

What is MTM?

Manaaki Taha Moana (MTM) is a research programme to restore and enhance coastal ecosystems and their services of importance to iwi/hapu, through a better knowledge of these ecosystems and the degradation processes that affect them.

We utilise Western Science and Mātauranga Maori knowledge and participatory modelling tools and processes to assist iwi/hapu to evaluate and define preferred options for enhancing/restoring coastal ecosystems. This evaluation of options is assisted by innovative IT and decision support tools (e.g. digital libraries, simulation modelling, interactive mapping, 3D depiction, real-time monitoring).

Action plans are being produced for improving coastal ecosystems in each rohe.

The research team works closely with iwi/hapu in the case study regions to develop tools and approaches to facilitate the uptake of this knowledge and its practical implementation.

Mechanisms will also be put in place to facilitate uptake amongst other iwi throughout NZ.



Research Providers:

School of People Environment and Planning,
Massey University

Taiao Raukawa Trust

Manaaki Te Awanui Trust

Waka Digital Ltd

Cawthron Institute

DOWNLOAD full copies of our FREE publications and other toolsets produced in this MBIE-funded research programme from our website:
www.mtm.ac.nz



MANAAKI TAHA MOANA: ENHANCING COASTAL ECOSYSTEMS FOR IWI

MTM work in progress

**Towards reestablishment of toheroa in the Horowhenua:
knowledge, risks and next steps**



RECOMMENDED CITATION: Newcombe E, Sciascia P, Heasman K, Spinks A, Poutama M, Smith H, Sinner J 2015. Towards reestablishment of toheroa in the Horowhenua: knowledge, risks, and next steps. Cawthron report (in review)

Towards reestablishment of toheroa in the Horowhenua: knowledge, risks, and next steps

Toheroa (*Paphies ventricosa*) are taonga shellfish that have declined to critically low numbers on beaches on the lower west coast of the North Island of New Zealand. Concerned about this near extinction, local Māori aspire to re-establish toheroa on a coastline once famous for the abundance of this kaimoana.



For toheroa, the management approach applied to permit natural stock regeneration has principally been restriction of harvest to low levels, or banning of harvest altogether.

This has been insufficient to return toheroa stocks to substantial levels, and in many cases has even failed to halt decline. It is possible that other resource management approaches may be able to support population recovery, however these would need to occur on a scale that would not be highly unlikely to be feasible in the short term. Other types of intervention, including population supplementation, are necessary to rebuild serially depleted toheroa populations.

Risks and unknowns will always exist. For many Māori, and for the public generally, it may be frustrating that restoration activity is sometimes paralyzed by scientific uncertainty. It is our approach here to consider ways in which toheroa enhancement activity could be designed and monitored such that the success or failure of the enhancement activity will inform knowledge gaps about the toheroa life cycle.

In the case of taonga species, it is appropriate that the kaitiakitanga strategy or role of the tangata whenua underlies the enhancement approach. This will inform ecological and management approaches, as well as ensuring that activity is sanctioned and supported by the relevant hapū.

Some knowledge gaps are likely to be best addressed in specific research projects, and information from both monitoring and research would feed back into revised enhancement and management strategies.

Accordingly, the outcomes from such a project would include not only enhanced populations, but an improved understanding about toheroa ecology generally. Moreover, use of western scientific knowledge within a kaitiakitanga foundation has the potential to develop as an increasingly productive partnership.

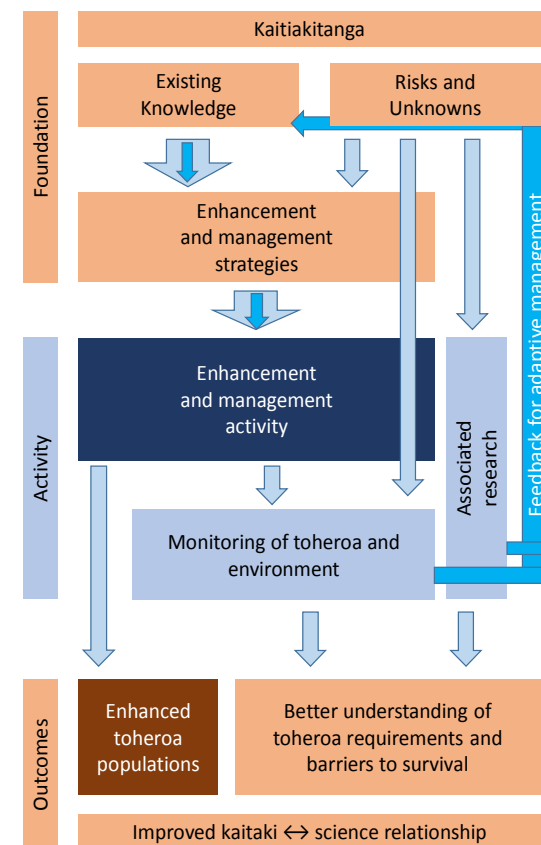


Figure 1. A possible framework for toheroa enhancement. Enhancement and management activity are informed by existing knowledge, and designed in such a way that risks and unknowns are both mitigated, and incorporated into information gathering, either through monitoring of enhancement activity, or in associated research.

A formal enhancement programme would be undertaken in such a way that it:

- has the highest likelihood of successful enhancement
- is defensible to funding bodies and communities; and
- produces transferrable information.