May there has been a spike in the tracking results of 13% (2018), 14% (2019) and 14% (2020) and

then drops back to below 5% at other times of the year. Luckily these spikes are in Autumn and not in Spring when birds are more vulnerable.

3. Work planned for 1 July – 31 Dec 2020

In the next 6 months the project team will focus on:

3.1 Research and monitoring

- Research programme will be signed off

3.2 Community engagement and education

- A Hīkoi will have been run to Boundary Stream.
- There will be two further Teacher professional development workshops and workshops will continue with trainee teachers at EIT.
- The education facilitators will be working with Bledisloe school on a programme at the Ōtātara Outdoor Learning Centre, which will also be part of a research programme under the AirNZ Environment Trust and EIT partnership.
- The Ōtātara Outdoor Learning Centre will be officially launched
- The Nature Shed will be run at the A&P show

3.3 Biodiversity and species

- Tītī and kōruru return monitoring will start up again

3.4 Habitat restoration

- Releasing and maintaining plantings will continue

3.5 Predator control

- Cape to City and Poutiri Ao ō Tāne maintenance trap checks will continue.
- Rat monitoring will continue at Boundary Stream and self-resetting rat traps will be maintained.
- Over the next reporting period the Predator control team will be well into eradicating possums from the final 9000ha of Māhia peninsular and monitoring the first 5500ha.

Appendix 2: Project outputs over last six months

Note: For full list of project outputs between January 2015 and August 2019 see August 2019 Interim report. For updates beyond that see latest Interim reports at <https://www.pfhb.nz/resources/>

Title	Description
Research and monitoring	
Audrey Lustig, Giorgia Vattiato, Andrew Gormley 2020. Whakatipu Māhia possum eradication modelling (part II): modelling the use of barriers to dispersal. Unpublished Landcare Research Contract Report LC3696, prepared for Hawke's Bay Regional Council.	Whakatipu Māhia possum eradication modelling (part II): modelling the use of barriers to dispersal. https://www.pfhb.nz/resources/
Booth PL 2020. Survey on pest management and environmental restoration in Hawke's Bay 2019. Unpublished Landcare Research Contract Report LC3618, prepared for Hawke's Bay Regional Council.	Repeat survey on pest management and environmental restoration in Hawke's Bay 2019. https://www.pfhb.nz/resources/
Kaine G. 2020. An application of the I3 framework to feral cat control in Hawke's Bay. Unpublished Manaaki Whenua Landcare Research Contract Report LC3768, prepared for Hawke's Bay Regional Council.	An application of the I3 framework to feral cat control in Hawke's Bay. https://www.pfhb.nz/resources/
Sweetapple P, Latham D. 2020. Possum home range and movement behaviour on Māhia Peninsula. Annual progress report, June 2020.	Possum home range and movement behaviour on Māhia Peninsula. https://www.pfhb.nz/resources/
Harcourt NR 2020. Recommendations from the Whakatipu Māhia Wānanga, 15 May 2020. Unpublished Manaaki Whenua Landcare Research Contract Report LC3755, prepared for Hawke's Bay Regional Council.	Recommendations from the Whakatipu Māhia Wānanga, 15 May 2020.

Glen, A., Norbury, G., Watts, C. 2020. Predator and biodiversity response monitoring in Cape to City and Poutiri Ao ō Tāne. Unpublished Manaaki Whenua Landcare Research progress report, prepared for Hawke's Bay Regional Council.	Predator and biodiversity response monitoring in Cape to City and Poutiri Ao ō Tāne
Glen, A. 2020. Predator and biodiversity response monitoring in Cape to City: annual report 2020. Unpublished Manaaki Whenua Landcare Research Contract Report LC3784, prepared for Hawke's Bay Regional Council.	Predator and biodiversity response monitoring in Cape to City: annual report 2020. https://www.pfhb.nz/resources/
Engagement	
Love our Waterways – The Magic of Coastal Wetlands	Professional Development Teacher workshop on wetland to coastal biodiversity. https://www.hbrc.govt.nz/services/education/education-news-and-events/
Matariki	Professional Development Teacher workshop on learning opportunities during the season of Matariki. https://www.hbrc.govt.nz/services/education/education-news-and-events/
Using the environment as a context for teaching science disciplines	Pre-service teacher training workshop with EIT early childhood teaching students
Using the environment as a context in pedagogy and curriculum	Pre-service teacher training workshop with EIT Primary teaching students
Connecting teachers to Nature	Media release: https://www.hbrc.govt.nz/our-council/news/archive/article/833/connecting-teachers-to-nature
Video promoting biosecurity of HBRC with a PFHB focus. Fronted by Kaya Cooper from the Pest control team	https://vimeo.com/438429545
Evaluating cat control	Popularized article on the PAPP: https://www.pfhb.nz/resources/newsletters/article/44/evaluating-feral-cat-control
The benefits of ferret odour as a life-long lure	Popularized article on a long-life lure: https://www.pfhb.nz/resources/newsletters/article/45/the-benefits-of-ferret-odour-as-a-long-life-lure
Principles which help a landscape scale restoration project succeed	Popularized article: https://www.pfhb.nz/resources/newsletters/article/46/principles-which-help-a-landscape-scale-restoration-project-succeed

PFHB April Newsletter	https://mailchi.mp/97dd4ede27e4/predator-free-hawkes-bay-april-e-newsletter
A new tool to monitor invertebrates using DNA	Popularised article about using DNA to monitor invertebrates: https://www.pfhb.nz/resources/newsletters/article/48/a-new-tool-to-monitor-invertebrates-using-dna
Taking education to the next level: teaching the teachers in Te Matau a Māui/Hawke's Bay	Popularised article the connected to nature education workstream: https://www.pfhb.nz/resources/newsletters/article/49/taking-education-to-the-next-level-teaching-the-teachers-in-te-matau-a-muihawkes-bay
Species and biodiversity	
DOC Blog about Seabirds returning to Poutiri Ao ō Tāne	https://blog.doc.govt.nz/2020/05/23/wingbeats-returning-to-the-mountain-that-roars/
The sound of tītī and possibly kōrure returning to Poutiri Ao ō Tāne	Short video about the seabird translocations: https://www.youtube.com/watch?v=IIsE3eUYTI