SETTING OBJECTIVES THROUGH WHANAU ENGAGEMENT AND THE RESTORATION OF MAURI

Caleb Clarke, Morphum Environmental Ltd.
Richelle Kahui-McConnell, Ngāti Whātua Ōrākei Whai Maia Ltd.
Emily Afoa, Morphum Environmental Ltd.

ABSTRACT

Mauri is a concept that permeates Māori thinking; it is the binding force that holds together the physical and spiritual components of a being or thing. The mauri model was created to include Māori perspectives appropriately in evaluation and decision-making. The model incorporates four key factors: mauri of the environment (integrity of the ecosystem), mauri of the hapu (integrity of cultural identity), mauri of the community (integrity of society), and mauri of the whanau (economic integrity).

In order to meet the environmental and social outcomes of the Ōkahu Catchment Ecological Restoration Plan Ngāti Whātua Ōrākei (NWŌ) have engaged the mauri model to ensure the true intention of the hapu is delivered within projects that are aimed to increase the mauri of Ōkahu Bay and its people. NWŌ and Morphum facilitated a hui with hapu representatives and whanau to define objectives and priorities for concept design of a stream daylighting project in Ōkahu Bay. It was important that this phase occurred prior to development of concept designs to ensure all designs encompass the true objectives of Ngāti Whātua Ōrākei, not objectives selected arbitrarily by the designer.

The hui identified a number of indicators, as subsets of each mauri, that could be used to measure the success, or otherwise, of each concept design. These indicators also provided the framework for the design process that has produced an innovative and integrated design concept.

The hui also provided weightings, based on pairwise analyses of all four factors, identifying where NWŌ place the highest importance. In the context of the Ōkahu Bay daylighting project, NWŌ placed the highest importance on restoring the mauri of the environment (31%), followed by mauri of the hapu (25%), and mauri of the community and whanau (22% each). The narrow range shows all four factors are of importance to whanau, but that economic considerations will not necessarily be the overriding driver for selection of the final design.

KEYWORDS

Mauri Model, Consultation, Community Engagement, Ngāti Whātua Ōrākei, Stormwater

PRESENTER PROFILE

Caleb Clarke - Caleb has been a Director and Senior Engineer for Morphum Environmental Ltd. for fourteen years with widespread experience in Environmental Engineering involving the delivery of complex and integrative projects.

1 INTRODUCTION

1.1 HISTORY OF ŌKAHU BAY

Ōkahu Bay became the main settlement of Te Taou, Nga oho and the Te Uringutu tribes of Ngāti Whātua (today now known as the Ngāti Whātua o Ōrākei, (NWŌ) (Blair, 2005). Ōkahu Bay is a culturally significant site. NWŌ's village was formerly at the Ōrākei Domain, however in 1951 the tribe was evicted by the Auckland City Council and the meeting house burned to the ground (Blair, 2005). The bay also has associations with historical landings, is the site of significant fishing grounds, and an urupā remains at the adjacent Ōrākei Domain, the former site of the main settlement (papakāinga) of the hapu on the Waitemata Harbour.

The productivity of the coastal environment in pre-European times is evident from the many sayings, anecdotal evidence, and midden records in the Tamaki area:

- Tamaki kaina ika me nga wheua katoa – Tamaki where fish bones and all are consumed (Kawharu, 2004).
- Ōkahu – 'our larder from where we used to get everything' Hohepa Hawke (Kawharu 2004).
- Te pai me te whai-rawa o Tamaki – the luxury and wealth of Tamaki (Waitangi Tribunal 1987)
- Tamaki makau rau – the bride sought by a hundred suitors (Waitangi Tribunal 1987)

Occupation of the bay stretches back centuries and archaeological evidence of that occupation will still exist in some areas of the bay, even though the exact locations where it might be found are not well known. For example, the location of the original tidal creek channel is given in historic records, such as two Survey Office Plans from 1903 (SO 12848) and 1930 (SO 25683) and one Māori Land Plan from 1934 (ML 12879), and historic sketches (Figure 1).

Figure 1: Ōkahu Bay, 1882, showing the Ōrākei Pa (foreground) with Chief Paul's house (to the left) and the Maori Parliament house (extreme left)

As Auckland has grown, urban development has greatly impacted Ōkahu Bay, and the adjacent Ōrākei Domain. The main Ōrākei sewage outfall works were opened in March 1914 (Figure 2), including a pipeline that was constructed separating the foreshore from the people and discharging screened sewage off Takapurawha Point at Ōkahu Bay (Fitzmaurice, 2009). The sewage outfall was unhygienic and highly offensive, it polluted

the hapu's shellfish beds, and it turned the village into a swamp in heavy rain (Waitangi Tribunal Website, 2014).

The construction of the sewer line, as well as the subsequent construction of Tamaki Drive that now lies over the sewer pipeline, created a substantial disconnect between the land and the sea. In addition, the discharge of wastewater to the bay greatly impacted the health and wellbeing of both the bay and its residents. The original tidal creek that flowed through this Ōkahu Domain area was channelised then piped in approximately 1940 within a 2.2 m wide by 1.2 m deep box culvert. This passes under the interceptor sewer in a syphon and discharges from the sea wall of Tamaki Drive.

Public dissatisfaction with the existing sewerage system was followed by much political and technical debate regarding a proposed Browns Island Wastewater Treatment Plant Scheme. Eventually an alternative Manukau Scheme was recommended to treat all sewage in a plant on the shores of the Manukau Harbour (Fitzmaurice, 2009). Sewage was diverted to the Mangere Wastewater treatment plant in 1960.

Figure 2: Looking south west from Takaparawha point across Ōkahu Bay showing Ōrākei Pa and the sewer running along the foreshore, 1921 (Sir George Grey Special Collections, Auckland Libraries, 4-4429)

While diversion of the sewage improved water quality within Ōkahu Bay, and the inner harbour, it did not rectify the disconnect between land and sea caused by Tamaki Drive and the sewer below. The tidal creek remained piped and low areas of the Ōkahu Domain had poor drainage and were subject to frequent flooding.

The environmental changes to Ōkahu Bay and its stream were paralleled by greater disempowerment and loss for Ngāti Whātua o Ōrākei. By 1939 all land except for 12.5 acres had been taken from the tribe and a model suburb was developed on the land. The old village site was also wanted by the Crown for a park, so in 1952 the remaining inhabitants were evicted from their homes and relocated as tenants of state houses in Kitemoana Street on another part of the block. The marae and some homes

were destroyed by fire and the remains of the village demolished by the Crown. One reason for this was that the village was considered 'a dreadful eyesore and potential disease centre' which was on the route the Queen would take on her official visit in 1953 (Waitangi Tribunal Website, 2014).

It would be 40 years before Ngāti Whātua Ōrākei had their own marae again. All they had left was a cemetery situated on a quarter acre of land. The loss of their papakāinga severely affected the identity and mana of the hapu. The mana of any tribe is linked to the land which is their economic and spiritual base, the source of their wellbeing and dignity for generation after generation (Waitangi Tribunal, n.d.).

In 1991, part of NWŌ's estate was returned to them as a result of an investigation by the Waitangi Tribunal into the acquiring of their estate by the Crown (Blair, 2005). The Ōrākei Act 1991 was passed that returned title to NWŌ at Bastion Point, Ōkahu Domain and Ōkahu Beach (Blair, 2005). The Ōrākei Reserves Board manages this estate jointly through NWŌ and Auckland Council representatives, and has an approved Reserve Management Plan.

The recovery of their land represents a growing revitalisation of NWŌ. However, since 1991 the Ōrākei Reserves Board has grappled with the problem of how to reconnect the old papakāinga with the beach. The sewer pipe and Tamaki Drive continue to prove a formidable barrier (Blair, 2005).

1.2 PROPOSED DEVELOPMENT IN ŌKAHU BAY

In 2012 the Ōkahu Catchment Ecological Restoration Plan (ŌCERP) (Kahui-McConnell, 2012) set out an action plan to work towards the vision of: "*Waters fit to swim in at all times, with thriving marine eco-systems that provide sustainable kaimoana resources to a Ngāti Whātua Ōrākei community who have strong daily presence in and on the bay as users and kaitiaki"*

ŌCERP was developed in order to implement the Whenua Rangatira Reserves Management Plan and the Ngāti Whātua Ōrākei Heritage and Resource Management Kaupapa, Strategy and Policy 2010-2011. Under the facilitation of Richelle Kahui Mc-Connell, deep engagement was undertaken with the NWŌ whānau throughout the ŌCERP development ensuring that the kaupapa embedded in the document is truly owned by the whanau.

ŌCERP included extension of an ongoing restoration project - ko te Pūkākī - throughout the catchment including connection of corridors and reserves and day lighting of streams using heritage, "eco-sourced" planting.

Also during 2012 a review was undertaken by Morphum Environmental of ongoing drainage issues in the lower Ōkahu Bay Domain including flooding issues for the Ōkahu Urupā. This report recommended further investigation into potential for daylighting of the tidal creek adjacent to the lower portion of Kitemoana Street.

Ngāti Whātua Ōrākei Whai Maia Ltd. engaged Morphum Environmental Ltd. to investigate options to alleviate flooding in the Urupā within Ōrākei Domain, enhance local habitat and ecology, provide cultural resources, and improve water quality.

Five scenarios were identified by NWŌ as requiring consideration in an options assessment:

1. Retain status quo

2. Tidal creek day lighting

3. Wetland treatment system

4. Partial wetland treatment system

5. Partial wetland treatment system and tidal creek day lighting

In addition, Morphum identified a sixth option for consideration:

6. Tidal creek daylighting and tributary daylighting.

In order to meet the environmental and social outcomes of the Ōkahu Catchment Ecological Restoration Plan NWŌ have engaged the Mauri Model to ensure the true intention of the hapu is delivered within projects that are aimed to increase the mauri of the bay and the people.

The considerable history behind such a prominent Auckland location, both to NWŌ and the greater Auckland populace, mean that care and transparent consultation is required with regards to future development.

1.3 WHAT IS THE MAURI MODEL?

Mauri is a concept that permeates Māori thinking; it is the binding force that holds together the physical and spiritual components of a being or thing (Morgan 2006). When actions impact negatively upon the mauri of something this essential bond is weakened (or broken), potentially resulting in the separation of the physical and spiritual elements leading to the death of a living thing or alternatively the loss of its capacity to support other life (Morgan 2006).

The Mauri Model evaluates the mauri of a system, as a measure of sustainability, incorporating a consideration of the environmental, cultural, social, and economic factors (Morgan 2006). It can be visualised as a Venn diagram whereby the criteria are all successive sub-sets of the environment (Figure 3). These have been redefined as the impacts on the mauri of the:

- Environment (Ecosystem) – consideration of the physical and spiritual integrity of the natural environment, the water as well as the land, air, flora and fauna.

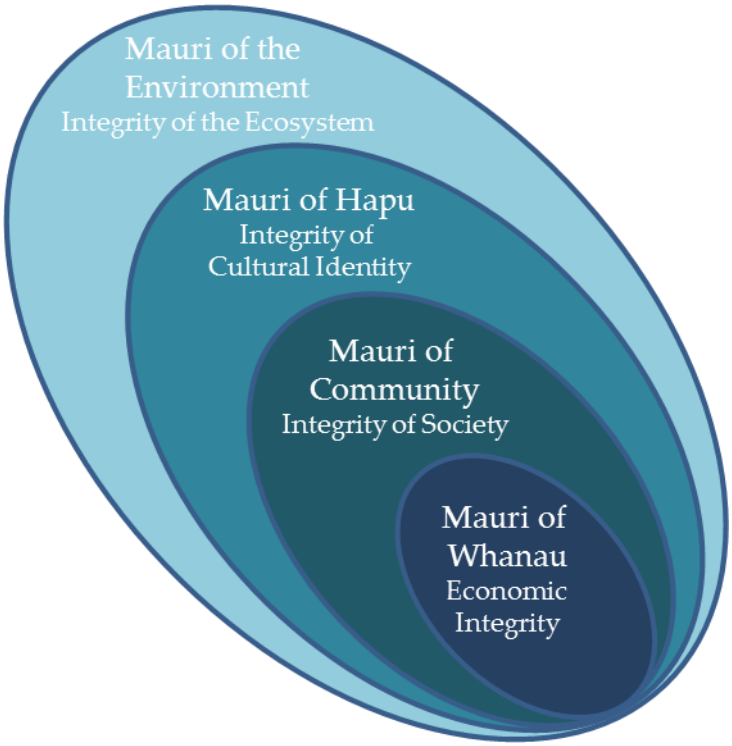
- Hapu (Cultural) – allowing for the role of kaitiaki for the physical resources of the catchment, and the ability to pass on a high condition environment to future generations. This can include the sense of place, ability to welcome visitors and resources for teaching traditional practises

- Community (Social) – improving general health, safety and wellbeing of the wider community, including the ability to accommodate needs for habitation, employment and recreation.

- Whanau (Economic) – the direct personal effect on the whanau including economics.

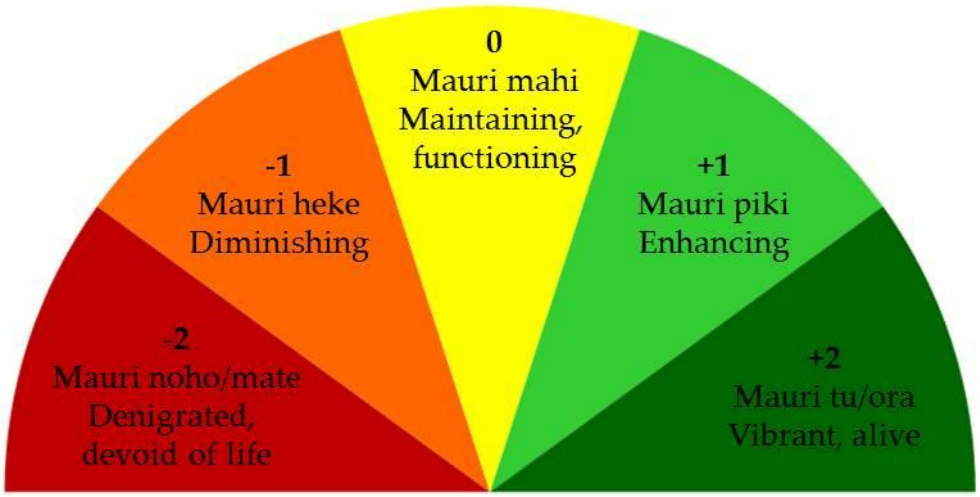
The relative importance of these aspects is addressed by choosing a weighting that is applied to each factor before scoring is completed.

Figure 3: Venn diagram representation of the Mauri Model, recreated after Morgan (2006)



Under the four factors; environment, hapu, community and whanau, a range of indicators can be identified that contribute to the overall status of the factor. Each of these indicators can be rated on an integer scale from +2 to -2, where the high end of the scale represents full mauri and the low end represents completely degraded mauri. Figure 4 provides a graphical representation of the mauri rating system. By rating indicators of each of the four factors using this scale, a score can be calculated for the overall mauri of the subject site.

Figure 4: Sustainability Barometer for Mauri, or "Mauri-o-meter", recreated after Morgan (2008).



2 MAURI MODEL ASSESSMENT OF ŌKAHU BAY DAYLIGHTING CONCEPTS

2.1 ASSESSMENT CRITERIA

Ngāti Whātua Ōrākei and Morphum facilitated a hui with hapu representatives and whanau to define objectives and priorities for concept design of a stream daylighting project in Ōkahu Bay. It was important that this phase occurred prior to development of concept designs to ensure all designs encompass the true objectives of NWŌ, not objectives selected arbitrarily by the designer.

The hui was attended by more than 20 representatives of the NWŌ whanau representing a diverse range of age groups and including several Kaumātua. The format began with a group discussion of the context for the workshop, outlining the issues for the subject area and the background to the mauri model. This was followed by a "world café" style discussion where four groups discussed the potential indicators of success against each of the four mauri. The world café format was adopted as the small group format gave greater opportunity for participants with varying confidence to respectfully contribute compared with a larger audience discussion. It also enabled participants to take a storytelling approach to contributing, an important and natural part of the hui context. After 20 minutes the participants were to cycle to different groups for shorter sessions to build on the information generated during the first discussion. The following two questions were given as the focus for the discussion

- What would increase or decrease the mauri of Ōkahu Bay & Ōrākei Domain?
- What can be used as a test for success?

Following this group discussion, the individual participants were asked to rank the priority of the four mauri groupings by pairwise analysis to determine appropriate weightings for mauri model assessments of the design concepts.

The facilitators of each mauri indicator discussion collated the responses in a raw format to ensure that these could remain a true record without misinterpretation. Subsequently the responses were condensed to develop a set of indicators. This process of distillation was relatively straightforward due to the clear and consistent messages across the four mauri groupings. The resultant indicators are given in Table 1.

It was noted that the indicators also reflect the goals of the Ngāti Whātua o Ōrākei Reserves Board (2003) Whenua Rangatira Reserve Management Plan to promote beneficial effects on the water of Ōkahu Bay, conserve open space qualities, maintain public safety, respect the mana and privacy of the urupā and church, and retain the strong cultural connection between the land and the sea.

The resultant weightings, based on pairwise analyses of all four factors, identify where NWŌ place the highest importance. In the context of the Ōkahu Bay daylighting project, NWŌ placed the highest importance on restoring the mauri of the environment (31%), followed by mauri of the hapu (25%), and mauri of the community and whanau (22% each). The narrow range shows all four factors are of importance to whanau, but that economic considerations will not necessarily be the overriding driver for selection of the final design.

Table 1: Indicators for Mauri Model Assessment of Ōkahu Bay Tidal Creek Restoration Options

Factor	Indicator Name	Indicator Description
Environmental	Stream Habitat	Stream habitat supporting visible diversity from eels to kahawai
	Authentic Ecosystem	Diverse authentic ecosystem falling into place
	Connected Waterways	Connected healthy waterways that function naturally
	Clean Water	Water that is drinkable at the headwaters and clean in the bay, protected from wastewater and other contaminants
Hapu/ Cultural	Ahi ka & Manawhenua	Sharing the past to bring about a healing connection with the bay
	Whakawhanaungatanga	Physical presence into the future to grow the relationship between people and place
	Living Classroom	Providing a living classroom to enable kaitiakitanga
	Harvesting Kai	A harvest of kai from fish, bush and gardens
Community/ Social	Safe Interaction	Safe interaction for our kids from headwaters to bay
	Recreational Use	Allow for recreational needs of Ngāti Whātua and the wider Auckland community
	Flooding Prevention	Protect the urupā from flooding and reduce the flooding of recreational areas
Whanau/ Economic	Commensurate Benefit	Costs reflective of the outcome without being wasteful - "can't have half a mauri!"
	Resilience	Resilience to future operational costs
	Social Enterprise	Design offers whanau social enterprise opportunities for work, training, and capacity building of people

The strongest themes that developed through the process with the greatest resonance were those reflecting the tribe's strong connection with and respect for the bay (Ahi ka & Manawhenua and Connected Waterways), and the need for ongoing healing of the past wrongs to provide an sustainable path for NWŌ into the future (Whakawhanaungatanga and Authentic Ecosystems).

2.2 DESIGN PROCESS

Following definition of the mauri indicators the concept designs were developed. It was important to have a set of clear objectives to ensure that the concepts considered for assessment had first been tailored to maximise the enhancement benefits and minimise compromise or degradation of value through any option.

The emotive stories told through the workshop gave strong cues that can be referred to through the designs. In particular, the Ahi ka and Manawhenua considerations could be taken on board to ensure respect is paid to the ancestral village in this location. This translated to a preference to confine the footprint to the east of the reserve closest to the original stream alignment and areas previously disturbed through road construction activities. This also gave rise to a throttle in the tidal channel design for Option 2, 5 and

6, where a tight meander of the original stream alignment could be replicated with some grade change in order to provide for channel heterogeneity and naturalness.

In addition the desire for authentic and self-sustaining diversity of habitats was taken on board and led to the suggestion of Option 6, which while optimising the efficiency of the tidal channel in meeting many objectives, allowed for a greater mix of habitats by providing freshwater stream and wetland zones in day-lighted tributaries, having less geometrical constraint than the deeper main channel.

Option 6 also contributed to the goal of a connected waterway by extending the natural system up into freshwater tributaries with a high degree of visibility and exposure of whanau and public to water cycle values.

The opportunity for designers to workshop the context with key stakeholders also gave an opportunity to communicate the limitations on the design to produce a high value environment, as the water quality is dependent on wider catchment processes, and brackish environments come with a set of aesthetic issues that would be present in a restored channel to some degree.

2.3 RESULTS

2.3.1 CONCEPT DESIGN ASSESSMENTS

The mauri model assessment was applied to each option. This gave a rating for each of the four mauri, which were combined by applying the allocated weightings to give a mauri score for each concept option. The results are indicated in Figure 5 to Figure 10 below.

Figure 5: Concept Option 1, Retain Status Quo

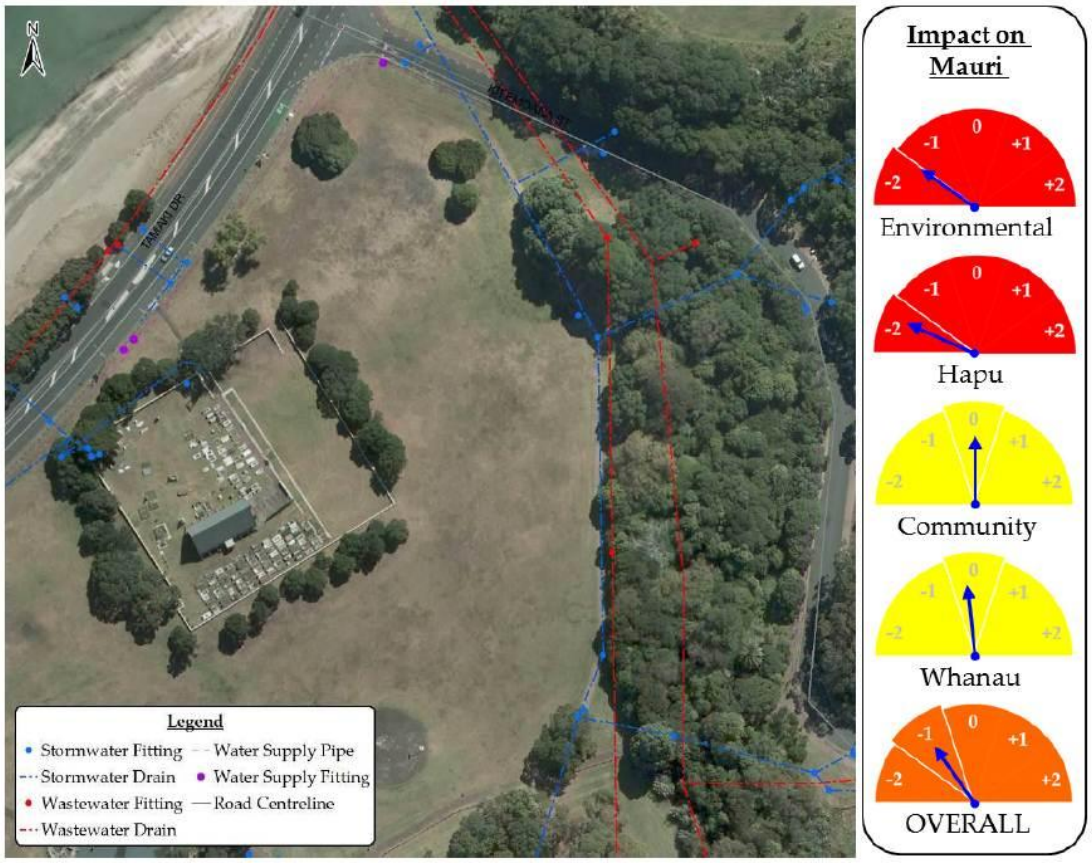


Figure 6: Concept Option 2, Tidal Creek Daylighting

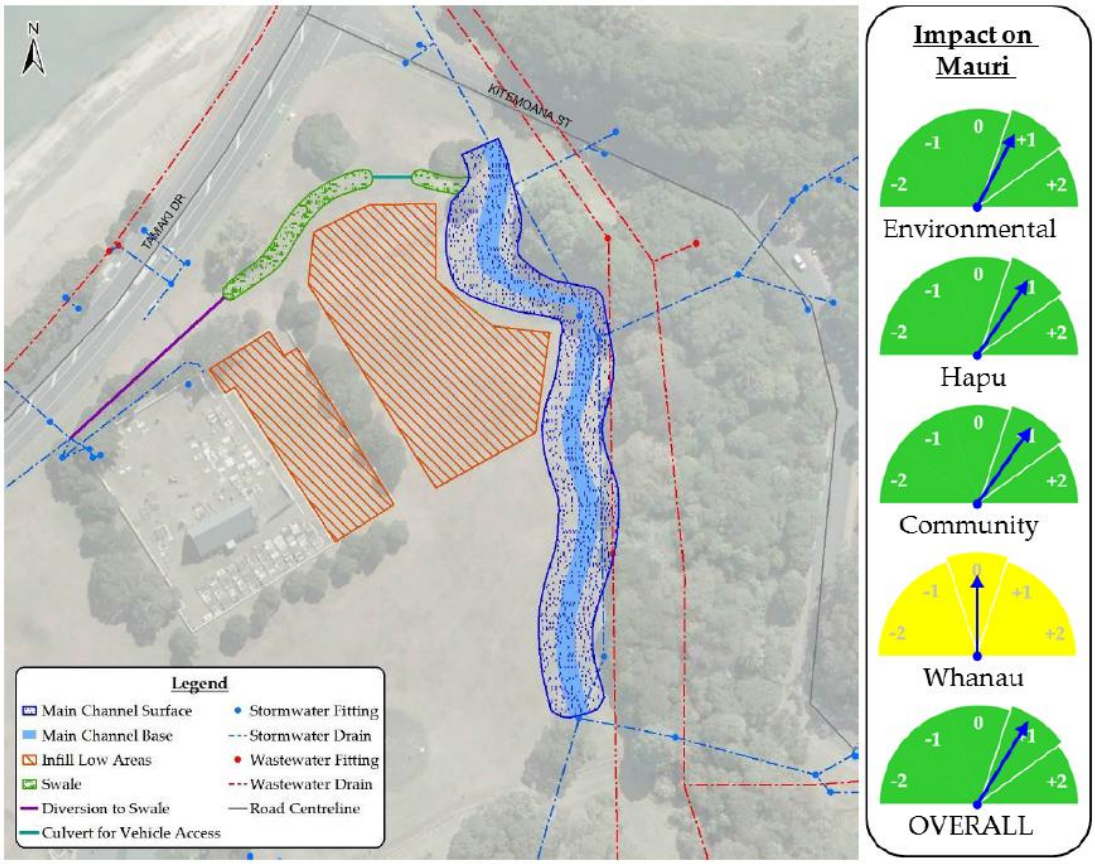


Figure 7: Concept Option 3, Full Wetland Treatment System

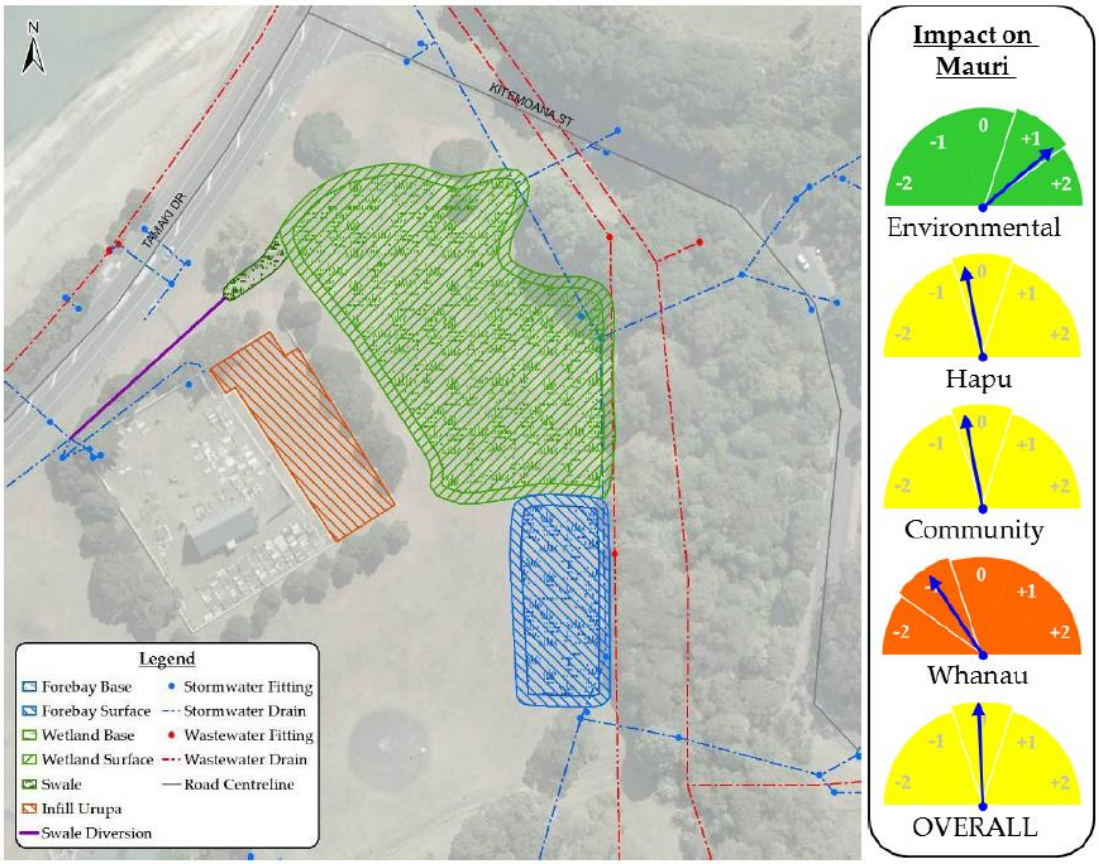


Figure 8: Concept Option 4, Partial Wetland Treatment System

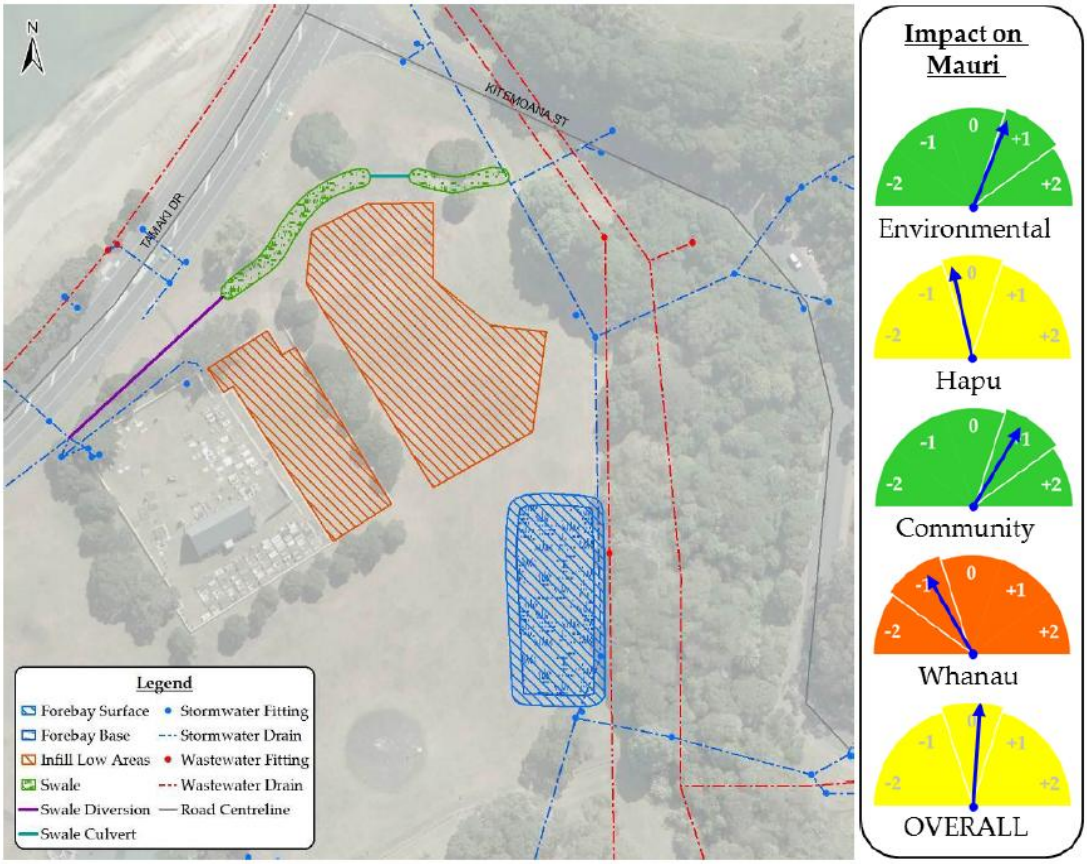


Figure 9: Concept Option 5, Partial Wetland Treatment System and Tidal Creek Daylighting

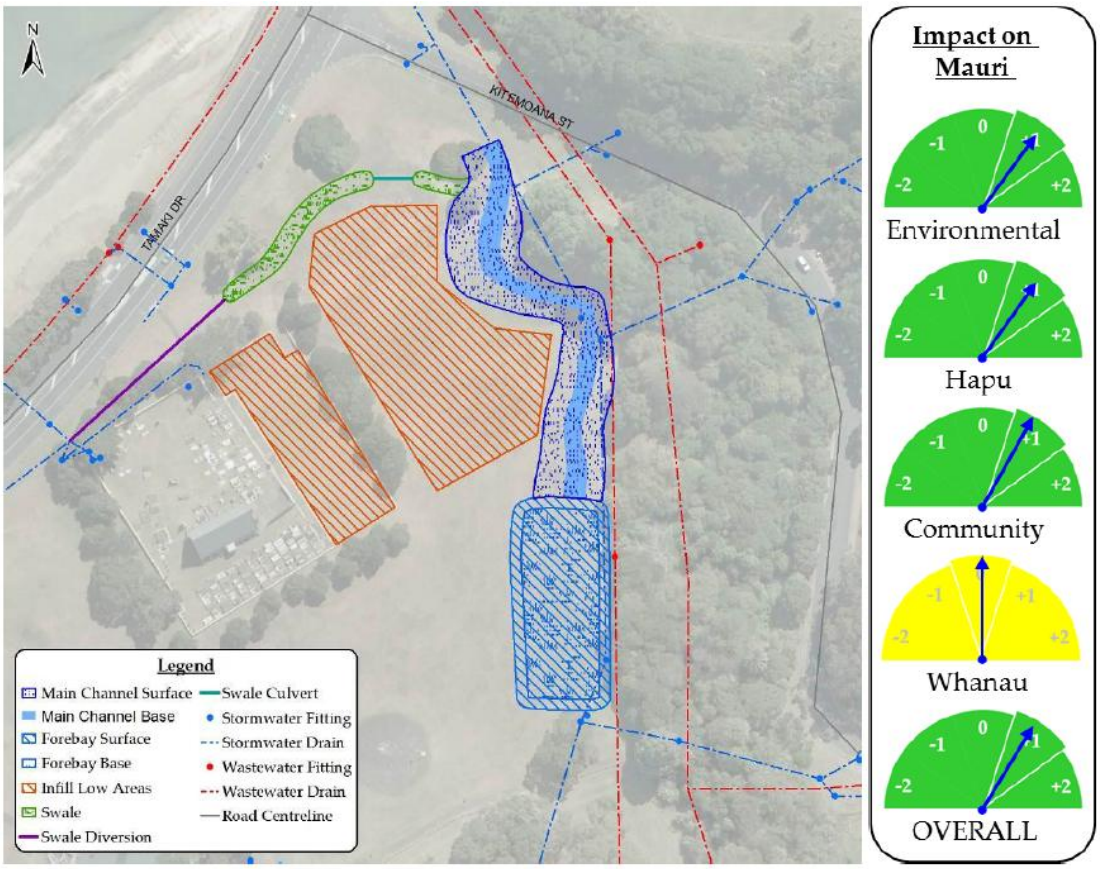
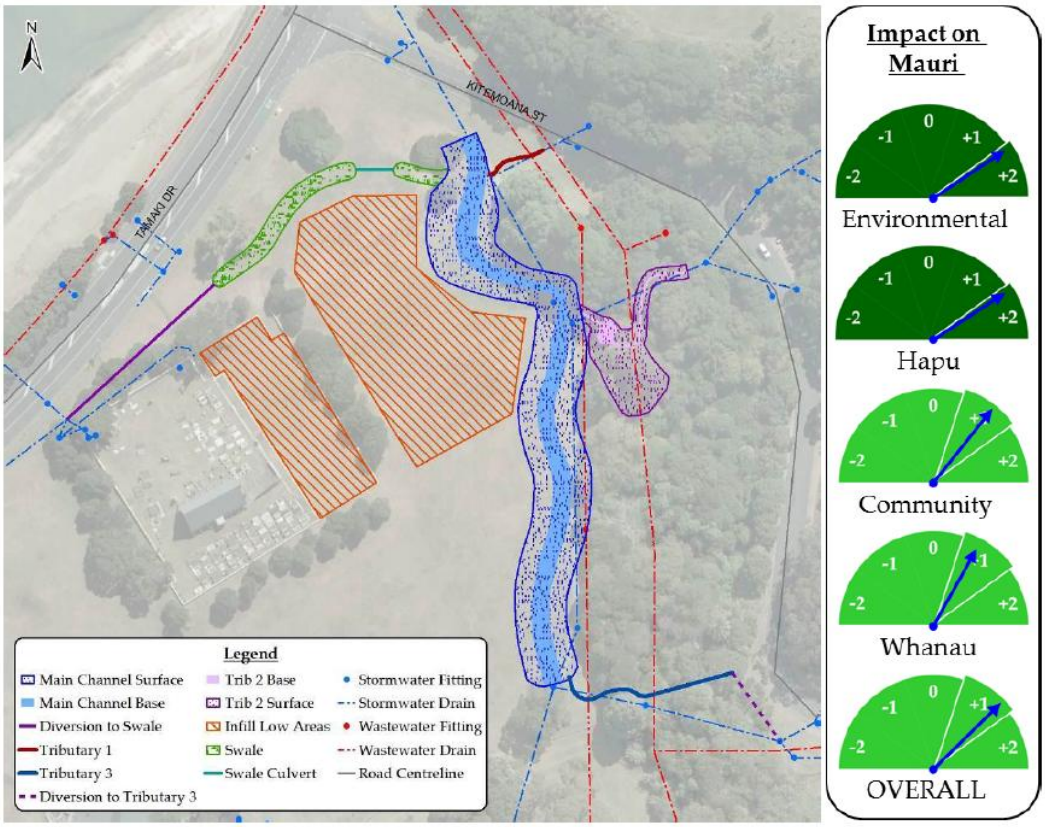


Figure 10: Concept Option 6, Tidal Creek and Tributary Daylighting



2.3.2 RESULTS SUMMARY

The overall score for each option has a maximum range from -2 (Mauri noho/mate), signifying completely denigrated or devoid of life, to +2 (Mauri tu/ora), signifying vibrant or alive. Table 2 provides the final rank for each concept option, as assessed using the Mauri Model.

Additional comment is provided for options in which a raw score of -2 was received for any individual indicator assessed. A single raw score of -2 indicates this option should be avoided, regardless of its overall weighted score. Any option that completely denigrates an indicator of significance to NWŌ does not meet the desired objective to improve the mauri of Ōkahu Bay.

The most favoured option to daylight the tidal creek and connecting tributaries (Option 6) received a score of +1.2, indicating the option will enhance mauri in Ōrākei Domain and Ōkahu Bay. It is worth noting that Option 6 is the only option that did not receive any negative scores, indicative of diminishing mauri. The option maintains but does not enhance mauri (a score of 0) for Clean Water and Resilience. With the exception of these two indicators, the option enhances the mauri of each indicator.

Table 2: Final Rank of the Six Proposed Concept Options

Rank	Concept Option	Score	Indicators Receiving a Raw Score of -2
1	Option 6: TC + Tributary	1.2	None
2=	Option 5: Partial Wetland + TC	0.7	None

Rank	Concept Option	Score	Indicators Receiving a Raw Score of -2
2=	Option 2: Tidal Creek (TC)	0.7	None
4	Option 4: Partial Wetland	0.1	None
5	Option 3: Wetland	0.0	Ahi ka & manawhenua, recreational use
6	Option 1: Status Quo	-1.0	Stream habitat, connected waterways, whakawhanaungatanga, living classroom, harvesting kai, flooding prevention

Concept Option 6 of a tidal stream channel coupled with tributary daylighting improvements has been taken to the Ngāti Whātua Ōrākei Reserves Board where it was accepted at their Meeting of February 2014. The concept is now being progressed by NWŌ in partnership with Auckland Council Stormwater Unit alongside the Proposed Papakāinga Special Housing Area Zone on the adjacent Kupe Street. A visualisation of the design is provided in Figure 11.

Figure 11: Ōkahu Creek Daylighting Concept Visualisation (existing view insert)

2.3.3 ADDED VALUE OPPORTUNITIES

Subsequent to the mauri model assessment and determination of a preferred option for the day-lighted channel, the mauri model findings were further utilised to identify areas where NWŌ could look for wider system improvements. These would be added value opportunities to meet the desired mauri enhancements that the preferred option for the

subject area did not meet so strongly. The indicator scores in Table 3 were identified as the least achieved by Option 6, and the potential opportunities identified to meet this shortfall are also indicated in the table.

Table 3: Gap Analysis of Option 6

Indicator	**Option 6 Score**	**Opportunity**
Clean Water	0	Bioretention water quality treatment for Tamaki Drive. Catchment scale separation and water sensitive design intervention for Wastewater and Stormwater contaminants
Resilience	0	Extension of project: upstream with potential treatment wetland in reserve adjacent to rugby fields and, downstream to Tamaki Drive culvert
Flooding	1	Upgrade of downstream syphon to culvert or bridge under Tamaki Drive
Ahi ka & Manawhenua	+1	NWŌ leadership of cultural heritage management. Use of GPR and potential adjustment of channel eastwards into tree line. Incorporate interactive information on cultural heritage.
Whakawhanaungatanga	+1	Incorporate amenity and educational elements to connect to environmental learning and stewardship.

The mauri model framework also provides an opportunity for ongoing assessment and direction of the daylighting as it proceeds through detailed design and construction. In addition, once the project is complete the framework will also provide a suitable lens to measure success of the process and final outcomes of the project ground truthed against real indicators representing the kaupapa of the whanau.

CONCLUSIONS

The process of developing and implementing a Mauri Model for the assessment of concept design options for the Ōkahu Bay Daylighting project was extremely valuable from both a stormwater design and a project engagement perspective.

Stormwater infrastructure is inextricably linked to the values of land and water systems that are embodied by catchment water cycles. Therefore appropriate tools such as the mauri model must be employed to develop a holistic perspective on the opportunities and constraints of these integrated systems. The Mauri Model can be used in the following forms:

- To define the holistic objectives for design that can be referenced throughout the design process as a cue to important value opportunities.

- To assess multiple options in order to determine the best concept that achieves multiple benefits.

- As a gap analysis to highlight opportunities for additional added value that can be addressed by other mechanisms or incorporated through design refinements.

- As a final measure of successful implementation of the project and its process post implementation.

Ngāti Whātua Ōrākei has suffered a turbulent recent history with a large degree of environmental disconnection, disempowerment, and loss. However, several initiatives are combining to represent a significant empowerment and restorative action phase within the hapu, including:

- The establishment of the Ngāti Whātua Ōrākei Reserves Board and the Whenua Rangatira Reserves Management Plan,

- The Ōkahu Catchment Ecological Restoration Plan and the ko te Pūkākī restoration efforts, and

- The Papakāinga Master Plan and Special Housing Area development.

The processes of developing these initiatives have included wide consultation and engagement within the NWŌ whanau. This ensures that there is both a clear co-ordination of the kaupapa of the tribe going forward and an ownership and commitment from its members to the ongoing actions that are undertaken to increase the mauri of the Whenua Rangatira and wider NWŌ realms.

The opportunity to daylight and restore the primary waterway on the Whenua Rangatira is therefore a significant opportunity to continue this important momentum. This project warrants deep care and transparency throughout the design process. The mauri model provides a suitable best practice tool for this situation. Furthermore the values defined within the mauri model process can form a strong and clear narrative to carry the project forward and provide a restored natural asset for Ngāti Whātua Ōrākei and the people of Auckland.

ACKNOWLEDGEMENTS

The authors would like to thank Ngāti Whātua Ōrākei Reserves Board and Ngāti Whātua Ōrākei Whai Maia Ltd. for sponsoring the project and providing permission to prepare this paper, in addition to the people of Ngāti Whātua Ōrākei who participated in workshops or have contributed their time and energy to the project to date. Thanks to Unitec for access to information from research projects conducted for the site.

REFERENCES

Afoa, E, Clarke, C (2013) Ōkahu Bay Tidal Creek Reinstatement / Wetland Treatment System Feasibility & Options Investigation. Prepared by Morphum Environmental Ltd for Ngāti Whātua Ōrākei Whai Maia Ltd. December 2013.

Blair, N (2005) *Waka, Ōkahu Bay*. Draft Discussion Document. Ngāti Whātua o Ōrākei Corporate Ltd.

Fitzmaurice, J.R. (2009) 'History of Auckland Wastewater and Mangere Wastewater Treatment Plant'. *3rd Australasian Engineering Heritage Conference.* Dunedin: 22-25 November 2009.

Kahui-McConnell, Richelle (2012) Ōkahu Catchment Ecological Restoration Plan (ŌCERP) Ngāti Whātua Ōrākei

Kawharu, M. (2004) Tamaki Foreshore and Harbour Report: A Report prepared for the Ōrākei Maori Trust Board for the Wai 388 Treaty Claim. Presented as an Appendix to Submissions by Ngāti Whātua o Ōrākei Maori Trust Board to the Ministerial Review Panel on Foreshore and Seabed Act 2004.

Morgan, T.K.K.B. (2006). An indigenous perspective on water recycling. Desalination 187(1-3): 127-136.

Morgan, T.K.K.B. (2008). The value of a hapu perspective to municipal water management practice: Mauri and its potential contribution to sustainability decision making in Aotearoa New Zealand. PhD Thesis, The University of Auckland, Auckland, New Zealand.

Ngāti Whātua o Ōrākei Reserves Board (2003) Whenua Rangatira Reserve Management Plan

View Auckland n.d., Orakei Maori Land History. Available from: <http://www.viewauckland.co.nz/insidersguide/orakeibrmaori-land-history-feature-3337.html>. [18 March 2014].

Waitangi Tribunal (1987) Waitangi Tribunal on the Ōrākei Claim. Wai – 9, Waitangi Tribunal reports 0113-4124;1, Wellington, NZ

Waitangi Tribunal n.d., The Loss of the Orakei Block. Available from <http://www.justice.govt.nz/tribunals/waitangi-tribunal/resources/teaching-aids/resource-kits/orakei/the-loss-of-the-orakei-block> [18 March 2014]