

**Communication of  
Intergenerational Knowledge of  
Wetland Development in the  
Tūhaitara Coastal Park**

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2022 Report

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## Executive Summary

The Tūhaitara Coastal Park, adjacent to Pegasus, is managed by Te Kōhaka o Tūhaitara Trust. The Trust is responsible ensuring the conservation of wetlands as well as managing the interaction of people with the Coastal Park. The project research question is:

*How can community engagement and understanding of coastal wetland development, restoration and protection be enhanced at the Tūhaitara Coastal Park?*

- An online survey was conducted to gather qualitative and quantitative data. Data was then analysed to produce key findings.
- The knowledge was split into three main areas: mātauranga Māori, environmental processes, and Māori and Pākehā histories and narratives. This research was primarily focused on how these three areas are communicated within the Park, from the Trust to users.
- Findings highlighted that whilst a knowledge transfer occurs, particularly in environmental processes, the history of the area and mātauranga Māori are less well communicated.
- Respondents valued environmental processes more than the other knowledges, but the difference was very negligible. Future research needs to be done to enhance users' knowledge and convey other knowledges.
- Future work in increasing information panels and signage throughout the Park would aid in increasing user knowledge, particularly in areas respondents indicated are significant to them.
- Due to time constraints, in-personal engagement was not possible with mana whenua and an online survey may have been inaccessible to some respondents who use the Park frequently.

## Introduction

The Tūhaitara Coastal Park is a stretch of land parallel to the coast in North Canterbury that consists of various ecosystems connecting the Waimakariri and Rakahuri braided rivers (refer to Appendix I). It is located thirty kilometres northeast of Christchurch CBD, adjacent to the township of Pegasus. The Coastal Park consists of wetland ecosystems, the Tūtaetapu Lagoon (see Appendix D), biota nodes (see Appendix E) as well as multiple tracks that connect to different township/beach villages and Pegasus beach.

The Coastal Park is managed and preserved by Te Kōhaka o Tūhaitara Trust. As our community partner, they have given us the opportunity to work within this area as well as guide us through the project process. Their aim is to restore indigenous flora and fauna to create a healthy indigenous environment whilst upholding Ngāi Tahu values and provide education and recreation for all (Te Kōhaka o Tūhaitara Trust, 2015). They value community engagement and encourage this through many restoration projects around the park. They implement pest trapping, native plantings, exotic plant removal, and involve schools with biota node and planting projects.

The projects aim is to determine current users' understanding and knowledge of the Tūhaitara Coastal Park. Its focus is enhancing community engagement for locals and understanding how the Park can improve its communication techniques to allow for the transfer of Māori values and practices; Māori and Pākehā history, and environmental processes.

## Literature Review

Understanding of the area and its' history was important to situate and inform our research question. This review comprises of historically and culturally important information about the cultural, historical and environmental dimensions of Te Tūhaitara Coastal Park, as well as communication methods to enhance community engagement.

The current revitalisation of the Tūhaitara Coastal Park reflects the landscape change from Pākehā settlers. To understand how the wetland can be improved, it is important for visitors of the Park to know how the wetlands have evolved and changed over time.

Kemp's Purchase of 1848 saw the claiming of 2/3rds of the South Island. This caused the mass migration of European settlers in the South Island (Evison et al., 1993). Political, social, and economic changes reinforced euro-centric ideals and pushed Māori to the margins, enabling the expansion of mass agricultural production. 65% of historic wetlands in New Zealand are used for pastoral farming (Ausseil, 2015). The lack of visible wetlands means there is lack of awareness and education around their important environmental impact and significance as a habitat.

Understanding different values associated with the Tūhaitara Coastal Park helps to frame the research question. Pākehā's relationship with the land often correlates to monetary value (Evison, 1993). Referring to modern society, monetary value often equates to the resourcefulness of the land. This contrasts with a Te Ao Māori worldview, where humans and land are intrinsically connected through whakapapa (genealogy) (Royal, 2009).

Mahinga kai is informed by kaitiakitanga values (environmental guardianship), where food is collected to sustain the family, in a manner that also sustains the source for generations to come (Kawharu, 2000). Wetlands are important mahinga kai sites as they are abundant with biodiversity and important species such as tuna (eels) and kōwaro (mudfish). This relationship was restricted post-Kemp purchase and so traditional relationships are challenged with urbanisation and separation from te taiao, but restoration work can reconnect urban and younger generations to these relationships, empowering whakapapa, mātauranga and kaitiaki (Walker et al., 2019). Due to the purchase, the lagoon was neglected and uncared for (Rewi, 2012; Te Rūnanaga o Ngāi Tahu, n.d.). The Tūtaepatu Lagoon was returned under the 1998 Ngāi Tahu Settlement Act and is part of the Coastal Park today (Ngāi Tahu, 1998).

The Trust aims to restore indigenous flora and fauna in the area to its former conditions. In Aotearoa wetlands have both an important ecological and historical role. They were a very important source of food and knowledge, regarded as taonga within early Māori settlements (Clarkson, 2013).

Wetlands are known as the “kidneys” of the environment as they act as a filter between land and waterways. They provide ecosystem services that are crucial to a wide variety of dependant flora and fauna. They are amongst the most threatened ecosystems. Specifically coastal wetlands have undergone significant loss mostly due to changes in land use which involves the draining. Only 10% of wetland environments remain in New Zealand which is why the mahi the Trust does in this area is crucial to maintaining these fragile ecosystems.

The paper *‘Indigenous Māori knowledge and perspectives of ecosystems’* by Garth R. Harmsworth, discusses a Māori framework model encompassing mātauranga Māori and how Hauora is symbiotic with ecosystem services. Māori wetland indicators are an approach to wetland preservation. Māori monitoring techniques can be used to assess wetland conditions. This is relevant to our project, trying to encourage community engagement within the Tūhaitara wetlands by acknowledging Ngāi Tahu values. Māori scientific approaches for monitoring areas of taonga can further engage mana whenua.

The previous information is important to convey to users of the Park because it supports the effectiveness of restoration projects, enhances public participation and promotes social, physical and biological environments (Cox, 2010). Attracting visitors to these areas enables the opportunity to educate them about the land’s history, values, processes and importance.

Communicating the significance of the area is important because it can enhance the community’s sense of place and identity and empower indigenous communities to convey their stories and continue intergenerational knowledge customs while promoting values such as whakapapa, mātauranga and kaitiaki. It also reinforces the goals of restoration (Agboka and Dorpenyo, 2022; Walker et al., 2019; Cross and Chappell, 2022).

Common media methods include information panels, themed footpaths, public talks by experts and guides, and education in schools and museums. In order to attract and effectively engage users, there needs to be foundational knowledge on the target audience (Wei and Zhao, 2017; Justice, 2018; Wehi et al. 2019). This is exemplified by the Chablis GeoPark. The Park was previously used just for skiing, but they wanted to educate visitors on its' history. They created a game where skiers collected 'local curiosities and anecdotes' on panels as they skied. This was successful as skiers were engaged with the game and many prodded for more information from the staff at the end of the game (Justice, 2018).

Promoting users' engagement within the Coastal Park is important to encourage them to understand the history, environmental processes and values that underpin wetlands. This reinforces the restoration and protection of them. This literature review highlights the complex interrelationships and history that exist within the Tūhaitara Coastal Park that must be considered in the formation of communication messages. It also shows how important understanding your target audience is.

## Methods

The group conducted one observation of the Coastal Park to situate our understandings and to formulate the research question and aim.

## Participants

To answer our research question to a satisfactory degree, community engagement was essential. An online survey was the chosen method of data collection to identify any knowledge gaps within the park and how best to bridge these gaps. The survey was distributed to schools, resident associations, and other community groups by email and Facebook pages. Although primary contacts centered in the Waimakariri district, there were respondents from across Canterbury. The survey was open for 11 days; from the 19th of September 2022 to the 30th of September 2022. Participation was voluntary and confidential; all procedures were approved by Professor Simon Kingham.

## Analysis

The survey had various open text (qualitative) and multi-choice/slider/single-choice questions (quantitative) which enabled true comprehension of users' knowledge and perspectives (Fetters et al., 2013). This approach provided a more holistic view of users' knowledge as it ensured that respondents were able to provide more in-depth and subjective information (Johnson and Onwuegbuzie, 2004).

Respondents were asked what topics they were familiar with. It was a subjective opinion on the respondent's behalf as to how knowledgeable they believed they were. This enables self-

reflection and engagement with the respondents' own knowledge. Respondents could further explain their answer in an open text box.

The quantitative data collected was mainly analyzed using descriptive statistics (Fisher and Marshall, 2009). This was in the form of averages, ranges, counts and percentages. The qualitative data collated were analyzed using thematic analysis. Thematic analysis is a method used for qualitative data analysis which involves the exploration and interpretation of a data set to draw out any patterns or themes (Nowell et al., 2017). For this report only the three most dominant themes were analyzed in depth, however, other themes are mentioned. The three main themes are:

- Does going to Tūhaitara Coastal Park increase user knowledge of Environmental Processes, Māori values and practices and Pākehā and Māori local histories?
- Do Park users value these three topics?
- How to enhance communication and interaction within the Park?

Respondents identified areas that were significant to them and stated why. Geographic Information Systems (GIS) was used to visualize this data on a map (Figure 9). The map boundary was also visualized through GIS (Appendix I).

## Results and Discussion

### Demographics

The survey contained questions specific to revealing both age and location demographics. These results were helpful to understand more about the survey respondents. This enabled us to gain insight on the Park's target audience and understand how communication of information would be best received within the Park.

From the survey results, we found that the ages that completed the survey were approximately an even split, as seen in figure 1. The ages ranged from 16-through to 65+. This equal division meant we had a good representation of all ages for the rest of the survey questions.

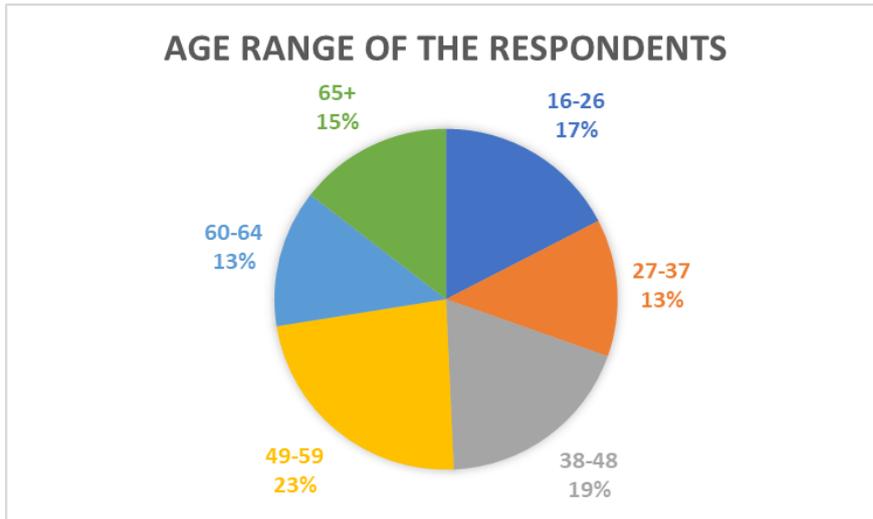


Figure 1: Age range of respondents (n=69).

For the location it was expected that most Park users were residents of nearby townships. The survey targeted North Canterbury residents, disseminated via residents' associations, school newsletters and community Facebook pages. Figure 2 shows that 27% of the respondents reside in the closest proximity town, Pegasus. This is most likely due to the Park being walking distance. The largest category was 'other' which include individuals living within the Christchurch city suburbs (see Appendix A). This indicates that the Coastal Park does get visitors from outside of North Canterbury. The various other North Canterbury townships were all very equal in percentage of respondents.

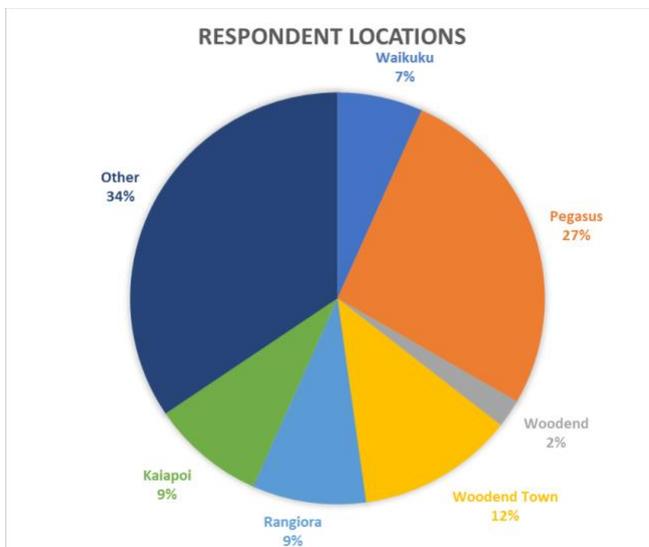


Figure 2: Current locations of respondents (n=69).

### Interaction within the Coastal Park

Survey respondents were asked to select which activities they primarily do at the Coastal Park, from a set of options. Respondents could only select one option as this shows the activity they most often do. The most popular activity at the Coastal Park, from our respondents, was walking (33 respondent) and followed by biking (16 respondents). Running and bird watching both held similar response rates of 7 and 6 respectively (see figure 3). Understanding what

users already like to participate in enables further exploration into how they could be engaged in a meaningful and innovative way (Wei and Zhao, 2017; Justice, 2018; Wehi et al. 2019).

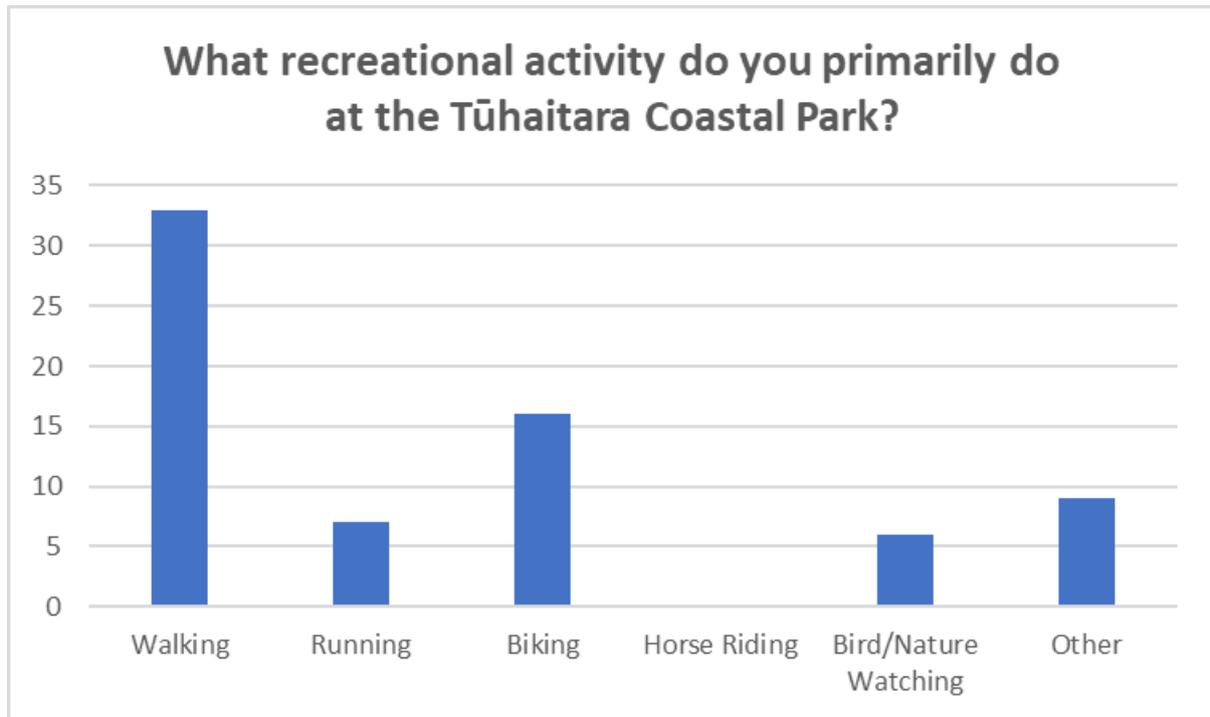


Figure 3: Recreational activity that respondents do the **most often** (n=69).

There were various other activities conducted at the Park (table 1). These included salmon and whitebait fishing. This may be a respondent error because this activity is likely being done at the Ashely and Waimakariri river mouths, which are just outside the Park boundaries. Orienteering, kayaking, and volunteering with various planting, weeding and monitoring projects were also included. Although there are bridle paths throughout the Park, horse riding received no votes. One respondent did state, “I rode horses in this area for 28 years and have seen many changes in that time some are for better but had absolutely no idea what it was actually all about we moved to Woodend 3 years ago and to be honest there is little to no information on its history or the areas surrounding it”, hence horse riding as an option was included in figure 3.

Table 1: Other comments from the respondents on recreational activities

Other Activities mentioned by respondents:
Salmon and whitebait fishing.
Orienteering.
Kayaking.
Volunteering.

Planting project.
Wetland monitoring.
Planting and monitoring.
Planting and weeding biota node.

Appendix B and C further conveys the habits of respondents at the Park but was pertinent to the research objectives.

### Increasing User's Knowledge from Visiting the Park

Te Kōhaka o Tūhaitara Trust has a 200-year plan to rehabilitate the land within the Park to a self-regenerating indigenous coastal ecosystem, that can provide sustainable mahinga kai opportunities and hold a wide range of native fauna and flora (Tūhaitara Coastal Park<sup>[1]</sup>, n.d). Within this goal community education and engagement is important, with the Trust facilitating various environmental educational opportunities to different North Canterbury and Christchurch schools. Understanding how values within the Park and area are communicated to Park users was a main aspect of this research.

The Trust conducts various projects as shown in table 2. Knowledge about these projects was asked of respondents and majority were all over 50% (apart from exotic plant removal). This shows that the Trust's projects are successful in their engagement and communication of their restoration project to the users.

Table 2: Te Kōhaka o Tūhaitara Trust projects and if respondents had heard of them.

Projects respondents had heard of:	
Biota node projects	55%
Planting projects	87%
Exotic plant removal	36%
Pest trapping	62%
Education in schools	51%

The aim of this research was to enhance community engagement and understanding of coastal wetland development, restoration, and protection within the Park. To this end, three topics were decided as the themes for the survey. These topics were, Māori values and practices; Māori and Pākeha history, and environmental processes. These topics were decided upon as they align with the values of Te Kōhaka o Tūhaitara Trust (n.d) and Te Tiriti o Waitangi (1840).

Respondents were asked what topics they were familiar with. Figure 4 shows the Māori values and practices that were well known by respondents were the environmental based values and practices (46% for kaitiakitanga and 49% for mahinga kai).

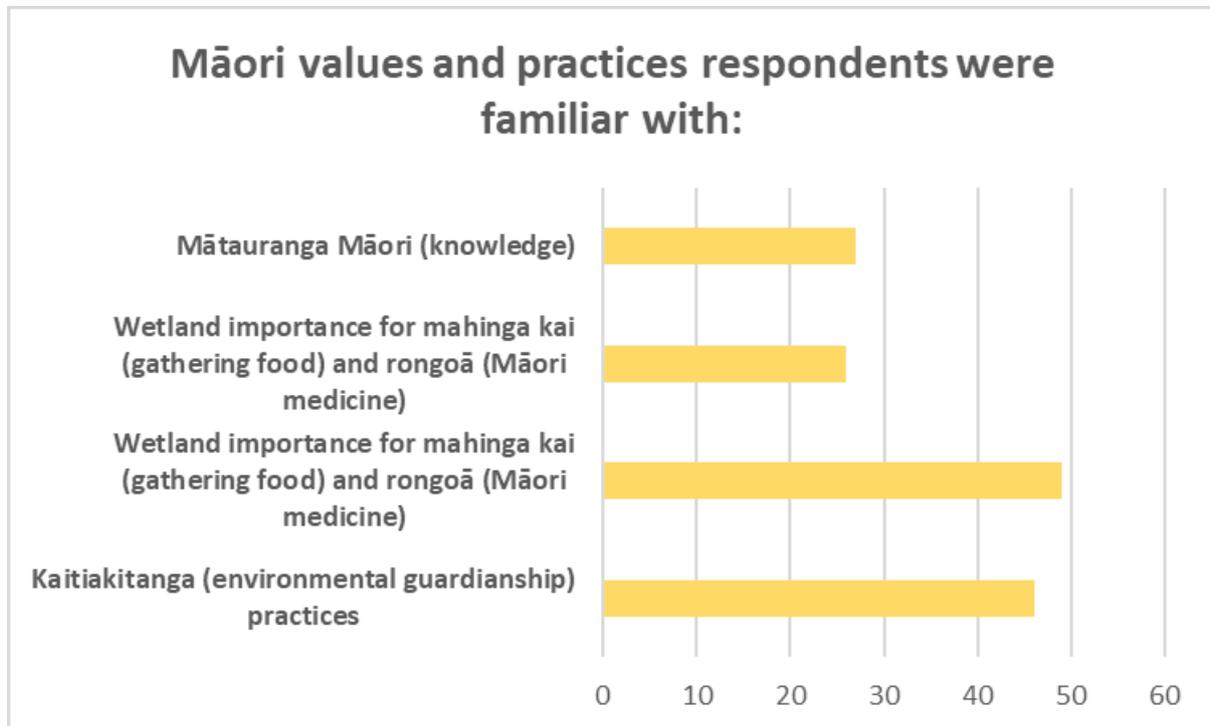


Figure 4: Māori values and practices that respondents were familiar with.

Figure 5 reinforces figure 4 because 37% of respondents identified that they knew about the former wetland environment of the Coastal Park. When the group observed the Coastal Park, dumped mattresses were found and they were told about lack of respect around the Pā site. This is most likely due to lack of knowledge about the Pā. But surprisingly, 43% of respondents were familiar with the history of the Kaiapoi Pā.

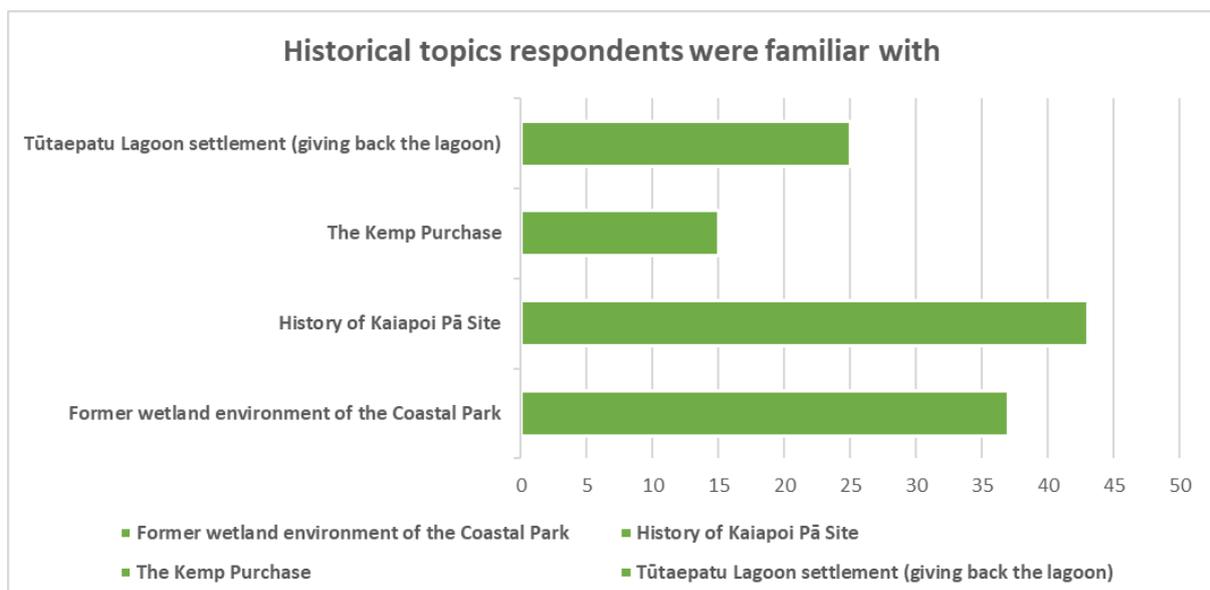


Figure 5: Important historical topics that respondents were familiar with.

Information about mātauranga Māori, wetland environmental processes, and local and regional Māori/Pākehā histories was provided for users' to know what type of knowledge could be provided at the Park (shown by Appendix F, G and H). Survey respondents were asked if going to the Coastal Park increased their knowledge on mātauranga Māori, wetland environmental processes, and local and regional Māori/Pākehā histories. The purpose of asking this was to identify any communication gaps between the Park and the users.

Survey respondents reported that the Park communicated information about wetland processes and the environment the best, with 59% of respondents agreeing the Park had increased their knowledge on the topic. One respondent stated, "[I'm] impressed with the work done with schools to educate our children in conservation". This identifies that users' most likely understood more environmental based knowledges (in figure 4 and 5) due to the education, projects and information panels the Trust currently provides (Appendix D, E). In comparison, 51% of respondents identified that the Park increased their knowledge about Māori values and mātauranga Māori. But 41% said it did not. This is significantly higher than 29% for environmental processes. Pākehā and Māori history, on the other hand, is the least communicated topic at the Park. As one respondent stated, "I didn't really know about any of this, I just assumed you were returning the area to a natural wetland for wildlife and as a nice trail for everyone to use.". 58% of respondents identifying that the Park had not increased their knowledge and a low 33% of respondents said it had increased their knowledge (Figure 6). Some respondents stated that it was due to their own studies and curiosity that they knew about this information. There is no current information of local histories at the Coastal Park, aside from some signage at the Tūtaepatu Lagoon, stating "a site of high cultural and ecological significance." (Appendix D). But it is evident that many respondents have not gained any significant knowledge on Māori and/or Pākehā narratives. of the area.

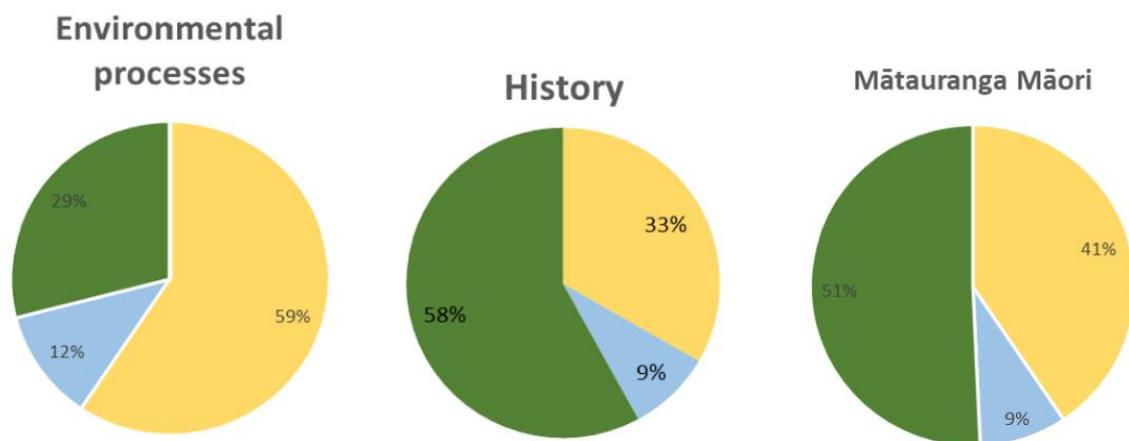


Figure 6: Respondents identified yes, no or I don't know for if the Coastal Park had increased their knowledge about the above topics (n=69).

## Park Users Value in the Three Key Topics

Engaging with the community enabled the understanding of if there is public buy-in/interest of these various knowledges. To this end, participants were asked to indicate how important they thought it was to communicate these topics within the Park. A scale question system was used for this; wherein 1 was not valuable and 10 was very valuable.

These questions were optional, meaning respondents were able to opt-in or out of completing them. The environmental process had the most responses with 86% of people opting to complete it. The average response for how valuable Māori values and practices was 7.8 with 32% of respondents saying Māori values and practices are a 10 while 2% respondents said it was a one. This difference in values is exemplified in the comments people left where one respondent stated “Why not have more Māoritanga in society? The current white-bred capitalist structures aren’t doing much to protect and preserve, let alone provide for the bettering of the majority.” While another wrote “Māori values aren’t protocol; the area has values for ALL NEW ZEALANDERS”. This shows there are a wide range of perspectives within the users’ of the Park.

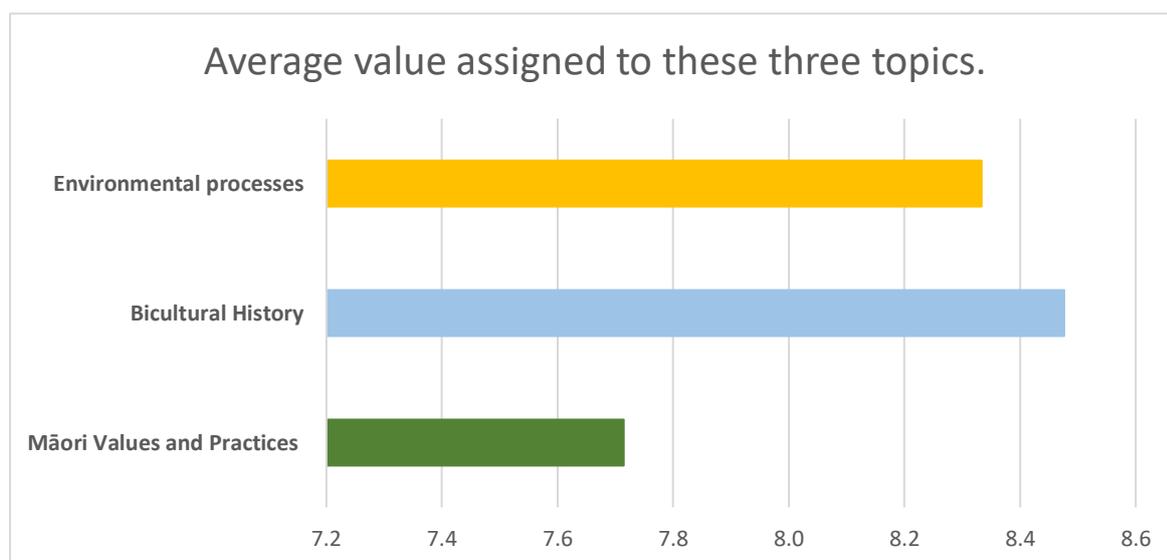


Figure 7: Respondents used a scale system to indicate how much they valued the three topics; Environmental process, history of the area and Māori practices and values.

## Recommendations for Future Actions of the Trust

Te Kōhaka o Tūhaitara Trust can improve and enhance the user’s understanding of existing intergenerational knowledge of the local environment. The three topics mentioned in the report (Māori values and practices, Māori and Pākeha history, and environmental processes) have showcase an interest from the surveyed Park users about improving the Park’s experience.

Figure 8 identifies that signage/maps and information panels are the best methods that would most enhance the communication of these topics. Therefore, it is recommended that the Trust implements more information panels across the Park. Particular knowledges that should have improved communication are Māori and Pākeha histories of the Park and surrounding areas. The Trust should conduct further research of the local area from existing academic, local historic literature and mana whenua on the three topics. The information collated by the research group was from, primarily, academic literature which may not capture the rich local narratives.

Furthermore, the Coastal Park may include Te Reo Māori alongside English to promote the bicultural partnership of the Treaty and challenge social injustice (Agboka & Dorpenyo, 2022). This provides opportunities for intergenerational mātauranga knowledge to be passed down and widely understood. Adopting a Te Ao Māori worldview and recognising the role of rāhui is an important way of challenging social injustice through communication (Cross and Chappell, 2022; Ataria et al., 2018; Agboka & Dorpenyo, 2022).

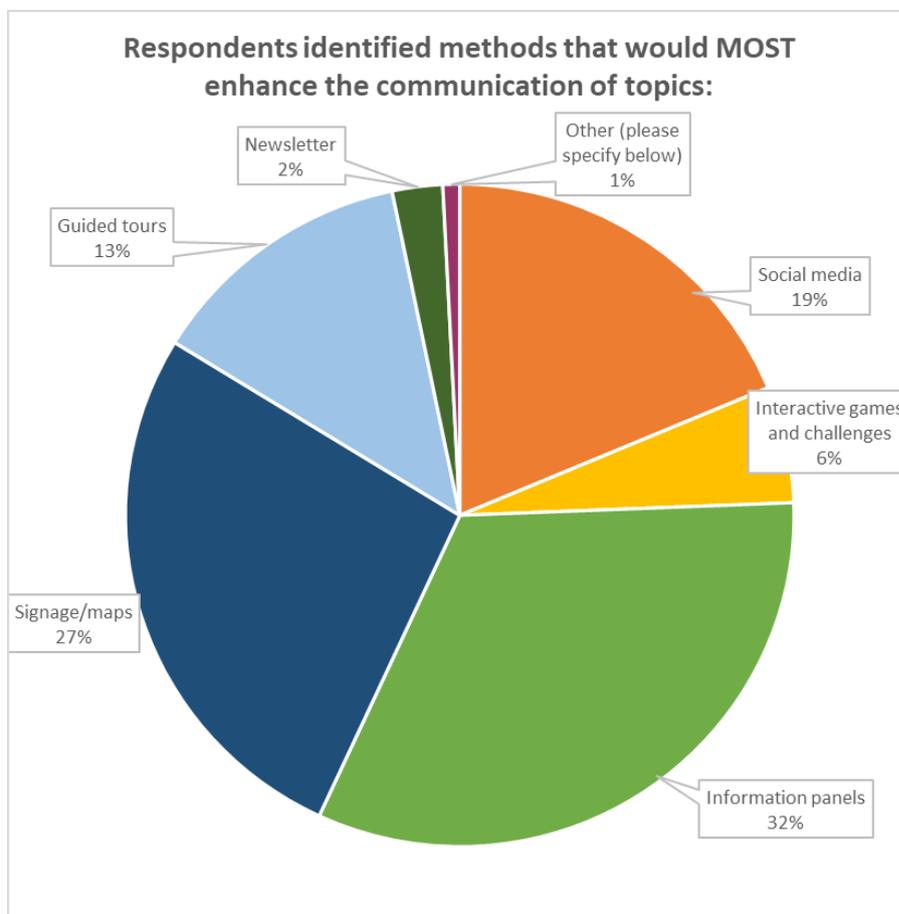


Figure 8: Communication methods respondents identified as being the best at engaging them.

The Park is primarily interacted with through recreational walking, biking, then additional activities (kayaking, orienteering, and volunteering), followed by running and bird watching. Utilising this knowledge on how the Park is used by visitors can inform the best and innovative methods for enhancing engagement and increasing learning opportunities by the Trust.

To enhance the community's sense of place (tūrangawaewae), the Trust can convey significant places of the community on a map signboard. Figure 9 showcase where respondents have identified their place of significance in the Park. This recommendation would help to create a community-based approach of the Park and help connect the Trust with the surrounding township communities.

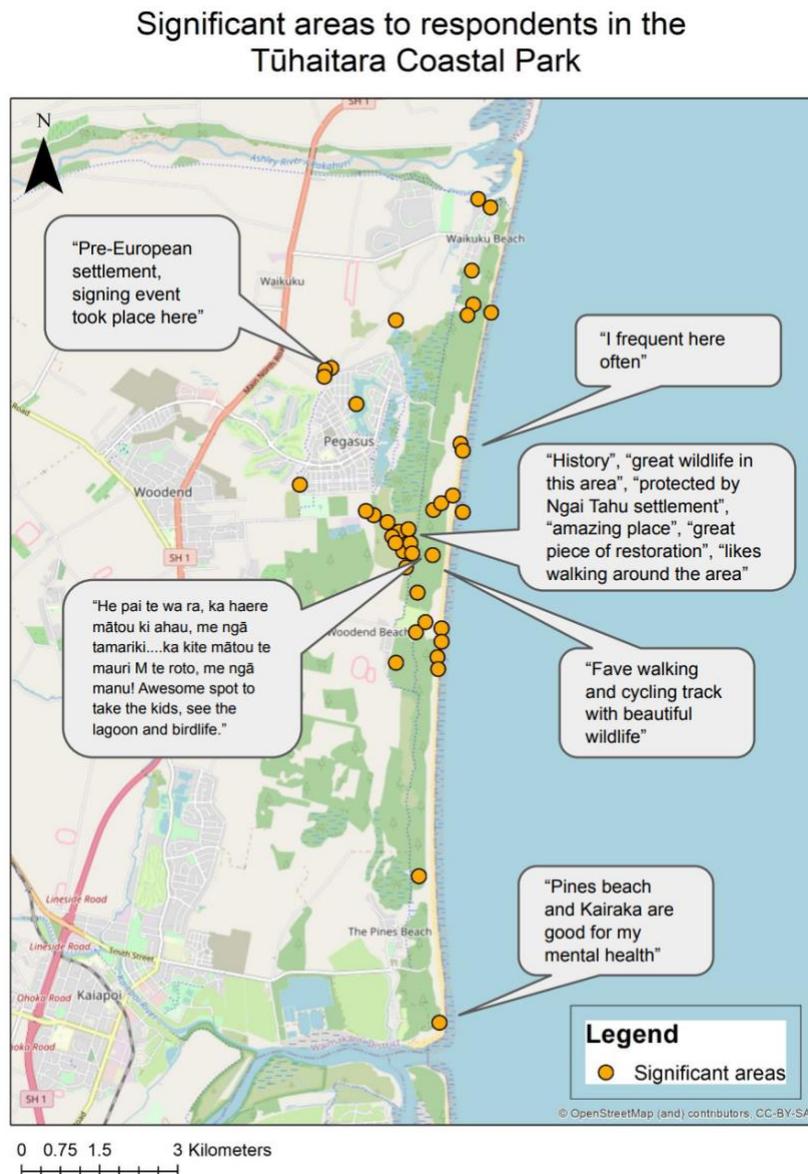


Figure 9: Significant areas identified by respondents and in speech bubbles, quotes from respondents regarding why they identified the area to be significant.

## Limitations

- **Time restrictions**

This meant there were limitations to the extent to which data could be collected. The choice of a survey as a tool for data collection was a prompt, sufficient way to gather public information needed within the allocated time. If there was more time available further data

collection methods could have been undertaken to enhance the validity and representation of our data. Other data collection tools considered include, focus groups and face-to-face interviews and in-person survey dissemination

- **Lack of diverse local narratives**

The nature of how our survey was disseminated online meant that there was potentially a lack of diverse representation.

The information identified by the research group was from academic sources and news stories and therefore, may not account for the diverse local narratives of the area (Appendix F, G, and H). Future research and mana whenua engagement is advised to identify these narratives.

- **Engaging with mana whenua**

Engaging with local Mana Whenua would have been extremely beneficial to our project and respondent representation. The duration of our project was not enough time to build substantial and meaningful relationships that would conclude in beneficial information for communication to the trust. A project of this nature deserves a lot more time and thought to allow for respectful interactions.

- **Response bias**

When completing the survey respondents were asked to rate their prior familiarity with the topics (mātauranga Māori, environmental processes, and Māori/Pākehā histories), to then ask how that knowledge had changed since visiting the Coastal Park. Respondents were not quizzed on their prior knowledge, and there may have been a response bias in their ratings, where they rated themselves higher than they are. However, as this could impact all respondents then this is unlikely to change the results of the survey.

## Conclusion

This project will be a valuable resource for the Te Kōhaka o Tūhaitara Trust in terms of improving their communication techniques to allow for the transfer of cultural, historical, and environmental knowledge to Park users. The survey was a useful tool to fill knowledge gaps about demographics and give insight into Park users' personal opinions and experiences in the area.

To conclude, the communication of information at the Tūhaitara Coastal Park needs work to enhance community engagement for locals. From the survey results, it can be inferred that users have a good understanding of the significance surrounding the environmental processes of wetlands. However, there is a need for more work to communicate mātauranga Māori and certain important histories of the Waimakariri area. The results suggest that these topics are not as well communicated, compared to the importance of wetlands.

The respondent results signify that information panels as well as signs and maps were the best and preferred communication method to engage with users. This information will be transferred to the Trust as a recommendation for future action.

Further study of this topic would be beneficial if the survey were to reach a larger audience to analyse additional opinions on the matter. More data from regular users would continue to give insight into how the Park is viewed and used. Community engagement is an important aspect to enhance within a public space, especially to uphold the cultural, historical, and environmental values that the Trust holds as they restore this uniquely significant area.

## Acknowledgements

*The research team would like to thank our community partner, Te Kōhaka o Tūhaitara Trust, for enabling us to conduct this research.*

*Professor Simon Kingham for providing us advice on the survey and ethics.*

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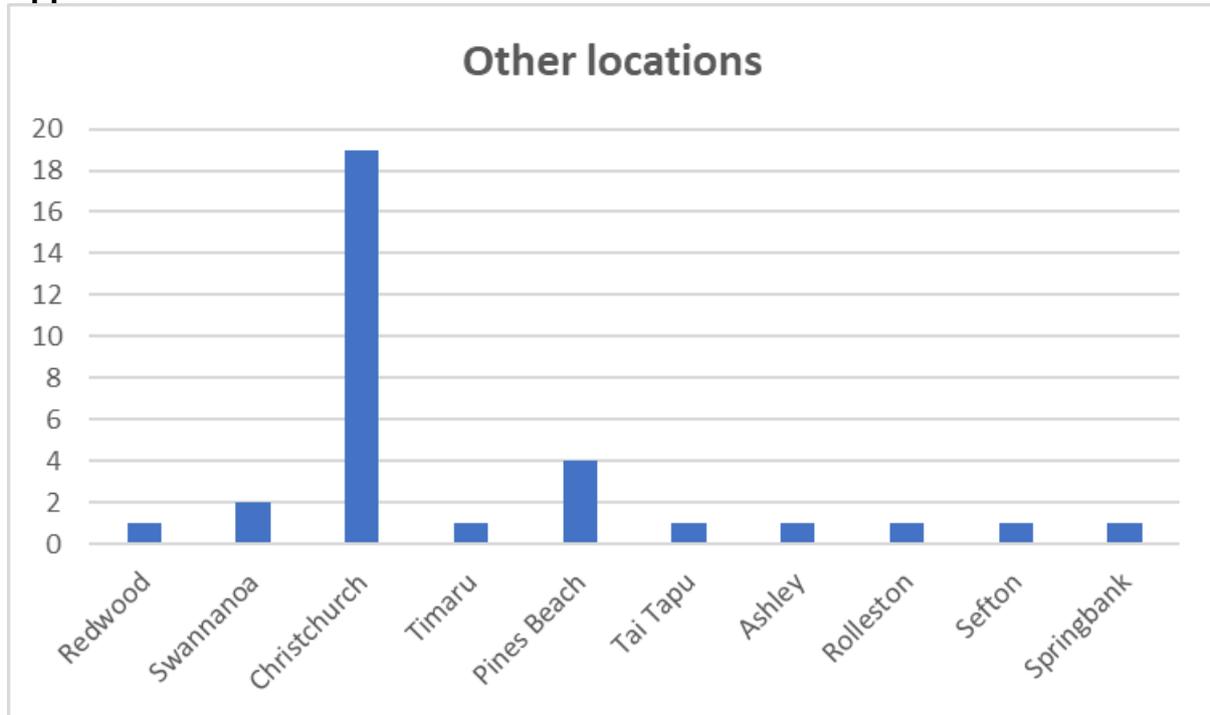
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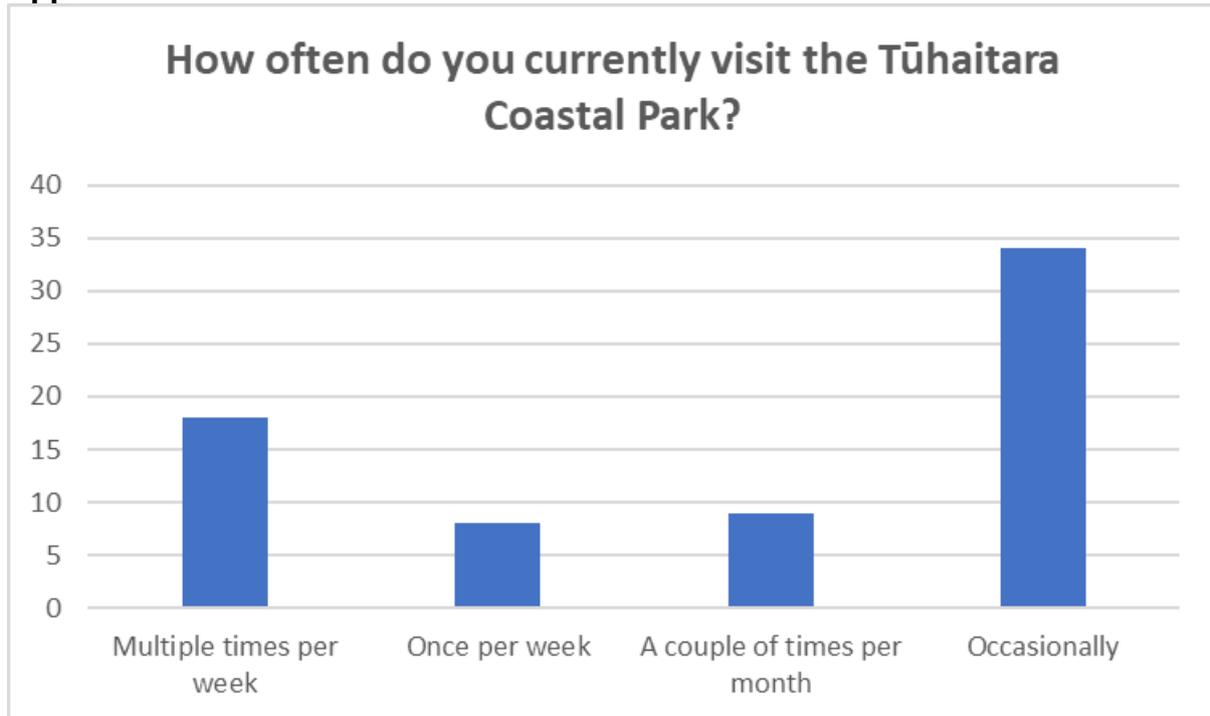
# Appendices

## Appendix A



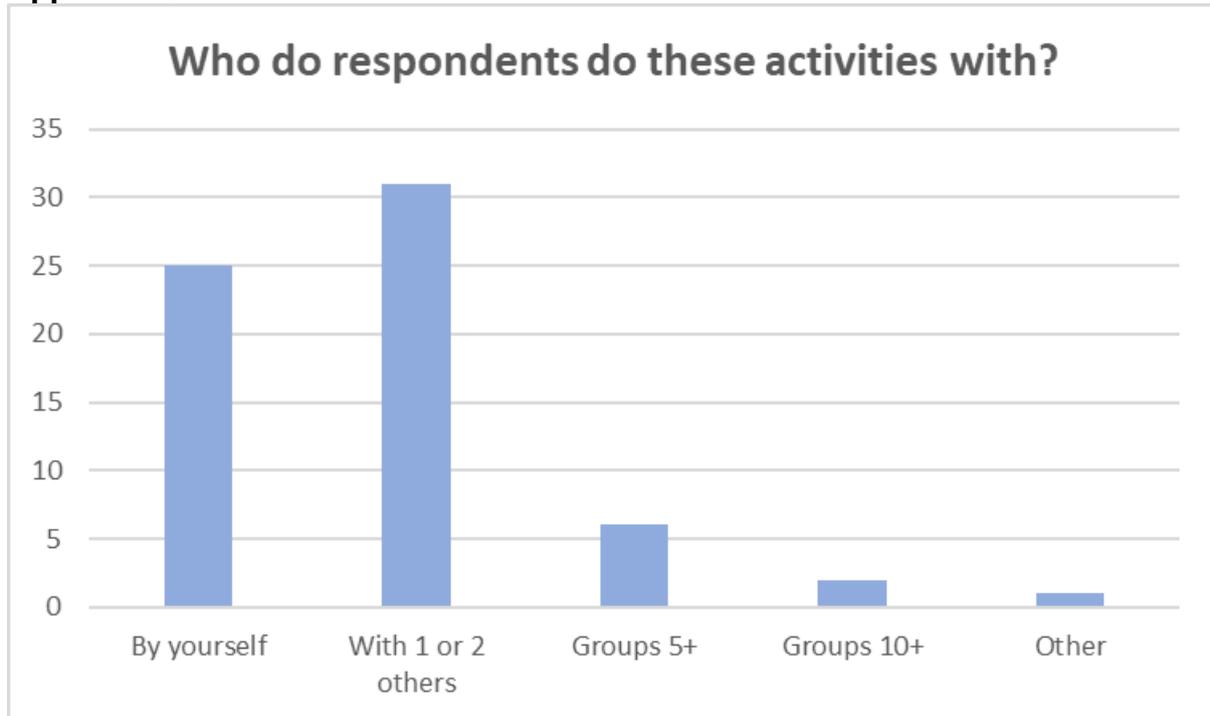
'Other' current locations of respondents (n=31).

**Appendix B:**



*Frequency respondents visited the Coastal Park (n=69).*

**Appendix C:**



*Who respondents do their recreational activities with.*

## Appendix D:



*Tūtaepatu Lagoon sign explaining the restoration project undertaken by Te Kōhaka o Tūhaitara Trust.*

Appendix E:



The Kowaro Trail sign conveying environmental processes and mahinga kai significance.

## Appendix F:

Please click! ×

### Māori Worldview:

- Everything is interconnected - animals, plants, humans, land - through whakapapa.
- Ranginui (sky father) and Papatūānuku (earth mother) are the creators of earth and all that live on it.
- Land and 'inanimate' objects (from a western view) are considered to have feelings and thoughts (personified). Land is so important to Māori because it is their identity: when introducing yourself we use a mihi - connecting yourself to your ancestry and the land.

### Mātauranga

Knowledge (in general)

### Mātauranga Māori

- The body of knowledge originating from Māori ancestors.
- Includes Māori worldview and perspectives, Māori creativity and cultural practices.
- Knowledge base that continues to be added to.

Mātauranga Māori includes kaitiakitanga, rongoa Maori and mahinga kai.

### Kaitiakitanga

- Way of managing the environment, based on the Māori world view.
- Kaitiaki = guardian, someone responsible for a particular animal or environment.
- These roles are distributed within local iwi.
- However, tangata whenua (people of the land) are obligated to care for the natural environment and remain vocal of the needs of the land.
- It is all about sustainable resource management!

### Rongoā

It is traditional Māori healing and medicine.

Includes:

- Making of herbal medicines from native plants and the environment.
- Physical techniques such as massage, to enhance spiritual healing.
- Techniques that have been passed down through many

- Techniques that have been passed down through many generations and are considered tapu.

## Mahinga kai

- Valuing the natural resources provided by the land.  
Includes:
  - Species, habitats, materials, and food harvesting practices within an environment and how they all interconnect.
  - Ngāi Tahu value looking after these resources to allow future generations to continue gathering kai (food) and provide manaakitanga (hospitality and respect) to whānau and surrounding communities.

Done ✓

*Mātauranga Māori concepts explained as examples of information to be conveyed at the Tūhaitara Coastal Park.*

## Appendix G:

Please click! ×

### Māori History:

The Tūhaitara Coastal Park is named after Tūāhuriri. Who, with his wife Hinetewai, and their three sons traveled to Te Wai Pounamu from the North Island.

Two of their sons, Moki, Tūrākautahi, eventually settled at Kaiapoi Pā, which became the largest and greatest pā (stronghold) for Ngāi Tahu.

The surrounding area was an indigenous-led wetland used for mahinga kai and rongoā Māori practices which are very important for Ngāi Tahu.

### Pāhekā History:

In 1848, Henry Tacy Kemp purchased 2/3 of the South Island on behalf of the Crown.

In 1998 Tūtaetapu Lagoon was the first area to be returned to Ngāi Tahu, making it very important.

However when it was returned it was already drained and turned into productive farmland. This meant traditional practices could not continue unless it was returned to its original state.

Te Kōhaka o Tūhaitara Trust aim is to do this.

Done ✓

*Māori and Pakeha history example information that could be conveyed by the Tūhaitara Coastal Park.*

## Appendix H:

Please click! ×

Te Kōhaka o Tūhaitara Trust aims to restore indigenous flora and fauna in the area while upholding Ngāi Tahu values.

- It contains both wetlands and a lagoon which are the main focus of rehabilitation.

Tūtaepatu Lagoon

- Was once connected to the ocean
- Was a significant kete kai
- Is a taonga for Māori.

Wetlands:

- They are the “kidneys” of the environment as they act as a filter or transitional zone between land and waterways.
- They provide ecosystem services that are crucial to a wide variety of flora and fauna.
- 10% of wetland environments remain in New Zealand. The decline is mostly due to changes in land use such as for farming or urban development.

It is crucial to prevent further loss by restoring what we still have.

Done ✓

*Environmental example information that could be conveyed by the Tuhaitara Coastal Park.*

