

APPENDIX TWELVE

Ngāti Tūwharetoa River Iwi Project Assessments

Contents

Enabling descendants of Ngāti Tūwharetoa to enhance the mauri o ngā whenua me te taiao	3
Wānanga for all 8 Ngāti Tūwharetoa Area B marae	7
Multi phased Ngāti Tūwharetoa archives project.....	10
Fencing of Ngāti Tūwharetoa sites of significance.....	17
Ngāti Tūwharetoa mātauranga and science educational wānanga.....	20

Tūwharetoa 1	Enabling descendants of Ngāti Tūwharetoa to enhance the mauri o ngā whenua me te taiao
Priority: High	
Project summary	This project aims to provide Area B Ngāti Tūwharetoa descendants with the skills they require to fulfil their functions, roles, responsibilities and aspirations as kaitiaki o te taiao. Furthermore, it also aims to build the capacity of Area B families who whakapapa to the Area B Waikato River marae by allowing them to gain the New Zealand Certificate in Conservation (Operations) (Level 4).
Vision for the project	Educate 30 people over 10 years (3 per year) to the level of the New Zealand Certificate in Conservation (Operations) (Level 4). Also, with the aid of MoUs and potential internships, support these graduates in finding employment with key partners.
Location of training	Taupō and surrounds. Area B primarily but flexibility to train with Ngāti Tūwharetoa rohe will be an advantage. When appropriate, training will be undertaken on marae or within areas of significance. However, when this is not possible, at a site to be determined by the trainer and training establishment.
Brief description of the project	Encourage Area B Ngāti Tūwharetoa marae descendants to enhance mana whenua and build capacity within the Waikato River marae iwi. When possible, training will be undertaken in the field to ensure that as many learning opportunities as possible include a real world component of working in the rohe. Dialogue will occur with organisations such as the Department of Conservation, Waikato Regional Council and Taupō District Council, among other TMTB partners relating to providing employment opportunities for the graduates once they have finished.
Key threats/issues	<ul style="list-style-type: none"> - Descendants leaving the Ngāti Tūwharetoa rohe to pursue work in other localities. This would lead to further disconnection with the land, river and general environment. - Kaitiakitanga and tino rangatiratanga may be diminished as whanau leave and works are potentially undertaken by people who do not whakapapa to Ngāti Tūwharetoa.
Project goal/s (SMART)	Within 10 years, up to 30 (3 per year) Area B descendants (as outlined above) are trained to industry standards to enable mana whenua and kaitiakitanga while building capacity and maintaining tino rangatiratanga. Upon completion of each course, students will be helped to secure internships with area B organisations. Furthermore, when possible, students undertake internships during the programme to gain employment skills and marketability while also undertaking work within the catchment. This could be reviewed after five years to ensure continuity of this project.

<p>Works required (quantity and description)</p>	<p>Programme cost</p> <p>The Toi Ohomai Institute of Technology currently offers the New Zealand Certificate in Conservation (Operations) (Level 4) in Taupō and Turangi. Contained within this programme are the following unit standards:</p> <ul style="list-style-type: none"> - Health and safety training - Chainsaw training - Fencing - Quad bike use - Plant identification (to ensure any past plantings are not killed) - Agrichemical and pest control training - Project management <p>Discussions with significant stakeholders has identified that Ngāti Tūwharetoa descendants who have a qualification such as the New Zealand Certificate in Conservation (Operations) (Level 4) can obtain contracts to undertake works. As an example, the recent devastation caused by Cyclone Cook resulted in a significant amount of damage to the environment. Unfortunately, one external stakeholder organisation was unable to allow whanau to undertake works because they did not have the appropriate ‘tickets’, and therefore caused a perceived health and safety risk to the organisation.</p> <p>\$5679 per student, per annum x three students = \$17,037. When extended out to 10 years = \$170,370 (as per outline provided from the Toi Ohomai Institute of Technology).</p> <p>Travel grants for each participant of \$3000 per annum. Some participants will be driving long distances to attend this training in the hopes of obtaining employment skills, while also having high expectations placed on them to build the capacity of the marae.</p> <p>A travel grant will help to ease this burden while providing a gesture aimed to encourage them to stay enrolled. This amount is not intended to be paid as a lump sum, but may be offered to participants in the form of petrol vouchers which can be ‘topped up’ regularly. Broken down over the entire course, the \$3000 is the equivalent of \$93.75 per week, or \$18.75 per day. 3 x students per year = \$9000 Over 10 years = \$90,000.</p> <p>Legal and engagement costs to establish MoUs with partner stakeholders \$20,000.</p> <p>IT work for online applications at \$1000 per annum = \$10,000. Applicants who wish to apply for funding from the Tūwharetoa Māori Trust Board to undertake this training will be required to apply online. Therefore,</p>
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	<p>the appropriate platform will need to be generated and maintained over the 10 years of this project.</p> <p>Personal protective equipment Allowance for personal protective equipment such as gumboots for spraying, steel cap boots for chainsaw work, safety glasses, etc at \$1000 per year = \$30,000.</p> <p>A regulation may be put in place requiring the selected participants to obtain quotes from preferred suppliers (yet to be identified, but will be of industry standard), which Ngāti Tūwharetoa can then pay for from this amount.</p> <p>Project management/staffing/incidentals (20%) This initiative will cover the costs incurred in delivering this project. Such things will include iwi liaison, media, stakeholder engagement (initial MoU development), recruitment of participants, identification of ‘real world’ opportunities for the implementation of unit standards earned, and other things as they arise.</p>
Risks to project success	<ul style="list-style-type: none"> - Participants pulling out - Partners/stakeholders leaving the programme - Drop in applicants - Low numbers graduating - No suitable training provider - Failure of memorandums of understanding to be established between the Tūwharetoa Māori Trust Board and key organisations including but not limited to the Ministry of Social Development, Department of Conservation and training organisations. - Flooding the employment market with newly qualified graduates. For this reason, the annual intake is expected to have no more than 3 Ngāti Tūwharetoa descendants.
Land tenure – likelihood of adoption and adoption circumstances	N/A
Knowledge gaps and response	No known knowledge gaps.
Project duration (years)	10 year project, to be reviewed after 5 years.

Costs	New Zealand Certificate in Conservation (Operations) (Level 4)	
	Cost (\$) per annum	
	Programme cost	\$170,370
	Travel grants	\$90,000
	Personal protective equipment	\$30,000
	Legal costs	\$20,000
	IT	\$10,000
	Project management/staffing/incidentals (20%)	\$64,074
	Total	\$384,444

Tūwharetoa 2	Wānanga for all 8 Ngāti Tūwharetoa Area B marae
Priority: Very high	
Project summary	This project seeks to find the current views of Ngāti Tūwharetoa Area B marae in order to update its River Action Plan as required. Also, the aim of these wānanga are to find sites of significance that require acknowledgement and potential remediation.
Vision for project	Provide Ngāti Tūwharetoa descendants with an opportunity to contribute to identifying future works within the Area B catchment that ensure the principles, hopes and aspirations outlined in Te Ture Whaimana are implemented.
Location	Ōruanui Marae and Waipāhīhī Marae due to the location of both marae being central for attendees from all Ngāti Tūwharetoa Area B marae. However, other marae may be considered based on availability.
Brief description of site	N/A
Key threats/issues	Historically, people may not have had the opportunity to participate and contribute to this process.
Project goal/s (SMART)	<p>Within one year, Ngāti Tūwharetoa descendants have had the opportunity to contribute to identification of future priority works in relation to the catchment.</p> <p>Dialogue surrounding mana whenua is enhanced with Ngāti Tūwharetoa Waikato Awa Area B Marae descendants, leading to more accurate recording of concerns within the Waikato River marae members.</p> <p>Within one year, accurate GIS spatial maps (ghost layers may be considered) will be produced for Ngāti Tūwharetoa's upper Waikato River marae showing sites of significance to be worked on.</p>
Works required	<p>These wānanga are primarily an information gathering exercise. They are also an opportunity for marae members to contribute to potential future works, while feeling heard and connected with the awa.</p> <p>The wānanga will be up to two days duration and preferably held in the weekend to allow whanau who work the opportunity to attend. However, if marae are booked then a mid-week wānanga may be considered.</p> <p>Whanau will gather at Ōruanui and Waipāhīhī marae (dates to be decided upon). After proper tikanga and kawa is adhered to, the wānanga will begin with an appropriately trained and experienced facilitator (yet to be sourced) who will run mini wānanga to target sought after information.</p> <p>Wānanga may run in a way that gathers information on the first day, and provides a summary on the second day, with an opportunity for clarification. Large maps will be sourced for use at the wānanga for</p>

	<p>identification of significant sites. If the maps are not detailed enough then GOOGLE Earth may be used.</p> <p>Questions to be asked may include:</p> <ul style="list-style-type: none"> - What significant sites are you aware of within the rohe? - What do you think should be done to protect them? - Can you list: mahinga kai, taniwha, puna, awa and tributaries of significance? - Mapping exercise - Others to be identified but will be decided upon in collaboration with the marae working group for the Waikato River, Te Kaihautu o te Awa o Waikato. <p>The GIS analyst will create maps to show sites of significance to Tūwharetoa river hapū. They will also make maps to identify the local and overall catchment. This is of particular importance as some whanau may not be aware of the extent of the catchment and how the wider environment impacts upon sites of significance. The GIS analyst will also be required to make themselves available to answer any questions asked by whanau while at the wānanga. There may also be an opportunity for the analyst to show whanau members how to use GIS apps from the app store to help them, and projects, in the future.</p> <p>Costings</p> <ul style="list-style-type: none"> - Kaikaranga and kaikōrero \$1000 per pōwhiri (total of 2 pōwhiri – \$2000). - Pōwhiri costs for each set of wānanga \$18,000 (\$1500 per 20 people at each marae including kōha, kai and venue – 2 days). - Facilitator \$6400 (2 days x 2 wānanga). - GIS spatial mapping consultant to generate maps \$10,000. - Travel expenses for approximately < 60 people per wānanga \$4000. <p>Project management/staffing/incidentals (15%)</p> <p>A project manager will be required to coordinate all facets of this project. This is estimated to be 15% of project costs.</p>
Risks to project success	<ul style="list-style-type: none"> - Whanau not being able to make it to the wānanga due to external commitments or lack of funding for fuel. - There is a risk that none of the younger generation will feel comfortable adding their thoughts due to potentially clashing with kaumatua. - GIS analyst not being available on the weekend that the wānanga run.
Land tenure – likelihood of adoption and adoption circumstances	N/A
Knowledge gaps and response	This project relies on being able to contract an appropriately trained and capable facilitator and capable GIS analyst.
Project duration (years)	1 year project

Costs	Works description		Cost (\$)	
	Kaumatua (kaikaranga and kaikōrero)		2000	
	Transport		4000	
	Pōwhiri		18,000	
	Facilitator		6400	
	GIS mapping consultant		10,000	
	Project management/staffing/incidentals (15%)		6060	
	Total Cost		\$46,460	

Tūwharetoa 3	Multi phased Ngāti Tūwharetoa archives project
Priority: Very high	
Project purpose and summary	<p>The purpose of this project is to identify, collect, collate, describe, reformat, reproduce and preserve Ngāti Tūwharetoa’s documentary sources of significant historical and cultural information pertaining to the taonga tuku iho (natural resources) of the upper Waikato River, including their management and utilisation.</p> <p>The project is segmented into 3 phases. Phases 1 and 2 are of very high priority for Ngāti Tūwharetoa. Phase 3 is important but is intended for implementation over the longer term.</p> <p>Phase 1 is intended to commence with urgency to prevent further erosion of oral historical information as a result of debilitation or the passing of elders who are the living holders of this information. This phase will focus on identifying and obtaining the consent of living pakeke and kaumatua for the purpose of recording their memories of lifetime events and experiences and focus on information pertaining to kaitiakitanga o Te Awa o Waikato, surrounding whenua and related taonga.</p> <p>Phase 2 is also high priority because it seeks to identify important and recorded but not obviously or readily available sources of historical and cultural information pertaining to kaitiakitanga and sustainable use practices and experiences relating to Te Awa o Waikato and its related taonga.</p> <p>There is urgency to identify, collate and access this information because it provides verification of Ngāti Tūwharetoa mātauranga, values and tikanga. This is the baseline starting point to enable Ngāti Tūwharetoa hapū to implement the vision and objectives of Te Ture Whaimana within a Ngāti Tūwharetoa cultural and spiritual context, verify their legitimacy and achieve a basis from which to evaluate ‘success’ within the transformative arrangements of co-governance and co-management under the Waikato River statutes.</p> <p>Due to the urgency of phase 1 and 2 it is proposed that they both run concurrently.</p> <p>The purpose of phase 3 is primarily to reformat, reproduce and preserve Ngāti Tūwharetoa’s documentary sources so that they can be accessed, utilised and transmitted in appropriate medium. Given the differing time sequences involved in collating information within phases 1 and 2, and</p>

	<p>the need to access and utilise this information to progress objectives and processes for the implementation of Te Ture Whaimana, parts of phase 3 may begin prior to the completion of phase 1 and phase 2.</p>
<p>Project engagement</p>	<p>Phase 1 Engage Ngāti Tūwharetoa elders and persons who whakapapa to hapū and marae contained within Area B of the settlement legislation. In addition, elders and wananga participants who have lived in Area B or along the Waikato River may also be engaged for recordings where their lifetime experiences and knowledge is relevant to the purpose of this phase.</p> <p>Phase 2 Primary sources of information relating directly to Te Awa o Waikato and its taonga include:</p> <ul style="list-style-type: none"> - Ngāti Tūwharetoa trusts' and incorporations' private 'archives' that may or may not be in any systematic form and for which many have not been identified - Hapū, whanau, individuals' and working committees' archives. Many of these are in different states of care and consent for access is necessary. <p>External sources of relevant information:</p> <ul style="list-style-type: none"> - government agencies and state owned enterprises - external institutional archives – records from local, regional and national government agencies - research organisations – NIWA, Landcare NZ, GNS, Scion, etc - libraries - academic institutions, including universities, technical institutes (sources include research projects, theses and dissertations for advanced degrees, as well as the results of funded research web search engines) - news media (newspapers, magazines, and radio and TV archives may hold recordings or articles) - business and industry institutions, eg Genesis, Mercury, tourist companies - advocates and watchdog organisations may collect relevant data, including community activists and individuals may have useful information, Museums and National Archive. <p>Some of the types of repositories mentioned above may incorporate a museum or contain libraries and/or archives.</p> <p>Phase 3 Reformatting, reproduction and preservation of documentary sources requires engagement with and the consent of each organisation or individual from which material is sourced. It also requires expert advice on options, conditions and protocols.</p>

Location	<p>Phase 1 will see the majority of the works being undertaken around the countryside depending on where the kaumatua are living. Occasionally interviews can be filmed on marae, however some individuals who are ill or infirm, or simply unable to travel, may need to be interviewed at their place of residence.</p> <p>All archives gathered will be relevant to Area B (of the upper Waikato River) in relation to the river settlement legislation.</p>
Brief Description of site	N/A
Key threats	<p>Phase 1</p> <ul style="list-style-type: none"> - The loss of information to establish the vital Ngāti Tūwharetoa knowledge that is necessary to validate and substantiate tikanga, kawa, mātauranga pertaining to taonga tuku iho within Area B (upper Waikato River, its tributaries, adjoining whenua, water body habitat (fishery and biophysical), metaphysical attributes). - Loss of knowledge and information of events and experiences of persons who witnessed or were recipients of information of particular practices, rituals, events relating to kaitiakitanga and rangatiratanga or its application to taonga tuku iho within Area B or other parts of te rohe o Ngāti Tūwharetoa. - Further delays would put at risk the opportunity to gather information from elderly and those who may be debilitated through illness. - Further loss of the above information erodes the ancestral connection between Ngāti Tūwharetoa and their ancestral taonga. - River/water and adjoining land activities within Area B are allowed to be undertaken without taonga tuku iho being subjected to representative due diligence (identification and articulation of values and cultural and metaphysical attributes or their representation within planning, management and monitoring documents), that properly reflects and enables delivery of Ngāti Tūwharetoa expectations, co-governance and co-management processes. - Sites and features left unidentified may become irreparably damaged or forgotten as features of past hapū or whanau experience, occupation, use and history. - No base system or format has yet been created to enable Ngāti Tūwharetoa descendants of specific taonga within the rohe. <p>Phase 2</p> <p>Information may exist as paper files (manuscripts, letters, photographs, books, and diaries), recorded form (moving image and sound materials), artwork, artifacts, and as digital equivalents of all of these on electronic storage – computer disks, CDs, DVDs, etc.</p> <ul style="list-style-type: none"> - All key threats identified in phase 1 are applicable to phase 2. - Loss, destruction or damage to all forms of relevant documentation is a risk without detection of, or delays in, identifying sources. - Archives have <u>specific guidelines</u> for how people may access and use collections. The sources of information being collated or contained

	<p>within them must be appropriately and securely protected from physical damage and theft.</p> <p>Phase 3</p> <ul style="list-style-type: none"> - Archives may become progressively damaged and/or indecipherable. - External stakeholders may redecorate, renovate or inadvertently destroy taonga (e.g. letters, photographs, books and reports) without being aware of the significance of those taonga.
Project goals (SMART)	<p>Phase 1</p> <ul style="list-style-type: none"> - Within one year of project commencement, information gathering has been successfully undertaken and interviews have been recorded for up to 30 kaumatua. - Data has been secured in the Tūwharetoa archives and mapped as required. - Within the two years of project commencement, the physical resource (booklet) has been created and distributed to key stakeholders (interviewees, Area B marae, potentially made available online (decision pending) and the Tūwharetoa Māori Trust Board). <p>Phase 2</p> <ul style="list-style-type: none"> - Within one year of project commencement, the archives held at the Tūwharetoa Māori Trust Board's storage area in Turangi have been reviewed for data relating to Area B of the Waikato River and its catchment. - Archives held at the Tūwharetoa Māori Trust Board's offices in Taupō have been collected and collated, or made known for phase 3. - External stakeholders have been identified along with sources of information known to or held by them. - External stakeholders have been identified for further exploration in phases 2 and 3. <p>Phase 3</p> <ul style="list-style-type: none"> - Within four years of the commencement of this project, all available archive information has been sourced, secured and recorded in the database with successful, key relationships built between internal and external stakeholders. - Data collected has been incorporated into literature which may influence the Ngāti Tūwharetoa River Action Plan. - Taonga held at various whare-taonga has been visited, recorded, and appropriate respects paid.
Works Required	<p>Engage Ngāti Tūwharetoa elders and persons who whakapapa to hapū and marae contained within Area B of the settlement legislation. In addition, elders and wānanga participants who have lived in Area B or along the Waikato River may also be engaged for recordings where their lifetime experiences and knowledge is relevant to the purpose of this phase.</p> <p>Phase 1</p>

Current archives that Ngāti Tūwharetoa hold will be explored for information relevant to the Waikato River. When found, information will be:

- secured and maintained in digital format
- translated and transcribed as required
- regularly updated and made available to the Tūwharetoa Māori Trust Board and Te Kaihautu o te Awa o Waikato (formerly Marae Working Group).

Information gathering

- Kaikārangā and kaikōrero for up to eight pōwhiri (\$500 per person = \$1000.00 x 8) **\$8000.**
- Potential pōwhiri costs for each set of interviews (marae including kōha, kai and venue hireage of \$1500 per pōwhiri) **\$12,000.**
- Koha of \$500 for each of the 30 kaumatua being interviewed **\$15,000.**
- Contractor to video record and edit interviews **\$15,000.**
- Interviewer (\$100 per hour x 5 hours per interview) **\$10,000.**
- GIS consultant to spatially map any identified significant sites **\$10,000.**

Development of booklets

- Translation and transcription of interviews (up to 4 hours for each hour of recording when needing translation) **\$30,000.**
- Design contractor to design booklets **\$7000** (based on a quoted price).
- Contractor to print 500 booklets **\$9000** (based on a quoted price).

Phase one amount required **\$116,000.**

Phase 2

Information gathering

- Kaikārangā and kaikōrero for up to eight pōwhiri (\$500 per person = \$1000 x 8) **\$8000.**
- Potential pōwhiri costs (marae including kōha, kai and venue hireage of \$1500 per pōwhiri) **\$12,000.**
- One-on-one hui with stakeholders collating data at \$100 per day for approximately half of the project with the other half being undertaken in the office. Therefore, half of eight months is approximately 16 weeks at \$100 per working day **\$8,000.**

Information processing

- Pro rata (\$60,000) archivist to collect and safely collate and store documents for up to eight months **\$40,000.**
- Storage containers to store documents at \$23 x 30 = **\$690.**
- GIS Consultant **\$10,000.**

Phase two amount required = **\$78,690.**

Phase 3

Information gathering

	<ul style="list-style-type: none"> - Kaikārangā and kaikōrero for up to eight pōwhiri (\$500 per person = \$1000 x 8) \$8000. - Potential pōwhiri costs (marae including kōha, kai and venue hireage of \$1500 per pōwhiri) = \$12,000. <p>Information processing</p> <ul style="list-style-type: none"> - GIS consultant \$25,000 - Archivist to collect and collate data, and find new sources to grow our archives. This person should be of Ngāti Tūwharetoa descent so the iwi can continue to grow its capacity. They will have a minimum of a Bachelor of Arts \$150,000. <p>Phase 3 amount = \$195,000.</p> <p>Grand total = \$389,690.</p> <p>Project management/staffing/incidentals (25%)</p> <p>Project management for this project is estimated to be 25% of the project cost and will cover the costs associated with organising hui, iwi liaison, procurement of contractors and project co-ordination. It will also cover incidentals such as printing and stationery.</p>						
RISKS to project success	<ul style="list-style-type: none"> - Kaumatua may be resistant as some similar projects have been done in the past (if this occurs, they will be reassured that phase 2 will focus on accessing this data) - Descendants of people who have now passed, or will pass, may not allow taonga to be collected or copied for use in decision making. These include but are not limited to in-house decisions, RMA applications and Environmental Court hearings. - Internal political concerns as some hapū may be reluctant to share their taonga (or copies of), regardless of this project being in aid of securing its mātauranga for Ngāti Tūwharetoa. - Unwillingness to share if archiver is not of Ngāti Tūwharetoa descent. - General reluctance to cooperate. 						
Land tenure and likelihood of adoption	N/A						
Knowledge gaps and response	No known knowledge gaps.						
Project duration (months)	<p>Phase 1 - 24 months</p> <p>Phase 2 - 8 months</p> <p>Phase 3 - 36 months</p>						
Costs	<p>Phase 1</p> <table border="1" data-bbox="470 1915 1292 2040"> <thead> <tr> <th data-bbox="470 1915 1125 1960">Works description</th> <th data-bbox="1125 1915 1292 1960">Cost (\$)</th> </tr> </thead> <tbody> <tr> <td data-bbox="470 1960 1125 2004">Information gathering</td> <td data-bbox="1125 1960 1292 2004"></td> </tr> <tr> <td data-bbox="470 2004 1125 2040">Kaikaranga and kaikōrero for pōwhiri</td> <td data-bbox="1125 2004 1292 2040">\$8000</td> </tr> </tbody> </table>	Works description	Cost (\$)	Information gathering		Kaikaranga and kaikōrero for pōwhiri	\$8000
Works description	Cost (\$)						
Information gathering							
Kaikaranga and kaikōrero for pōwhiri	\$8000						

Pōwhiri/hui costs	\$12,000
Koha for kaumatua being interviewed as experts	\$15,000
Filming and editing	\$15,000
Interviewer	\$10,000
GIS consultant	\$10,000
Booklet development	
Translation and transcription	\$30,000
Booklet design	\$7,000
Booklet printing	\$9,000
Total	\$116,000

Phase 2

Information gathering	
Kaikaranga and kaikōrero for pōwhiri	\$8,000
Pōwhiri/hui costs	\$12,000
One- on-one hui with stakeholders	\$8,000
Information processing	
GIS consultant	\$10,000
Archivist	\$40,000
Storage bins	\$690
Total	\$78,690

Phase 3

Information gathering	
Kaikaranga and kaikōrero for pōwhiri	\$8,000
Pōwhiri costs	\$12,000
Information processing	
GIS consultant	\$25,000
Archivist	\$150,000
Total	\$195,000

Subtotal = \$389,690

Project management/staffing/incidentals (25%) = \$116,907

Grand total = \$506,597

Tūwharetoa 4	Fencing of Ngāti Tūwharetoa sites of significance
Priority: High	
Project summary	This project aims to provide up to 80km of fencing at sites of significance within Area B of the Waikato River.
Vision for project	Sites of significance are well fenced, to a minimum of five wire (2 electric), to safeguard significant sites from further mistreatment and disturbance. Fencing will improve the health and safety of taonga when used by tāngata whenua.
Location	<p>Various marae and tributaries throughout the catchment from Te Toka a Tia to Waipapa River. This potential project has been identified via several hui and wānanga.</p> <p>In particular, sites of significance must be related to the waterways via the main stem or associated tributaries, which include:</p> <ul style="list-style-type: none"> - uru pā - wāhi tapu - wāhi tupuna - mahinga kai - māra - kainga - puna - taniwha - caves - wetlands - battle sites - Treaty sites - rivers - streams - lakes - borrow pits - avian corridors - swimming holes and bathing sites - geothermal fields - marae.
Brief description of site	Sites noted above within Area B.

Key threats/issues to the sites	<table border="1"> <thead> <tr> <th>Threat</th> <th>Impact on sites</th> </tr> </thead> <tbody> <tr> <td>Access to sites</td> <td> <p>Ideally tāngata whenua will be able to access all sites of significance without any issues arising with owners preventing access. However, this is unlikely to occur so:</p> <ul style="list-style-type: none"> - tāngata whenua become less connected with their significant sites and are less likely to visit and maintain them - animosity builds between the landowners and tāngata whenua - taonga are irreparably damaged and/or destroyed. </td> </tr> <tr> <td>Environmental conditions from the upper catchment</td> <td> <ul style="list-style-type: none"> - Some environmental conditions, such as flooding, slips and overgrown accessways may cause health and safety concerns for people wanting to access significant sites. - High levels of sediment suspension and deposition within streams and rivers can damage significant sites and sensitive organisms. </td> </tr> <tr> <td>Vegetation</td> <td>Overgrown exotic vegetation can shade out native vegetation. Weeds could also cause issues with site access and safety while navigating waterways and pathways. Many noxious and introduced weeds are spread by animals. By excluding animals this would help to prevent this from occurring.</td> </tr> <tr> <td>Animals (e.g. pigs, cows, deer, etc)</td> <td> <ul style="list-style-type: none"> - Trampling and pugging of soils leads to increased erosion impacting upon growth of plants and sedimentation of waterways that were historic kai gathering sites. This also includes fisheries. - Increased levels of E. coli in the ecosystem. - Selective grazing can occur leading to exotic plants overgrowing endemic vegetation. </td> </tr> </tbody> </table>	Threat	Impact on sites	Access to sites	<p>Ideally tāngata whenua will be able to access all sites of significance without any issues arising with owners preventing access. However, this is unlikely to occur so:</p> <ul style="list-style-type: none"> - tāngata whenua become less connected with their significant sites and are less likely to visit and maintain them - animosity builds between the landowners and tāngata whenua - taonga are irreparably damaged and/or destroyed. 	Environmental conditions from the upper catchment	<ul style="list-style-type: none"> - Some environmental conditions, such as flooding, slips and overgrown accessways may cause health and safety concerns for people wanting to access significant sites. - High levels of sediment suspension and deposition within streams and rivers can damage significant sites and sensitive organisms. 	Vegetation	Overgrown exotic vegetation can shade out native vegetation. Weeds could also cause issues with site access and safety while navigating waterways and pathways. Many noxious and introduced weeds are spread by animals. By excluding animals this would help to prevent this from occurring.	Animals (e.g. pigs, cows, deer, etc)	<ul style="list-style-type: none"> - Trampling and pugging of soils leads to increased erosion impacting upon growth of plants and sedimentation of waterways that were historic kai gathering sites. This also includes fisheries. - Increased levels of E. coli in the ecosystem. - Selective grazing can occur leading to exotic plants overgrowing endemic vegetation.
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Project goal/s (SMART)	Within 10 years of project commencement, 80km of fencing has been completed protecting sites of significance.										
Works required	<p>Fencing Construct up to 80km of fencing to a minimum of 5 wire (2 electric) fencing (\$8 per metre over 80km = 80,000 meters) to protect significant sites \$640,000. Note, 80km is an estimate and actually fencing requirements may differ.</p> <p>GIS mapping This would involve mapping all the work that has been undertaken and ground truthing the works to ensure maps have been done correctly. GIS</p>										

	<p>can also be used to cost projects due to the undulating surface features on the environment, \$2500 per annum. Total cost \$25,000.</p> <p>Project management/staffing/incidentals (20%)</p> <p>A project manager will be required to manage the delivery of this project. This will include iwi liaison, media, stakeholder engagement and liaison. Liaison will be undertaken between iwi, hapū, owners and GIS analysts to ensure all works are being undertaken to an appropriate and acceptable standard.</p>										
Risks to project success	<ul style="list-style-type: none"> - Lack of access to streams and farms as some private landowners may not provide permission to access priority sites and undertake works. - Lack of tāngata whenua involvement in identifying sites for protection. - Farm stock may cause concern if they are aggressive and left in the same area. 										
Land tenure – likelihood of adoption and adoption circumstances	Sites are still yet to be identified but are likely to include a mix of private, Crown and iwi owned lands. It is anticipated that fencing will be strongly adopted by stakeholders.										
Knowledge gaps and response	<ul style="list-style-type: none"> - Sites of significance that require fencing have not yet been identified. This will need to be undertaken prior to this project taking place. - Identification of sites can cause concerns – contact with marae committees will occur and media (social media and newspapers) will be used to identify sites to fence for protection and restoration. 										
Project duration (years)	10 year project										
Costs	<table border="1"> <thead> <tr> <th>Works description</th> <th>Cost (\$)</th> </tr> </thead> <tbody> <tr> <td>80km fencing</td> <td>640,000</td> </tr> <tr> <td>GIS mapping</td> <td>25,000</td> </tr> <tr> <td>Project management/staffing/incidentals (15%)</td> <td>99,750</td> </tr> <tr> <td>Total</td> <td>\$764,750</td> </tr> </tbody> </table>	Works description	Cost (\$)	80km fencing	640,000	GIS mapping	25,000	Project management/staffing/incidentals (15%)	99,750	Total	\$764,750
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Tūwharetoa 5	Ngāti Tūwharetoa mātauranga and science educational wānanga
Priority: High	
Project summary	<p>This project aims to provide Ngāti Tūwharetoa descendants with the skills that they require as kaitiaki to restore and protect the environment. Furthermore, this project seeks to build ongoing, collaborative relationships with Taupō nui a Tia and Tauhara high schools. Also, this project seeks to provide a platform where students and teachers can incorporate project data in standards and achieve NCEA level 1, 2 or 3 credits resulting in mutually beneficial outcomes.</p> <p>Alongside the implementation of citizen science through respective school involvement, fisheries experts will demonstrate fish sampling techniques, including electrofishing. It is intended that students may be inspired to continue into higher education to build their, and the iwi's, capacity.</p>
Vision for project	<ul style="list-style-type: none"> - Reconnect Ngāti Tūwharetoa tamariki and whanau to sites of significance. - Identify traditional mahinga kai sites for ongoing investigation. - Use traditional methods, eg tau koura and/or hīnaki, and possibly others to sample the waterways. - Employ the use of western sampling methodologies, such as electrofishing techniques, to sample waterways. - Wānanga with schools teaching students how to use mātauranga and western science to identify and potentially reinvigorate mahinga kai. - Work with Ngāti Tūwharetoa rangatahi, through their schools, to develop their knowledge of taonga tuku iho, korero tupuna and whakapapa through tailored education and cultural programmes. - Work collaboratively with other Iwi associated with the catchment, such as Ngāti Tahu-Ngāti Whaoa, to build and maintain relationships.
Location	A local stream (yet to be identified, but hoped to be the Pueto Stream) and the two largest high schools in Taupō (Taupō nui a Tia and Tauhara colleges).
Brief description of site	To be discussed and agreed with the two high schools, however, the Pueto Stream has high cultural capital and has been identified for works via the Waikato River Restoration Strategy process and also by Ngāti Tahu-Ngāti Whaoa.
Key threats/issues	<ul style="list-style-type: none"> - People become less connected with Pueto Stream and less likely to visit and maintain. - Loss of cultural connection with the site and therefore a decreased level of identifying to the Pueto Stream. - Education that does not meld the local environment into education outside the classroom (EOTC) opportunities can lead to students of Tūwharetoa descent becoming less engaged.

Project goal/s (SMART)	<ul style="list-style-type: none"> - Annually, students have been taught how to incorporate basic scientific and mātauranga Māori tools for fisheries management. - Annual implementation of citizen science and school monitoring of the sites where the information gathered can then be used for reporting. - Within two years of commencement, students are achieving NCEA credits in science and possibly other subjects. These 'schemes' will deliberately be integrated into the school's curriculum where the teachers can align EOTC and credits. <p>Note: This project is not designed to deliver NCEA credits, but to engage with schools who will deliver their own material in conjunction with the NCEA standards. Once the data is obtained, the schools can then use it to create long-term data sets which can be used at their leisure.</p> <ul style="list-style-type: none"> - Every two years, students participate in field sampling techniques and are able to engage with scientists and contractors.
Works required.	<p>Experts/contractors</p> <ul style="list-style-type: none"> - Experts and kaumatua will be required on each fieldtrip to ensure all tikanga and kawa are followed – 10 years at 6 visits each year (\$500 per day) = \$30,000. - Transport for kaumatua (\$100 per day) \$6000. - Contractors to undertake fisheries research using traditional mātauranga Māori methods and electrofishing methodologies (6 days – 3 with each high school) per year at \$2000 per day (\$12,000 p.a) = \$120,000. <p>Venue</p> <ul style="list-style-type: none"> - Hireage of Taupō nui a Tia school marae to re/train students in the use of tau koura \$100 per day prior to them undertaking EOTC. For use twice a year over 10 years = \$2000. - Hireage of Tauhara school marae to re/train students in the use of tau koura \$92 per day prior to them undertaking EOTC. For use twice a year over 10 years = \$1840. - Development of SMART goals with targeted schools to ensure alignment with NCEA standards = \$5000. <p>Technical equipment</p> <p>Equipment required to undertake works in the environment and gather field data:</p> <ul style="list-style-type: none"> - vernier callipers with protective case to measure the occipital carapace length of koura, \$53.29 each x 10 = \$532.90 - digital scales to weigh koura (5 year warranty) x 4 (2 every 5 years) at \$55.00 = \$220 - shelter x 3 (1 x for instruments and 2 for kaumatua) at \$500 each = \$1500 - folding table \$259.98 - hi-viz vest for students, kaumatua and others at \$15 x 100 = \$1500 - 54L fish bins for the transport of field equipment and the holding of any fish and koura while being processed x 4 at \$19.99 each = \$79.96. <p>Project management/staffing/incidentals (30%)</p>

	<p>This project requires the development of targeted educational opportunities. The project manager will work alongside Taupō nui a Tia and Tauhara colleges to design curriculum schemes that teachers are happy to deliver. Further, the project manager will introduce and facilitate engagement with scientists and/or contractors who are working in these fields.</p> <p>The project manager will be responsible for landowner engagement. The project manager may be required to help the teachers develop teaching resources and field sheets in conjunction with contractors.</p> <p>Most of the work and liaison with training providers can be directed from the Tūwharetoa Māori Trust Board offices in Taupō.</p>
Risks to project success	<ul style="list-style-type: none"> - Lack of school participation. - Landowners no longer allowing access to selected stream.
Land tenure – likelihood of adoption and adoption circumstances	N/A
Knowledge gaps and response	<p>Knowledge gaps:</p> <ul style="list-style-type: none"> - Principals – school principals may be unaware and cautious of such projects. - Tikanga, kawa and historical – all advice regarding sites of significance relating to the Pueto Stream is to be delivered by kaumatua who have standing within their communities. - Scientific – all scientific education to be delivered by experts who are knowledgeable and relatable. Preferably they will be knowledgeable in mātauranga and western science practices. - Schools – schools do not have a unit standard that can use this project. - Resources – schools do not have required resources. <p>Responses:</p> <ul style="list-style-type: none"> - Liaison with school principals and subject heads to build excitement surrounding this project. - Build in-house capability within Ngāti Tūwharetoa to deliver the material. Contract mātauranga and science work to a contractor with the required skills. - Use Ngāti Tūwharetoa descendants who have the skills required, or have upskilled themselves as much as possible. - Liaison with schools to identify suitable unit/achievement standards where data from this project can create ‘project based’ outcomes. - Liaison should occur with schools to develop the required resources and aim in scheme development.
Project duration (years)	10 year project

Costs	Works description	Cost (\$) per annum
	Experts	
	Expert advice – kaumatua	\$30,000
	Expert advice – fisheries scientist(s)	\$120,000
	Transport for kaumatua	\$6000
Venue hireage for EOTC prep		
	Hireage of school marae	
	Tauhara	\$1840
	Taupō nui a Tia	\$2000
	Development of SMART goals that align with curriculum	\$5000
Technical equipment		
	Digital callipers	\$532.90
	Digital scales	\$220
	Shelter x 3	\$1500
	Folding table	\$259.98
	Hi-viz vests	\$1500
	Fish bins	\$79.96
	Project management/staffing/incidentals (30%)	\$50,679.85
	Total	\$219,612.69