

APPENDIX ELEVEN

Te Arawa River Iwi Project Assessments


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NKNT & TNW 1 Ngāti Kearoa-Ngāti Tuarā	Ngāti Kearoa-Ngāti Tuarā kōura and tuna restoration
Priority: High	
Project summary	<p>This project was rated a high priority by Ngāti Kearoa-Ngāti Tuarā at the wānanga held to identify restoration priorities. Traditionally, the Ngāti Kearoa-Ngāti Tuarā area was abundant with mahinga kai, including tuna and kōura. This project will restore and enhance tuna and kōura access within the Ngāti Kearoa-Ngāti Tuarā rohe.</p>
Vision	<p>Kōura and tuna are abundant, healthy and available for customary use.</p>
Location	<p>The project is located on a Māori owned farm site known to Ngāti Kearoa-Ngāti Tuarā Trust, adjacent to a Waikato River tributary within the Ngāti Kearoa-Ngāti Tuarā rohe.</p>
Brief description of site	<div data-bbox="544 723 1377 1189" data-label="Image"> </div> <p>This project is significant as historically the waterways of Ngāti Kearoa-Ngāti Tuarā were full of eels and kōura, and water birds abounded. The bush was also full of birds and, at that time, the people lived well due to the plentiful resources.</p> <p>Ngāti Kearoa-Ngāti Tuarā customary taonga fish species include tuna (longfin eel), kōura, kōaro, kōkopu and morihana.</p> <p>These species are no longer as abundant as they previously were. This project aligns with the TARIT Fisheries Portfolio Accord 2010 which outlines aspirations to restore these important taonga (tuna and kōura) fisheries species.</p>
Key threats/impacts	<p>Loss of mātauranga Māori/traditional knowledge of taonga species. Disconnection from customary fishing practices and knowledge. Fish stocks have declined significantly as a result of barriers (e.g. hydro dams, culverts), degraded water quality and habitat loss. Aquatic pests (animals and plants) having an adverse impact on taonga fish species. Access to waterways.</p>
Project goal/s (SMART)	<p>Within 3 years of the project commencing, kōura and tuna ponds are constructed on the site. Within 5 years of the project commencing, tuna and kōura are being utilised by Ngāti Kearoa-Ngāti Tuarā for customary purposes.</p>

Project actions/works required	<p>Works could be implemented at Ngāti Kearoa-Ngāti Tuarā or Te Arawa River Iwi Trust level.</p> <p>Co-funding contributions from other interested partners to assist Ngāti Kearoa-Ngāti Tuarā or TARIT with completing this project would be welcomed.</p> <p>Project plan (\$20,000) Develop detailed project and construction plan for tuna ponds, and obtain any consents as necessary.</p> <p>Construct tuna and kōura ponds (\$97,211) Complete earthworks (\$23,600). Riparian planting around pond (1 hectare at \$44,881). Fencing 800m at \$20 per metre (\$16,000). Add wood or punga structure for kōura habitat enhancement (kōura food and shelter) (\$5000).</p> <p>Transfer of tuna and kōura (\$10,000) Obtain transfer authorisation as necessary (ie Upper River Fisheries Regulations). This would require engagement with upper river iwi and Ministry for Primary Industries. Complete transfers.</p> <p>Capacity building (\$21,000) Whakarite ceremonies including koha for kaumatua and kuia (\$6000). 10 tuna and kōura wananga at \$1500 (\$15,000)</p> <p>Project management/staffing/incidentals (26%) Manage the project; engage with Ngāti Kearoa-Ngāti Tuarā/TARIT; landowner liaison to access site; engage with experts to construct ponds; engage with nurseries and planting crews; provide monitoring and milestone reports over a 4 year period.</p>
Risks to project success	Failure to gain consent for translocations
Land tenure – likelihood of adoption and adoption circumstances	Owned by the iwi. Very high likelihood of adoption.
Knowledge gaps and response	Final design of ponds is still to be confirmed
Project duration (years)	4 years

Costs		
	Work description	Cost (\$)
	Project plan	20,000
	Construct tuna and kōura ponds (earthworks)	23,600
	Fencing 800m x \$20 per metre	23,730
	Planting around pond (1 hectare)	44,881
	Install wood structure	5000
	Transfer of tuna/kōura	10,000
	Capacity building (tuna and kōura wānanga)	21,000
	Project management/staffing/incidentals (26%)	39,485
	Total	187,696

NKNT & TNW 2 Ngāti Kearoa-Ngāti Tuarā	Ngāti Kearoa-Ngāti Tuarā watercress restoration
Priority: High	
Project summary	This project was identified as a high priority by Ngāti Kearoa-Ngāti Tuarā. It would see an important traditional kai restored at up to 20 traditional watercress sites around the marae and papakainga in the Ngāti Kearoa-Ngāti Tuarā rohe.
Vision	Whanau are able to harvest watercress from their traditional and/or hydroponic sites and continue the cultural practices of transferring intergenerational knowledge whilst re-establishing their relationship with their tupuna awa.
Location	The project is located within the Ngāti Kearoa-Ngāti Tuarā rohe in the Waikato River catchment.
Brief description of site	 <p>Up to 20 sites will be selected and restored as determined by Ngāti Kearoa-Ngāti Tuarā.</p>
Key threats/impacts	Loss of Ngāti Kearoa-Ngāti Tuarā mahinga kai knowledge and ability to transfer that knowledge.
Project goal/s (SMART)	Within 2 years, watercress is flourishing in up to 20 project sites within the rohe of Ngāti Kearoa-Ngāti Tuarā.

Works required (quantity and description)	<p>Works could be implemented at iwi, hapū, marae or whānau level. This project could be undertaken as a whole, or in components.</p> <p>Watercress restoration (\$100,000) 20 sites at \$5000 per site = \$100,000. Includes project management of 25% (\$20,000). Project manager to carry out landowner liaison, provide reporting information, negotiate agreements, inspect works and pick up and seed watercress. Includes purchase, transport and installation of seedstock (watercress) into 20 sites identified by Ngāti Kearoa-Ngāti Tuarā (\$80,000). Watercress could be purchased from hydroponic suppliers for reinstallation into the wild (in protected areas).</p>								
Risks to project success	<p>Ensuring sites are protected from cattle or other browsing animals. Flooding of identified mahinga kai areas.</p>								
Land tenure – likelihood of adoption and adoption circumstances	<p>Predominantly owned by the iwi. Very high likelihood of adoption.</p>								
Knowledge gaps and response	<p>Unknown why there has been a decline of watercress from traditional sites.</p>								
Project duration (years)	<p>2 years</p>								
Costs	<table> <tr> <th>Work description</th><th>Cost (\$)</th></tr> <tr> <td>Watercress restoration</td><td>80,000</td></tr> <tr> <td>Project management/staffing/incidentals (25%)</td><td>20,000</td></tr> <tr> <td>Total</td><td>100,000</td></tr> </table>	Work description	Cost (\$)	Watercress restoration	80,000	Project management/staffing/incidentals (25%)	20,000	Total	100,000
Work description	Cost (\$)								
Watercress restoration	80,000								
Project management/staffing/incidentals (25%)	20,000								
Total	100,000								

NKNT & TNW 3 Ngāti Kearoa-Ngāti Tuarā	Sharing our story – The Ngāti Kearoa and Ngāti Tuarā/Tarit River iPou project
Priority: High	
Project summary	<p>This project was identified as a high priority by Ngāti Kearoa and Ngāti Tuarā. It provides a means of sharing our knowledge, connection and relationship with the Waikato River and its tributaries, which otherwise could be lost.</p> <p>The project will create a physical network of interactive pou connected to a contextualised database that delivers cultural, historical, spiritual and ecological layers to smart phones and devices, leveraging new developments in apps and content delivery experiences.</p>
Vision	<p>Information/kōrero regarding the restoration and protection of the health and wellbeing of the awa, and the significant connection and mātauranga Māori of Ngāti Kearoa and Ngāti Tuarā with the Waikato River and its tributaries, is available and shared through the use of iPou. This contributes to the ongoing connection of Ngāti Kearoa and Ngāti Tuarā with the awa, whilst also providing an educational and informative cultural experience for all.</p>
Location	<p>The project location is the Waikato River and its tributaries within the Ngāti Kearoa and Ngāti Tuarā rohe.</p>
Brief description of the site	<p>The specific iPou sites will be determined by Ngāti Kearoa and Ngāti Tuarā at locations along the Waikato River and its tributaries within the Ngāti Kearoa and Ngāti Tuarā rohe.</p> <p>Up to 20 sites may be selected due to historical, cultural, spiritual or ecological significance, as determined by Ngāti Kearoa and Ngāti Tuarā.</p> 

Key threats/issues	Loss of Ngāti Kearoa and Ngāti Tuarā knowledge and connection with the Waikato River and its tributaries.
Project goal/s (SMART)	Within 3 years of the project commencing, up to 20 iPou will be standing along the Waikato River within the rohe of Ngāti Kearoa and Ngāti Tuarā.
Project actions/works required	<p>Works could be implemented at Ngāti Kearoa and Ngāti Tuarā or Te Arawa River Iwi Trust level.</p> <p>Co-funding contributions from other interested partners to assist Ngāti Kearoa and Ngāti Tuarā or TARIT with completing this project would be welcomed.</p> <p>Collate information for iPou (\$20,000) Collate information for the sites identified by Ngāti Kearoa and Ngāti Tuarā/TARIT Assume: <ul style="list-style-type: none"> - \$1000 per site to undertake this task. </p> <p>Fabricate and install up to 20 iPou onto the designated river/tributary sites (\$200,000) Engage experienced Māori arts and crafts expert to fabricate and install iPou (e.g. carved pou, or kohatu). Assume: <ul style="list-style-type: none"> - \$10,000 per iPou (fabrication and installation costs) per site = \$200,000. </p> <p>Technology/information loaded and installed into iPou (\$40,000) Engage iPou developer to install information collated through interviews and literature review into the fabricated pou. Upload/install the technology. Assume: <ul style="list-style-type: none"> - \$2000 per pou = \$40,000 </p> <p>Cultural safety (\$10,000) Assume: <ul style="list-style-type: none"> - Whakarite ceremonies/cultural advisors/tohunga to ensure cultural safety of the project. </p> <p>Hui costs (\$7000) Assume: <ul style="list-style-type: none"> - Initial hui with Ngāti Kearoa and Ngāti Tuarā/TARIT to introduce project (\$500 venue/kai). - Reporting back hui (x3) with Ngāti Kearoa and Ngāti Tuarā/TARIT regarding project progress (\$1500 venue/kai). - Unveiling celebration for the iPou (\$5000) </p> <p>Project management/staffing/incidentals (25%) Manage the project; engage with Ngāti Kearoa and Ngāti Tuarā/TARIT to identify sites of significance; landowner liaison; negotiate agreements and engage with iPou developer and iPou fabricator; inspect completed works; organise hui to unveil iPou – catering, venue;</p>

	provide monitoring and milestone reports over a 3 year period.																
Risks to project success	<ul style="list-style-type: none"> - Access to sites. - Access to knowledge. 																
Land tenure – likelihood of adoption and adoption circumstances	Predominantly owned by the iwi. Very high likelihood of adoption.																
Knowledge gaps and response	Permit requirements for iPou installation.																
Project duration (years)	3 years																
Costs	<table> <tr> <th>Work description</th><th>Cost (\$)</th></tr> <tr> <td>Collate information for iPou</td><td>20,000</td></tr> <tr> <td>Fabricate and install up to 20 iPou onto the designated river/tributary sites</td><td>200,000</td></tr> <tr> <td>Technology/information loaded and installed into iPou</td><td>40,000</td></tr> <tr> <td>Cultural safety costs</td><td>10,000</td></tr> <tr> <td>Hui costs</td><td>\$7000</td></tr> <tr> <td>Project management/staffing/incidentals (25%)</td><td>83,100</td></tr> <tr> <td>Total</td><td>360,100</td></tr> </table>	Work description	Cost (\$)	Collate information for iPou	20,000	Fabricate and install up to 20 iPou onto the designated river/tributary sites	200,000	Technology/information loaded and installed into iPou	40,000	Cultural safety costs	10,000	Hui costs	\$7000	Project management/staffing/incidentals (25%)	83,100	Total	360,100
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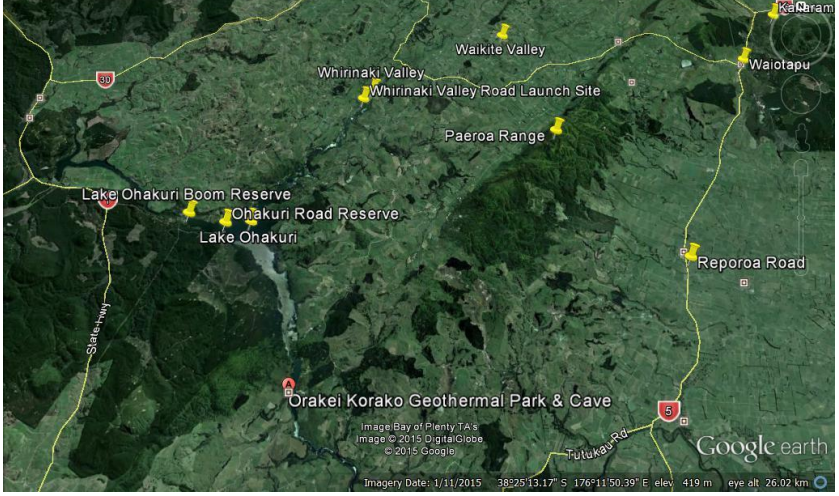
<p>NKNT & TNW 4 Ngāti Kearoa-Ngāti Tuarā</p>	<p>Identification and protection of Ngāti Kearoa and Ngāti Tuarā sites of significance project.</p>
<p>Priority: Very high</p>	
<p>Project summary</p>	<p>This project was identified as a very high priority by Ngāti Kearoa and Ngāti Tuarā because it is very important to collate, map, record their traditional knowledge and data before it is lost forever.</p> <p>The project will build the capacity of Ngāti Kearoa and Ngāti Tuarā through recording important historical information relating to important sites of significance along the Waikato River and its tributaries within the Ngāti Kearoa and Ngāti Tuarā rohe. It will include a series of interviews, maps, photographs, literature review and wānanga. This will enable Ngāti Kearoa and Ngāti Tuarā to reconnect with the awa and their tribal history and customs, utilising this information to inform future restoration and activities.</p>
<p>Vision</p>	<p>Ngāti Kearoa and Ngāti Tuarā can utilise a wāhi tapu register which has all significant wāhi tupuna/tapu sites clearly identified, mapped, recorded, and as a result the sites are now being accessed. Historic river korero is available which has enabled iwi to become more effective kaitiaki by learning cultural knowledge associated with the tributaries in the Waikato River within the rohe of Ngāti Kearoa and Ngāti Tuarā.</p>
<p>Location</p>	<p>The project location is Area B of the Waikato River and its tributaries within the Ngāti Kearoa and Ngāti Tuarā rohe.</p> <p>The principal waterway is the Pokaitu Stream, just north of Pōhaturoa.</p>
<p>Brief description of site</p>	<div data-bbox="544 1189 1358 1693" data-label="Image"> </div> <p>The traditional rohe of Ngāti Kearoa-Ngāti Tuarā falls partly within the Waikato River catchment. Within that catchment, the relevant land blocks over which Ngāti Kearoa-Ngāti Tuarā hold traditional interests include Patetere South, Tikorangi and Horohoro, and part of the Tokoroa Block eastward of a line from the western tip of the Patetere South Block to Te Uraura on the boundary of the Tokoroa and Whakamaru Maungaiti blocks.</p> <p>The lands at Horohoro and Patetere South have been continuously</p>

	<p>occupied by Ngāti Kearoa and Ngāti Tuarā for generations. Their principal waterway is the Pokaitū Stream just north of Pōhaturoa. This project is significant as these waterways and traditional lands are inextricably linked to and contribute to the very life of the mighty Waikato River. In their original state the catchments were covered in pristine native forests, swamp lands, undulating hills of aruhe (fern) and rolling to easy fertile flats.</p>
Key threats/impacts	<p>Loss of traditional knowledge. Sites of significance infested with weeds. Loss of connection with the sites and the river. Unintended risks to sites of significance as locations are unknown.</p>
Project goal/s (SMART)	<ul style="list-style-type: none"> - Within 3 years of the project commencing, the Ngāti Kearoa-Ngāti Tuarā wāhi tapu register is completed. - Within 2 years of the project commencing, the kaumatua/kuia interviews have been completed and filmed. - Within 3 years of the project commencing, sites of significance are being utilised and accessed by Ngāti Kearoa-Ngāti Tuarā. - Within 3 years of the project commencing, the capacity of Ngāti Kearoa-Ngāti Tuarā has been developed in terms of sites of significance/GIS mapping knowledge.
Project actions/works required	<p>Works could be implemented at Ngāti Kearoa-Ngāti Tuarā or Te Arawa River Iwi Trust level. Co-funding contributions from other interested partners to assist Ngāti Kearoa-Ngāti Tuarā or TARIT with completing this project would be welcomed.</p> <p>Cultural safety (\$7000) Cultural practices are applied and adhered to, to ensure cultural safety of this project. Assume:</p> <ul style="list-style-type: none"> - Initial hui with Ngāti Kearoa-Ngāti Tuarā/TARIT to introduce project (\$500 venue/kai). - Reporting back hui (x3) with Ngāti Kearoa-Ngāti Tuarā/TARIT regarding project progress (\$1500 venue/kai). - Final hui to unveil wāhi tapu register and present kaumatua/kuia interviews (\$5000). <p>Interviews and literature review (\$32,000) Interview knowledge holders ie kaumatua/kuia (as appropriate), and collate relevant information from literature sources. Assume:</p> <ul style="list-style-type: none"> - 8 kaumatua/kuia interviews at \$500 per interview = \$4000 - Film and editing of interviews at \$800 per day x 2 weeks (14 days) = \$11,200 - Interviewer/literature reviewer at \$800 per day x 3 weeks (21 days) = \$16,800 <p>Mapping and photographing wāhi tapu sites (\$37,600) Access site/s, map and photograph all significant and wāhi tupuna/tapu sites. Enter information into digital database and maps. Assume:</p>


	<ul style="list-style-type: none"> - Access and photograph sites at \$800 per day x 1 week (7 days) = \$5600. - GIS mapping services at \$200 per hour to input maps and develop register x 20 days = \$32,000. <p>Restoration/clearance of sites of significance (\$7000) Some of the known sites of significance areas need to be cleared of scrub and weeds to allow access. Assume:</p> <ul style="list-style-type: none"> - Contractor costs to clear weeds from known sites of significance at \$700 per day x 10 days. <p>Capacity building (\$25,000) Hold GIS mapping wānanga with Ngāti Kearoa-Ngāti Tuarā whanau at \$5000. Identify (x2) Ngāti Kearoa-Ngāti Tuarā taiohi (youth) to undertake further study to formally upskill in GIS/cultural mapping, wāhi tapu/historical or related studies as determined by Ngāti Kearoa-Ngāti Tuarā at \$10,000 scholarship per taiohi/student = \$20,000.</p> <p>Project management/staffing/incidentals (20%) Manage the project; engage with Ngāti Kearoa-Ngāti Tuarā/TARIT to identify sites of significance and identify key knowledge holders; landowner liaison to access sites; engage with 8 kaumatua/kuia to organise interviews; identify Ngāti Kearoa-Ngāti Tuarā students to upskill in GIS; organise ongoing progress update hui with Ngāti Kearoa-Ngāti Tuarā; organise contractors as appropriate to clear sites of significance; provide monitoring and milestone reports over a 3 year period.</p>																
Risks to project success	Land access. Access to information may take longer than anticipated.																
Land tenure – likelihood of adoption and adoption circumstances	Mixed ownership. Sites could be located on iwi, private and/or public lands.																
Knowledge gaps and response	Actual number of sites of significance yet to be confirmed. Project has to allow for flexibility.																
Project duration (years)	3 years																
Costs	<table border="1"> <thead> <tr> <th>Work description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Hui costs</td><td>7000</td></tr> <tr> <td>Knowledge holder interviews</td><td>32,000</td></tr> <tr> <td>Mapping and photography of sites</td><td>37,600</td></tr> <tr> <td>Restoration/clearance to enable access to sites of significance</td><td>7000</td></tr> <tr> <td>Capacity building</td><td>25,000</td></tr> <tr> <td>Project management/staffing/incidentals (20%)</td><td>27,150</td></tr> <tr> <td>Total</td><td>135,750</td></tr> </tbody> </table>	Work description	Cost (\$)	Hui costs	7000	Knowledge holder interviews	32,000	Mapping and photography of sites	37,600	Restoration/clearance to enable access to sites of significance	7000	Capacity building	25,000	Project management/staffing/incidentals (20%)	27,150	Total	135,750
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Restoration/clearance to enable access to sites of significance	7000																
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Project management/staffing/incidentals (20%)	27,150																
Total	135,750																

NKNT & TNW 5	Te Arawa river iwi champions
Priority: Very high	
Project summary	<p>This project would be shared between the affiliates of Te Arawa river iwi by celebrating and acknowledging river champions (iwi members who have achieved great things on the ground – planting projects, protecting taonga species, creating enhancement opportunities or education of whanau, etc). The celebration would grow awareness about inspirational work that is happening with the awa and inspire future river iwi champions.</p> <p>This project will fund an annual iwi river champions awards dinner to be held at a venue nominated by the affiliates of Te Arawa river iwi, with carved tohu to be awarded to 4 successful river champions.</p>
Vision	Greater awareness of inspiring successful river iwi champions and their mahi on, in and around the river. The next generation of river champions are inspired to achieve even greater things.
Location	This project is located within the Waikato River catchment and tributaries within the Te Arawa river iwi rohe.
Brief description of site	N/A
Key threats/issues	<p>Lack of awareness.</p> <p>Lack of inspiration.</p> <p>No new talent interested in becoming involved with river restoration.</p>
Project goal/s (SMART)	<p>Within 10 years, 10 river iwi champion dinners have been held.</p> <p>Within 10 years, new river champions have been inspired.</p> <p>Within 10 years, the profile of river iwi and success stories regarding the restoration of the tupuna awa are high.</p>
Works required	<p>Works could be implemented by iwi, hapū, marae, whanau or in partnership with Te Arawa River Iwi Trust.</p> <p>Co-funding contributions from other interested partners to complete this project would be welcomed.</p> <p>Te Arawa river champions awards dinner (\$80,000) \$8000 per dinner per year x 10 years = \$80,000.</p> <p>Tohu for Te Arawa river iwi champions (\$32,000) 4 x carved paddle per year at \$800 per paddle = \$3200 x 10 years = \$32,000</p> <p>Project management/staffing/incidentals (25%) Project manager would coordinate dinner with appropriate venue, organise call for nominations, create a small selection committee to consider/review the nominations and select the winners based winning criteria, coordinate with carvers to create paddles/tohu. 25% of overall costs = \$2800 per year to coordinate.</p>

Risks to project success	In the early years of project, building momentum for nominations if there are to be 4 different winners each year.											
Land tenure – likelihood of adoption and adoption circumstances	N/A											
Knowledge gaps and response	Award categories and criteria have not yet been established and this would be done in the early stages of project planning.											
Project duration (years)	10											
Costs	<table><tr><th>Work description</th><th>Cost (\$)</th></tr><tr><td>Awards dinner</td><td>\$80,000</td></tr><tr><td>Tohu for winners</td><td>\$32,000</td></tr><tr><td>Project management/staffing/incidentals (25%)</td><td>\$28,000</td></tr><tr><td>Total</td><td>140,000</td></tr></table>		Work description	Cost (\$)	Awards dinner	\$80,000	Tohu for winners	\$32,000	Project management/staffing/incidentals (25%)	\$28,000	Total	140,000
Work description	Cost (\$)											
Awards dinner	\$80,000											
Tohu for winners	\$32,000											
Project management/staffing/incidentals (25%)	\$28,000											
Total	140,000											

<p>NKNT & TNW 6 Tuhourangi – Ngāti Wahiao</p>	<p>Enabling Tuhourangi-Ngāti Wahiao to reconnect with the Waikato River</p>
<p>Priority: Very high</p>	
<p>Project summary</p>	<p>This project is about Tuhourangi-Ngāti Wahiao reconnecting, re-establishing and reasserting their mana whakahaere along the Waikato River. The project will see Tuhourangi-Ngāti Wahiao reconnect by means of waka ama, and improving the health and wellbeing of whanau through exercise. The waka ama will also be utilised for wānanga along the river and further enhancing the cultural and spiritual relationship between Tuhourangi-Ngāti Wahiao and the Waikato River, whilst increasing mātauranga Māori.</p>
<p>Vision</p>	<p>Whanau are able to assert their mana whakahaere on the awa through waka ama. Whanau are able to restore their connection with the awa, and ensure future generations are able to form a lasting connection to the awa, and while doing so improve the hauora of Tuhourangi-Ngāti Wahiao. This will enable wānanga on the awa, visiting ngā wāhi tapu and offering an opportunity for intergenerational knowledge sharing at sites.</p>
<p>Location</p>	<p>The project location is the Waikato River and its tributaries within the Tuhourangi-Ngāti Wahiao rohe.</p>
<p>Brief description of site</p>	
<p>Key threats/issues</p>	<p>Loss of connection has led to a detachment of the whanau to the awa.</p> <p>Knowledge of significant sites along the Waikato River are lost to Tuhourangi-Ngāti Wahiao due to a lack of knowledge transfer.</p>
<p>Project goal/s (SMART)</p>	<ul style="list-style-type: none"> - Marae to have access to waka ama by 2019. - Create safe lockable storage for waka by 2019. - Marae (and wider community) training to be initiated once waka have been purchased. - Tuhourangi-Ngāti Wahiao to have at least 10 affiliated waka ama members by 2020. - Hold ngā wāhi tapu wānanga along the entire length of the awa, utilising the waka as a means of transport by 2020.

Works required (quantity and description)	<ul style="list-style-type: none"> - Purchase of 4 (6 man) waka ama and associated equipment e.g.trailer - Purchase of 24 life jackets - Purchase of 24 paddles - Purchase of safety boat - Safety kits: flares, rope, etc - Create safe lockable storage for waka - Establishing training for marae - Establishing wānanga 																				
Risks to project success	<ul style="list-style-type: none"> - Vandalising - Theft 																				
Land tenure – likelihood of adoption and adoption circumstances	Crown or Māori owned land that is suitable to use for waka access to the Waikato River.																				
Knowledge gaps and response	Whether council would be willing to permit storage sheds on site.																				
Project duration (years)	Reviewed in 2025																				
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NKNT & TNW 7 Ngāti Kearoa-Ngāti Tuarā	Enabling Ngāti Kearoa-Ngāti Tuarā to reconnect with the Waikato River
Priority: Very high	
Project summary	<p>This project is about Ngāti Kearoa-Ngāti Tuarā reconnecting, re-establishing and reasserting their mana whakahaere along the Waikato River. The project will see Ngāti Kearoa-Ngāti Tuarā reconnect by means of waka ama, and improving the health and wellbeing of whanau through exercise. The waka ama will also be utilised for wānanga along the river, and further enhancing the cultural and spiritual relationship between Ngāti Kearoa-Ngāti Tuarā and the Waikato River, whilst increasing mātauranga Māori.</p>
Vision	<p>Whanau are able to assert their mana whakahaere on the awa through waka ama. Whanau are able to restore their connection with the awa, and ensure future generations are able to form a lasting connection to the awa, and while doing so improve the hauora of Ngāti Kearoa-Ngāti Tuarā. This will enable wānanga on the awa, visiting ngā wāhi tapu, and offer an opportunity for intergenerational knowledge sharing of these sites.</p>
Location	<p>The project location is the Waikato River and its tributaries within the Ngāti Kearoa-Ngāti Tuarā rohe.</p>
Brief description of site	
Key threats/impacts	<p>Loss of connection has led to a detachment of the whanau to the awa.</p> <p>Knowledge of significant sites along the Waikato River are lost to Ngāti Kearoa-Ngāti Tuarā due to a lack of knowledge transfer.</p>
Project goal/s (SMART)	<ul style="list-style-type: none"> - Marae to have access to waka ama by 2019. - Create safe lockable storage for waka by 2019. - Marae (and wider community) training to be initiated once waka have been purchased.

	<ul style="list-style-type: none"> - Ngāti Kearoa-Ngāti Tuarā Marae to have at least 10 affiliated waka ama members by 2020. - Hold ngā wāhi tapu wānanga along the entire length of awa, utilising the waka as a means of transport by 2020. 																				
Works required	<ul style="list-style-type: none"> - Purchase of 4 (6 man) waka ama and associated equipment eg. trailer - Purchase of 24 life jackets - Purchase of 24 paddles - Purchase of safety boat - Safety kits: flares, rope, etc - Create safe lockable storage for waka - Establishing training for marae - Establishing wānanga 																				
Risks to project success	<ul style="list-style-type: none"> - Vandalising - Theft 																				
Land tenure – likelihood of adoption and adoption circumstances	Crown or Māori owned land that is suitable to use for waka access to the Waikato River.																				
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<p>NKNT & TNW 8</p> <p>Tuhourangi-Ngāti Wahiao</p>	<p>Kōrero taonga tuku iho</p>
<p>Priority: Very high</p>	
<p>Project summary</p>	<p>This project was identified as a very high priority by Tuhourangi-Ngāti Wahiao because it is very important to collate, map, record their traditional knowledge and data before it is lost forever.</p> <p>This project will build the capacity of Tuhourangi -Ngāti Wahiao through recording important historical information relating to important sites of significance along the Waikato River and its tributaries within the Tuhourangi-Ngāti Wahiao rohe. It will include a series of interviews, maps, photographs, literature review and wānanga. This will enable Tuhourangi-Ngāti Wahiao to reconnect with the awa and their tribal history and customs, utilising this information to inform future restoration and activities.</p>
<p>Vision</p>	<p>Tuhourangi-Ngāti Wahiao can utilise a wāhi tapu register which has all significant wāhi tupuna/tapu sites clearly recorded, and as a result the sites are now being accessed. Historic river korero is available, which has enabled the iwi to become more effective kaitiaki through learning cultural knowledge associated with the tributaries in the Waikato River within the rohe of Tuhourangi-Ngāti Wahiao.</p>
<p>Location</p>	<p>The project location is the Waikato River and its tributaries within the Tuhourangi-Ngāti Wahiao rohe.</p>
<p>Brief description of site</p>	<div data-bbox="563 1182 1374 1713" data-label="Image"> </div> <p>The Tuhourangi-Ngāti Wahiao interests in the Waikato River commence upstream at the mouth of Akatarewa Stream downstream to the Ohakuri Road crossing, and includes part of the southwestern boundary of the former Rotomahana Parekarangi 6A Block.</p> <p>This project is significant as these waterways and traditional lands are inextricably linked to and contribute to the life of the mighty Waikato</p>

	River. In their original state, the catchments were covered in pristine native forests, swamp lands, undulating hills of aruhe (fern) and rolling to easy fertile flats.
Key threats/impacts	<p>Loss of traditional knowledge.</p> <p>Sites of significance infested with weeds.</p> <p>Loss of connection with the sites and the river.</p>
Project goal/s (SMART)	<p>Within 3 years of the project commencing, the Tuhourangi-Ngāti Wahiao wāhi tapu register is completed.</p> <p>Within 2 years of the project commencing, the kaumatua/kuia interviews have been completed and filmed.</p> <p>Within 3 years of the project commencing, sites of significance are being utilised and accessed by Tuhourangi-Ngāti Wahiao.</p> <p>Within 3 years of the project commencing, the capacity of Tuhourangi-Ngāti Wahiao has been developed in terms of sites of significance/GIS mapping knowledge.</p>
Project actions/works required	<p>Works could be implemented at Tuhourangi-Ngāti Wahiao or Te Arawa River Iwi Trust level.</p> <p>Co-funding contributions from other interested partners to assist Tuhourangi-Ngāti Wahiao or TARIT with completing this project would be welcomed.</p> <p>Cultural safety/hui costs (\$7000)</p> <p>Cultural practices are applied and adhered to, to ensure cultural safety of this project.</p> <p>Assume:</p> <ul style="list-style-type: none"> - Initial hui with Tuhourangi-Ngāti Wahiao/TARIT to introduce project (\$500 venue/kai). - Reporting back hui (x3) with Tuhourangi-Ngāti Wahiao/TARIT regarding project progress (\$1500 venue/kai). - Final hui to unveil wāhi tapu register and present kaumatua/kuia interviews (\$5000). <p>Interviews and literature review (\$32,000)</p> <p>Interview knowledge holders ie kaumatua/kuia (as appropriate), and collate relevant information from literature sources.</p> <p>Assume:</p> <ul style="list-style-type: none"> - 8 kaumatua/kuia interviews at \$500 per interview = \$4000. - Film and editing of interviews at \$800 per day x 2 weeks (14 days) = \$11,200. - Interviewer/literature reviewer at \$800 per day x 3 weeks (21 days) = \$16,800. <p>Mapping and photographing wāhi tapu sites (\$37,600)</p> <p>Access site/s, map and photograph all significant and wāhi tupuna/tapu sites. Enter information into digital database and maps.</p>

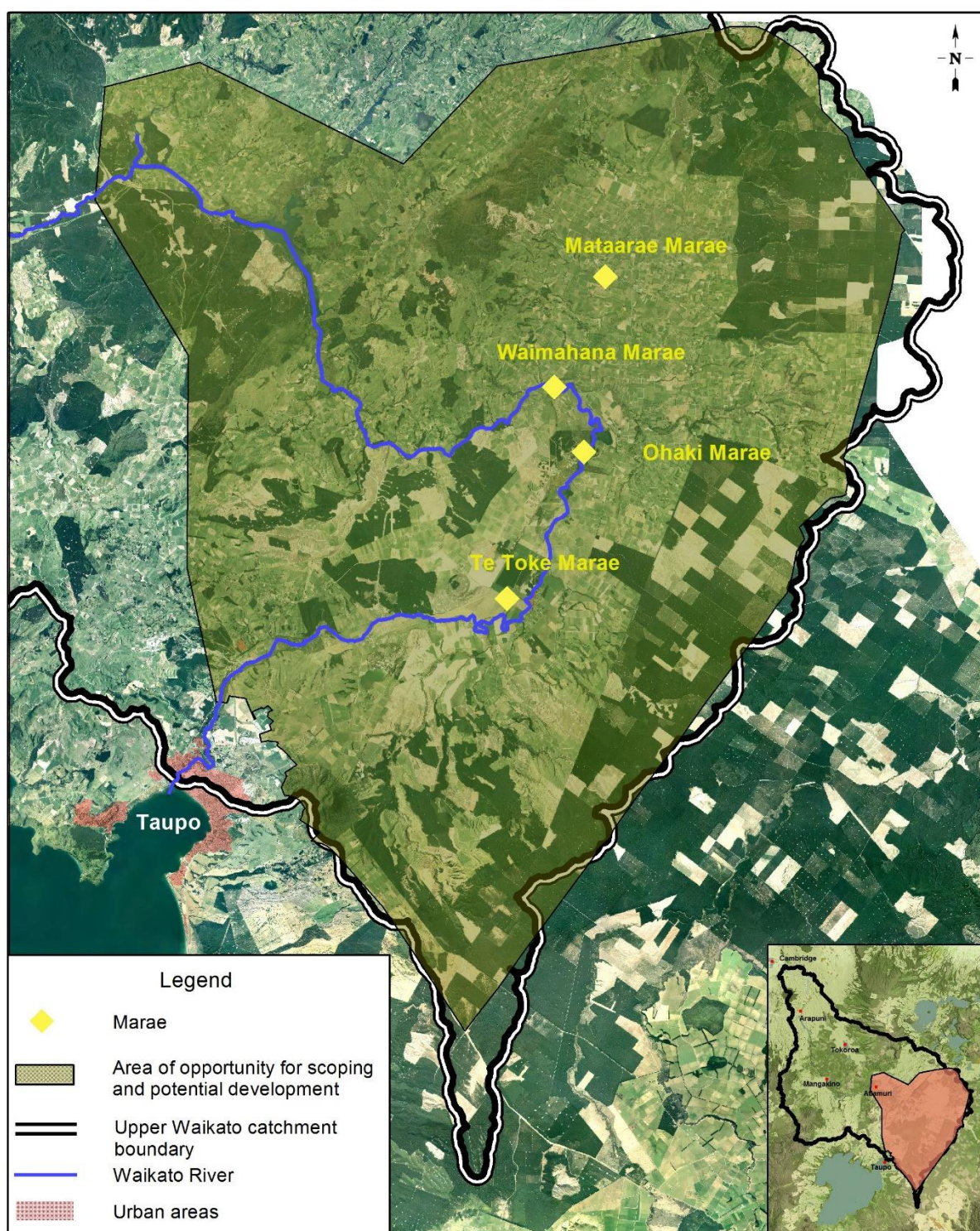
	<p>Assume:</p> <ul style="list-style-type: none"> - Access and photograph sites at \$800 per day x 1 week (7 days) = \$5600. - GIS mapping services at \$200 per hour to input maps and develop register x 20 days = \$32,000. <p>Restoration/clearance of sites of significance (\$7000)</p> <p>Some of the known sites of significance areas need to be cleared of scrub and weeds to allow access.</p> <p>Assume:</p> <ul style="list-style-type: none"> - Contractor costs to clear weeds from known sites of significance at \$700 per day x 10 days. <p>Capacity building (\$25,000)</p> <p>Hold GIS mapping wānanga with Tuhourangi-Ngāti Wahiao whanau at \$5000.</p> <p>Identify (x2) Tuhourangi-Ngāti Wahiao taiohi (youth) to undertake further study to formally upskill in GIS/cultural mappin, wāhi tapu/historical or related studies as determined by Tuhourangi-Ngāti Wahiao at \$10,000 scholarship per taiohi/student = \$20,000.</p> <p>Project management/staffing/incidentals (25%)</p> <p>Manage the project; engage with Tuhourangi-Ngāti Wahiao /TARIT to identify sites of significance and identify key knowledge holders; landowner liaison to access sites; engage with 8 kaumatua/kuia to organise interviews; identify Tuhourangi-Ngāti Wahiao students to upskill in GIS; organise ongoing progress update hui with Tuhourangi-Ngāti Wahiao, organise contractors as appropriate to clear sites of significance; provide monitoring and milestone reports over a 3 year period.</p>
Risks to project success	<p>Land access.</p> <p>Access to information may take longer than anticipated.</p>
Land tenure – likelihood of adoption and adoption circumstances	<p>Mixed ownership. Sites could be located on iwi, private and/or public lands.</p>
Knowledge gaps and response	<p>Total number of sites and specific location are not yet known and costs have been based on judgement of those with local knowledge.</p>
Project duration (years)	<p>3 years</p>

Costs		
	Work description	Cost (\$)
	Cultural safety/hui costs	7000
	Knowledge holder interviews	32,000
	Mapping and photography of sites	37,600
	Restoration/clearance to enable access to sites of significance	7000
	Capacity building	25,000
	Project management/staffing/incidentals (25%)	27,150
	Total	135,750

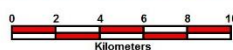
NTNW 1 Ngati Tahu-Ngati Whaoa	Investigation and construction of tuna/kōura ponds (kai bowl) for cultural harvest
Priority: Very high	
Vision	To be able to provide healthy and plentiful mahinga kai for the Ngati Tahu-Ngati Whaoa people, visitors and cultural events, tangi and other important occasions. Ngati Tahu-Ngati Whaoa consider this as part of their heritage and pride of the iwi. The ability of the Waikato River to sustain and provide for the Ngati Tahu-Ngati Whaoa people is integral to the iwi's wellbeing.
Location	Throughout Ngati Tahu-Ngati Whaoa rohe along and within Te Awa o Waikato catchment.
Brief description of site	<p>Over 81 kilometres of the main stem of Te Awa o Waikato and approximately 2200 kilometres of tributaries fall in the Ngati Tahu-Ngati Whaoa rohe. Ngati Tahu-Ngati Whaoa's relationship with the river includes extensive use of the fisheries for sustenance of our people – both historically and in a contemporary sense. In response to concerns from iwi members about the state of our fisheries, the runanga undertook a comprehensive report on mahinga kai in the rohe during 2015. The report collated matauranga, explored historic fisheries, identified changes and issues and offered opportunities and strategies for Ngati Tahu-Ngati Whaoa to enhance mahinga kai in our rohe.</p> <p>A key finding in the report was that for the Waikato River (particularly the main stem) the challenges for mahinga kai and the river in general are large and will likely require long term solutions and significant resourcing. Te Ture o Whaimana is focused on achieving these long term changes. As part of this, Ngati Tahu-Ngati Whaoa continue to be involved in co-management of the river, and to use influence and input to help achieve improvements in this area.</p> <p>In the meantime, there were two key aspects in the recent report identified where there may be opportunities for some tangible gains to be made in relation to improvements in mahinga kai for the Ngati Tahu-Ngati Whaoa people. The first was to focus efforts on restoration and rehabilitation of the tributaries in the rohe. Ngati Tahu-Ngati Whaoa continue to do this through projects and participation in co-management for the river.</p> <p>The second finding focused on the potential to farm key freshwater kai species for cultural harvest purposes. The idea is to look at providing a</p>

	<p>kai bowl approach and investigate what may be possible over several species. The focus of this project is examining low cost initiatives which enhance or only slightly modify the existing environment and require minimal input and maintenance.</p> <p>There are some barriers to this approach and an initial scoping exercise will need to be undertaken to identify sites which have potential and provide the necessary attributes to ensure the success of pond implementation.</p>						
Key threats/issues	<table border="1"> <thead> <tr> <th>Key threat</th><th>Impact on value/feature</th></tr> </thead> <tbody> <tr> <td>Loss of kai species and abundance</td><td>Availability of healthy and abundant mahinga kai for Ngati Tahu-Ngati Whaoa people</td></tr> <tr> <td>Loss of access</td><td>Ability to harvest in some areas and practice kaitiakitanga</td></tr> </tbody> </table>	Key threat	Impact on value/feature	Loss of kai species and abundance	Availability of healthy and abundant mahinga kai for Ngati Tahu-Ngati Whaoa people	Loss of access	Ability to harvest in some areas and practice kaitiakitanga
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Loss of access	Ability to harvest in some areas and practice kaitiakitanga						
Project goal/s (SMART)	<p>Within 5 years, six off-river ponds provide a sustained source of healthy tuna, kōura and watercress for use by Ngati Tahu-Ngati Whaoa to achieve their vision in relation to mahinga kai. Off-river ponds provide a reliable source of mahinga kai to complement measures to improve the natural fishery in the Waikato River</p>						
Works required	<p>Ngati Tahu-Ngati Whaoa would like to investigate the feasibility and requirements of “farming”/aquaculture of key mahinga kai species (tuna, kōura and watercress) as an alternative to, and to compliment, fishing within the main river and wider Waikato catchment. This development would be undertaken at one key site in the rohe once a suitable site is identified through investigations.</p> <p>Two staged approach</p> <p>1) Project scoping and feasibility</p> <ul style="list-style-type: none"> - Contractors with specialist consultant input to undertake scoping report, assess feasibility of sites and undertake site planning \$25,000. <p>2) Implementation</p> <ul style="list-style-type: none"> - Development/construction of 6 ponds (5000m² x 2m deep) – \$70,800 - Fencing of 6 ponds (minimum 5 wire – 2 electric) – \$19,200. - Planting of 6 ponds and associated maintenance \$86,310. - Resource consents 6 ponds \$30,000. 						
Risks to project success	<p>The approach proposed for this project substantially reduces the risk through thorough investigations of options and limitations to implementation in the scoping report. The highest risk to the overall project and implementation of stage two would be not finding a suitable site or if there are barriers to overcome, such as permitting, access to elvers or other requirements.</p>						

Land tenure	Scoping would identify suitable sites for implementation. Preference will be to implement the project on iwi land, however this may not be possible given the potential requirements for implementation. Land tenure would not be known until stage one is complete																		
Knowledge gaps and response	There are existing knowledge gaps as to where potential ponds may be located. Mitigating factors in selecting a suitable site include avoiding geothermal discharges and securing a location in close proximity to a suitable water source. These gaps would be addressed in stage one during the scoping report.																		
Project duration	5 years (fully constructed and operating)																		
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Tuna/Koura Ponds (Kai Bowl)



Scale 1:280,000@A4 Portrait

A4

WRRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WRRRS.gws

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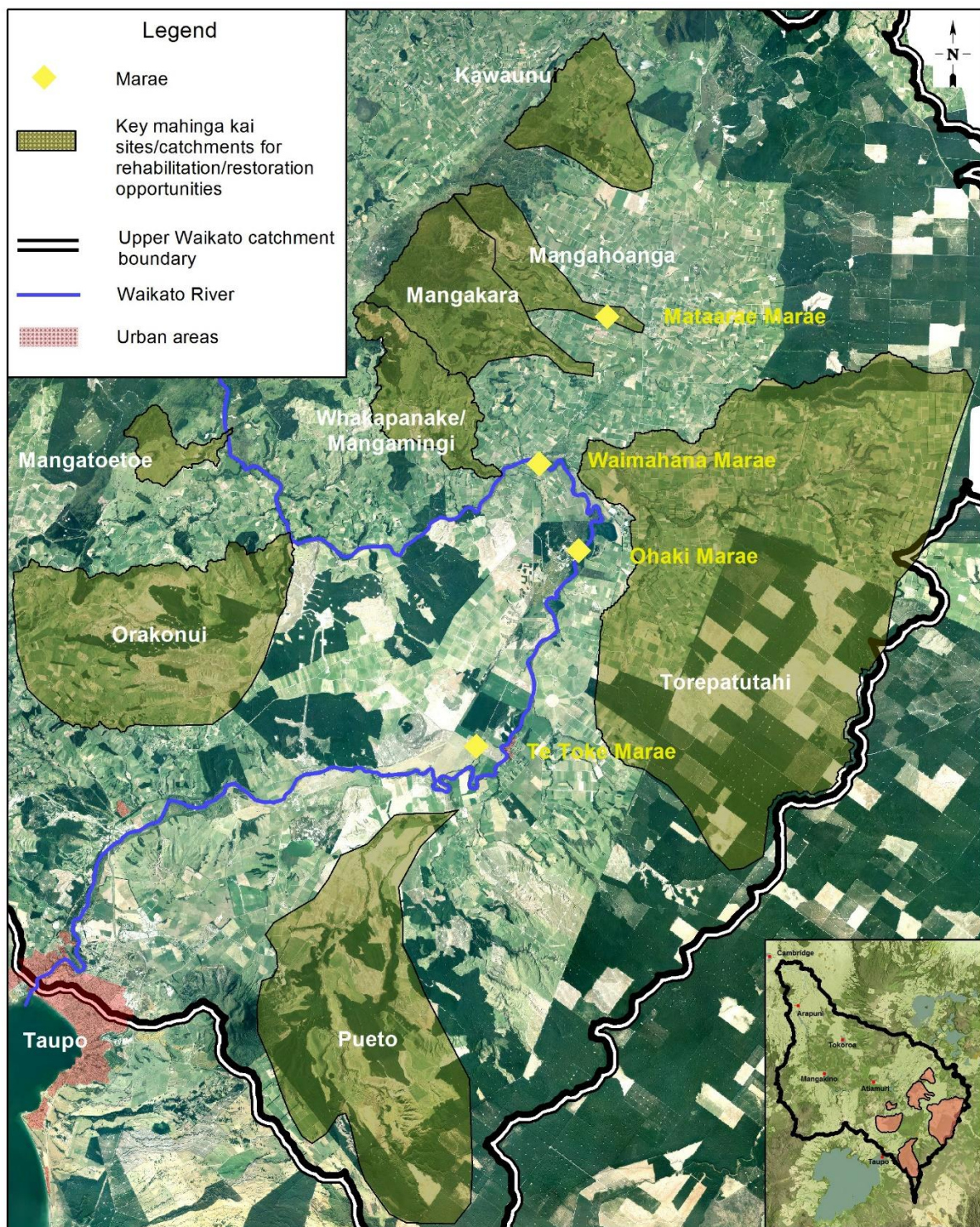
Mahinga kai Wananga (Ngati Tahu-Ngati Whaoa Runanga Trust, 2017)

<p>NTNW 2</p> <p>Ngati Tahu-Ngati Whaoa</p>	<p>Restoration/rehabilitation of key mahinga kai sites</p>
<p>Priority: Very high</p>	
<p>Vision</p>	<p>To be able to provide healthy and plentiful mahinga kai for the Ngati Tahu-Ngati Whaoa people, visitors and for cultural events, tangi and other important occasions. Ngati Tahu-Ngati Whaoa consider this as part of their heritage and pride of the iwi. The ability of the Waikato River to sustain and provide for the Ngati Tahu-Ngati Whaoa people is integral to the iwi's wellbeing</p>
<p>Location</p>	<p>The following mahinga kai harvest sites/streams in the Ngati Tahu-Ngati Whaoa rohe:</p> <p>Mangahoanga, Mangakara, Kawaunui, Orakonui, Mangatoetoe, Pueto, Torepatutahi, Mangamingi and the mouths of all inflowing streams into Te Awa o Waikato.</p>
<p>Brief description of site</p>	<p>Over 81 kilometres of the main stem of Te Awa of Waikato and approximately 2200 kilometres of tributaries fall in the Ngati Tahu-Ngati Whaoa rohe. Ngati Tahu-Ngati Whaoa's relationship with the river includes extensive use of the fisheries for sustenance of our people – both historically and in a contemporary sense.</p> <p>Te Awa o Waikato and its catchment is a resource of great cultural, historical, traditional and spiritual significance to the people of Ngati Tahu-Ngati Whaoa. Our relationship with Te Awa o Waikato and its tributaries, and our respect for it, gives rise to our responsibilities to protect the river and all it encompasses, and to exercise our mana whakahaere in accordance with long established tikanga to ensure the wellbeing of the river.</p> <p>In response to concerns from iwi members about the state of our fisheries, the runanga undertook a comprehensive report on mahinga kai in our rohe during 2015. The report collated matauranga, explored historic fisheries, identified changes and issues and offered opportunities and strategies for Ngati Tahu-Ngati Whaoa to enhance mahinga kai in our rohe.</p> <p>A key finding in the report was that for the Waikato River (particularly the main stem), the challenges for mahinga kai and the river in general are large and will likely require long term solutions and significant resourcing. Te Ture o Whaimana is focused on achieving these long term changes. As part of this, Ngati Tahu-Ngati Whaoa continue to be involved in co-management of the river and to use influence and input to help achieve improvements in this area.</p> <p>In the meantime, there were two key aspects identified in the recent report where there are opportunities for some tangible gains to be</p>

	<p>made with mahinga kai for the Ngati Tahu-Ngati Whaoa people. The first was to focus efforts on restoration and rehabilitation in the tributaries in the rohe and the second was to farm mahinga kai in off-river ponds for cultural harvest. This project focuses on the opportunity to restore and rehabilitate historic fishery sites in the tributaries of Te Awa o Waikato in our rohe.</p> <p>Our iwi environmental plan, <i>Rising above the mist – Te Aranga ake i te taimahatanga</i>, also documents our long term goals in regard to improving mahinga kai in our rohe:</p> <ul style="list-style-type: none"> - Kai sources restored, including opportunities for migration. - Stock excluded from all waterways in the rohe, and river and streambanks/lake edges restored with natives. 																
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Project goal/s (SMART)	<p>Within 2 years, the historic use of mahinga kai sites is documented and the current state of these wetland areas is known. Issues impacting on cultural values are identified.</p> <p>Within 20 years, work to remediate these issues is planned, funded and implemented in collaboration with others. NTNW iwi are engaged in restoration, learning and restoring cultural traditions and values.</p>																
Works required (quantity and description)	<p>The work would involve a two staged approach:</p> <p>Stage one: Step one: Collation of historic information/matauranga on the use of these sites, the mahinga kai resources they contained, what they were used for.</p> <ul style="list-style-type: none"> - Review of existing information by NT-NWRT staff/contractor – 100 hours at \$100 per hour – \$10,000. 																

	<p>Step two: Assessment of the state of these areas, identification of issues at these sites impeding/impacting on these cultural values, site visits. Development of options is undertaken for remedial measures and assessment of approaches to enhance fisheries/restore mauri at these sites.</p> <ul style="list-style-type: none"> - Consultant/contractor – development of management plan and options – \$30,000. <p>Stage two</p> <p>Step one: Implementation of remedial/enhancement measures is undertaken in collaboration with others.</p> <p>Costs for this component will remain unquantified until step one is complete and options/costings are known. These works are likely to include fencing, planting, weed control and potentially instream enhancement of some sites.</p> <p>Step two: Information shared with Ngati Tahu-Ngati Whaoa iwi and traditional use revived.</p> <ul style="list-style-type: none"> - Wananga x 2 – venue/kai/koha \$1500; facilitator \$1000; travel expenses \$600. - Sharing of information with iwi/public (resource for application through website) \$5000 setup costs and development of output/content (in conjunction with various other projects/information – costs may be less).
Risks to project success	<p>There is minimal risk to success in the initial stages of this project. Given the uncertainty about what remedial works may be required at particular sites, one of the key risks is that future funding to implement works may not be available. It is anticipated that these works and costings would be included in the first review of the Restoration Strategy.</p>
Land tenure – likelihood of adoption and adoption circumstances	<p>Some of the mahinga kai sites included in this project are either on land owned by Ngati Tahu-Ngati Whaoa Runanga or land trusts, or on land owned by the Crown and administered by the Department of Conservation or Land Information New Zealand. Some areas will be on private land.</p> <p>The adoption of this project and ongoing measures of protection and enhancement may be supported from agencies and land trusts, but the response by private landowners is unknown and will strongly depend on what type of works and access arrangements are proposed.</p>
Knowledge gaps and response	<p>There is limited information on some of these historic fishery sites, their current state and suitability for restoration or rehabilitation. It is</p>

	relatively unknown (at this time) the status of current or future access to these sites, and what works will be required to enhance them.														
Project duration (years)	Initial work – (both steps) 2 years Second stage – (both steps) 20 years														
Up-front cost – total for implementation phase/project duration	<table border="1"> <thead> <tr> <th>Work description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Stage one, step one</td><td>10,000</td></tr> <tr> <td>Stage one, step two</td><td>30,000</td></tr> <tr> <td>Stage two, step one</td><td>Cost Unknown</td></tr> <tr> <td>Stage two, step two</td><td>11,200</td></tr> <tr> <td>Project management/staffing/incidentals (30%)</td><td>15,360</td></tr> <tr> <td>Total</td><td>66,560</td></tr> </tbody> </table>	Work description	Cost (\$)	Stage one, step one	10,000	Stage one, step two	30,000	Stage two, step one	Cost Unknown	Stage two, step two	11,200	Project management/staffing/incidentals (30%)	15,360	Total	66,560
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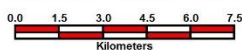


Restoration/rehabilitation of key mahinga kai sites

WWRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WWRRS.gws



Scale 1:210,000@A4 Portrait

A4

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Mangakara Stream (Ngati Tahu-Ngati Whaoa Runanga Trust)



Mangahoanga Stream (Ngati Tahu-Ngati Whaoa Runanga Trust 2016)



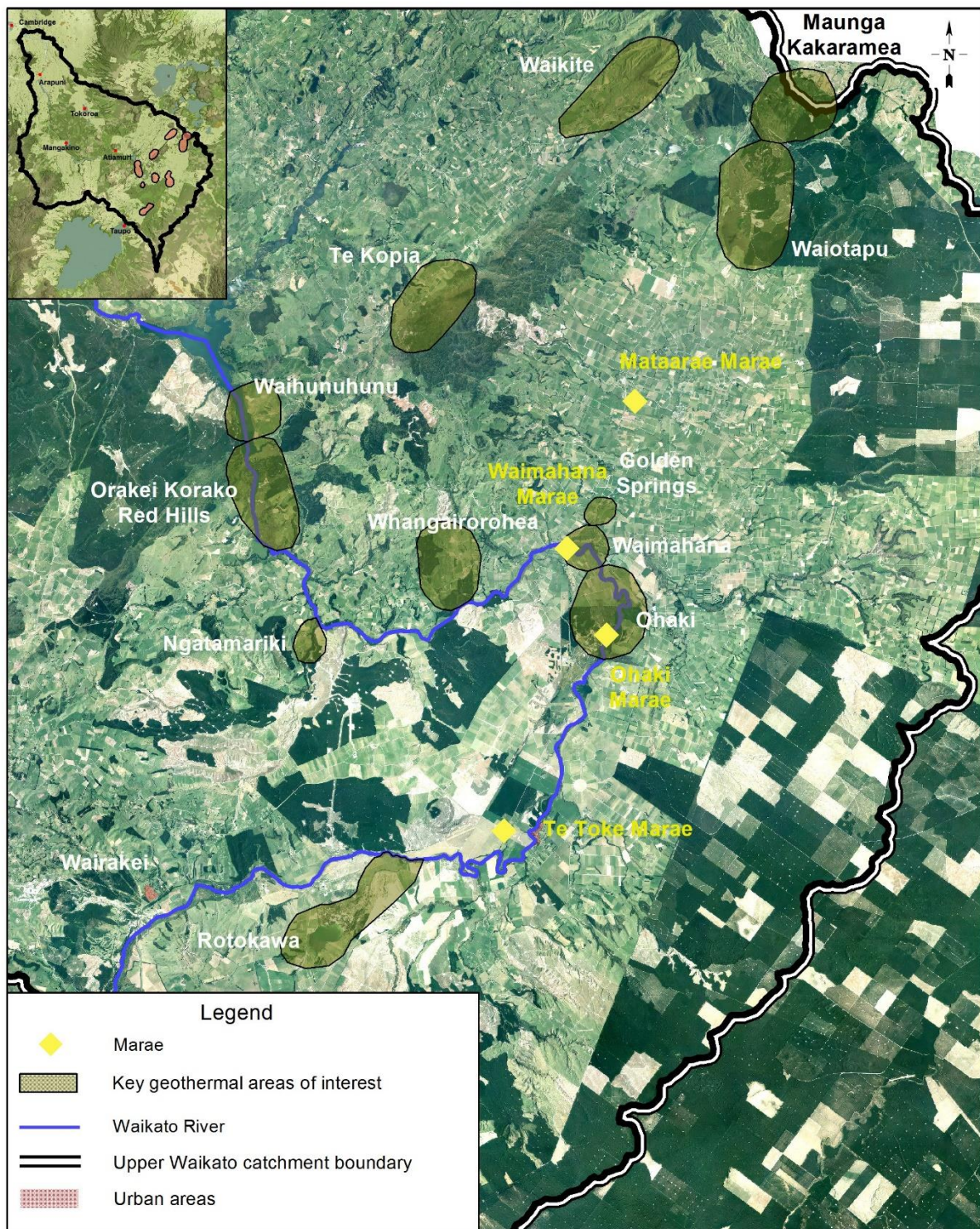
Mangatoetoe Stream (Ngati Tahu-Ngati Whaoa Runanga Trust 2017)

<p>NTNW 3</p> <p>Ngati Tahu-Ngati Whaoa</p>	<p>Geothermal matauranga</p>
<p>Priority: Very high</p>	
<p>Vision</p>	<p>That geothermal sites in the Ngati Tahu-Ngati Whaoa rohe are well understood from both a matauranga and western science perspective.</p> <p>Understanding promotes holistic management through planning and implementation of remedial and enhancement measures.</p> <p>Management achieves understanding and preservation across multiple values and assists in achieving Ngati Tahu-Ngati Whaoa aspirations.</p>
<p>Location</p>	<p>The following geothermal sites in the Ngati Tahu-Ngati Whaoa rohe (associated with Te Awa o Waikato): Orakei Korako, Waihunuhunu, Red Hills, Wai-O-Tapu, Maunga Kakaramea, Waikite, Mangaongaonga, Rotokawa, Ohaki, Whangairorohea, Ngatamariki, Golden springs, Waimahana, Te Kopia, Atiamuri.</p>
<p>Brief description of site</p>	<p>Ngati Tahu-Ngati Whaoa has a historical, cultural and contemporary association with geothermal resources within our traditional rohe. They are a special feature of our rohe and were prized by our tupuna for various uses. Geothermal areas were favoured by our tupuna for settlements, providing precious warmth and hot bathing, natural cooking and preserving, and sites for ritual purposes and healing. These geothermal areas are linked to Te Awa o Waikato and were used in conjunction with the river to provide resources to our iwi.</p> <p>Our iwi traded unique geothermal materials such as kokowai, the clay pigment generated by geothermal activity. Our iwi built large papakainga and pa at these sites and extensive cultivations were often established around these taonga, such as at Orakei Korako and Ohaki. Orakei Korako is the ukaipo (birthplace) of our iwi and was the first traditional settlement of Tahu-Matua. Orakei Korako was the principle home for the tribe and from there the people dispersed across the rohe.</p> <p>Many of the remaining geothermal sites within our rohe have been impacted by various development, land use, physical or ecological threats. These developments have at times compromised our values associated with these taonga, and in some cases destroyed some sites, such as at Orakei Korako with inundation for generation of electricity. Some sites and their geothermal fields (Te Kopia, Waikite, Wai-O-Tapu, Orakei Korako) are currently protected through legislation. We consider it important to enable this ongoing protection to continue and the sites be enhanced where possible.</p> <p>Our iwi environmental plan, <i>Rising above the mist – Te Aranga ake I te taimahatanga</i>, documents this project as an opportunity for us to engage as kaitiaiki and be proactive in the identification of methods to improve cultural associations at these sites.</p>

	<p><i>“Mapping the features that exist in the rohe and also the traditional uses in different sites would provide a sound knowledge base from which to plan use, protection and restoration activities.”</i></p> <p>The majority of these sites also have high ecological and geodiversity values which this work seeks to complement and enhance.</p>												
Key threats/issues	<table border="1"> <thead> <tr> <th>Key threats</th><th>Impact on feature</th></tr> </thead> <tbody> <tr> <td>Loss of knowledge</td><td>Links to historic cultural use of geothermal sites is lost. Compromises the ability to assess and implement remedial/enhancement work across multiple values. Less ability to advocate for protection /enhancement without collation of information and fully engage in kaitiakitanga.</td></tr> <tr> <td>Weeds/wilding conifers</td><td>Compete with native plant communities and alter geothermal vegetation.</td></tr> <tr> <td>Stock access to features/lack of fencing</td><td>Damage to geothermal vegetation and features.</td></tr> <tr> <td>Feral pigs</td><td>Uprooting of geothermal vegetation, features.</td></tr> <tr> <td>Geothermal development/inappropriate use</td><td>Decline in geothermal field integrity affects surface manifestations.</td></tr> </tbody> </table>	Key threats	Impact on feature	Loss of knowledge	Links to historic cultural use of geothermal sites is lost. Compromises the ability to assess and implement remedial/enhancement work across multiple values. Less ability to advocate for protection /enhancement without collation of information and fully engage in kaitiakitanga.	Weeds/wilding conifers	Compete with native plant communities and alter geothermal vegetation.	Stock access to features/lack of fencing	Damage to geothermal vegetation and features.	Feral pigs	Uprooting of geothermal vegetation, features.	Geothermal development/inappropriate use	Decline in geothermal field integrity affects surface manifestations.
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Feral pigs	Uprooting of geothermal vegetation, features.												
Geothermal development/inappropriate use	Decline in geothermal field integrity affects surface manifestations.												
Project goal/s	<p>Within 2 years of project commencement, the historic use of geothermal resources at these sites is documented and properties/use compared with western science to increase understanding across a range of values. The current state of these geothermal areas is known and the issues impacting on cultural values are identified.</p> <p>Within 20 years, work to remediate these issues is planned, funded and implemented. NTNW iwi are engaged in restoration, learning and restoring cultural traditions and values. Information is shared and available to others.</p>												
Works required	<p>The work would involve a two staged approach:</p> <p>Stage one: Step one: Ngati Tahu-Ngati Whaoa matauranga is captured and documented for each site through document review, interviews and wananga.</p> <ul style="list-style-type: none"> - Review of existing information by NT-NWRT staff/contractor – 100 hours at \$100 per hour – \$10,000. - One on one interviews – 10 interviews at \$800 per interview (2 hours all inclusive). - Filming and film editing x 2 days each at \$1400 per day. <p>Step two:</p>												

	<ul style="list-style-type: none"> - Matauranga is compared with western science regarding ngawha and feature composition. Connections are made across the two disciplines to understand and preserve the resource across multiple values. - Information allows for the assessment of the current state of these sites and identification of issues impeding/impacting on cultural values. - Development of options is undertaken for remedial measures and assessment of approaches to restore mauri at these sites. - Consultant/contractor – development of report to address issues raised in step two – \$30,000. <p>Stage two</p> <p>Step one: Implementation of remedial/enhancement measures are undertaken in collaboration with others.</p> <p>Costs for this component will remain unquantified until step one is complete and options/costings are known. Works are likely to involve fencing, weed control (including wilding pine control) and animal pest control.</p> <p>Step two: Information shared with Ngati Tahu-Ngati Whaoa iwi and traditional use revived.</p> <ul style="list-style-type: none"> - Wananga x 2 – venue/kai/koha \$1500; facilitator \$1000, travel expenses \$600 - Sharing of information with iwi/public (resource for application through website) \$5000 setup costs and development of output/content (in conjunction with various other projects/information – costs may be less).
Risks to project success	There is minimal risk to the success of this project. The geothermal systems of our rohe are of high importance to various agencies through both legislative/planning means and ecological/conservation perspectives.
Land tenure	Many of the geothermal sites included in this project are either on land owned by Ngati Tahu-Ngati Whaoa Runanga or land trusts or on land owned by the Crown and administered by the Department of Conservation. The adoption of this project and ongoing measures of protection and enhancement are likely to be supported by most landowners.
Knowledge gaps and response	There is extensive information already existing from a western science perspective. There is some existing cultural information collated from a Ngati Tahu-Ngati Whaoa perspective, however more will be required.
Project duration	Initial work – (stage one) 2 years Second stage – (stage two) 20 years and ongoing

Up-front cost		
	Work description	Cost (\$)
	Stage one, step one	20,800
	Stage one, step two	30,000
	Stage two, step one	Cost unknown
	Stage two, step two	11,200
	Project management/staffing/incidentals (30%)	18,600
	Total	80,600



<p>Geothermal matauranga</p> <p>WWRRS Project Map</p> <p>Created by: Tane Desmond Projection: NZTM Date: December 2017</p> <p>Status: Final Request No.: N/A File name: WWRRS.gws</p>		<p>0.0 1.5 3.0 4.5 6.0 7.5</p> <p>Kilometers</p> <p>Scale 1:210,000@A4 Portrait</p> <p>A4</p>	<p>© Waikato Regional Aerial Photography Service (WRAPS) 2012. Imagery sourced from Waikato Regional Council. Licensed under CC BY 3.0 NZ.</p> <p>© Waikato Regional Council 2013-2015. Application Activity (RIS) Data. Licensed under CC BY 3.0 NZ. This Data may be subject to the Privacy Act.</p> <p>© Waikato Regional Council 2004-2012. WRC REC Catchment/ Watercourse/ Watershed. Data derived from NIWA, MfE, LINZ - Copyright Reserved. Licensed under CC BY 3.0 NZ.</p> <p>Digital Boundary Data sourced from Statistics New Zealand.</p> <p>"1:50,000 Hydrological data sourced from NZTopo Database. Crown Copyright Reserved."</p> <p>Topographic Maps sourced from LINZ. Crown Copyright Reserved.</p> <p>© Waikato Regional Council 2004-2014. Urban - Rural Boundaries. Licensed under CC BY 3.0 NZ.</p> <p>Landcover Database 4 reproduced with the permission of Landcare Research New Zealand Limited. Licensed under CC BY 3.0 NZ.</p>	<p>Waikato</p> <p>REGIONAL COUNCIL</p> <p><i>Te Kaunihera ā Rohe o Waikato</i></p>
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Rotokawa Lake margins (Ngati Tahu-Ngati Whaoa Runanga Trust photo)



Wai-o-Tapu Scenic Reserve (Department of Conservation photo 2008)



Maunga Kakaramea – Lake Rotowhero (Department of Conservation photo 2014)

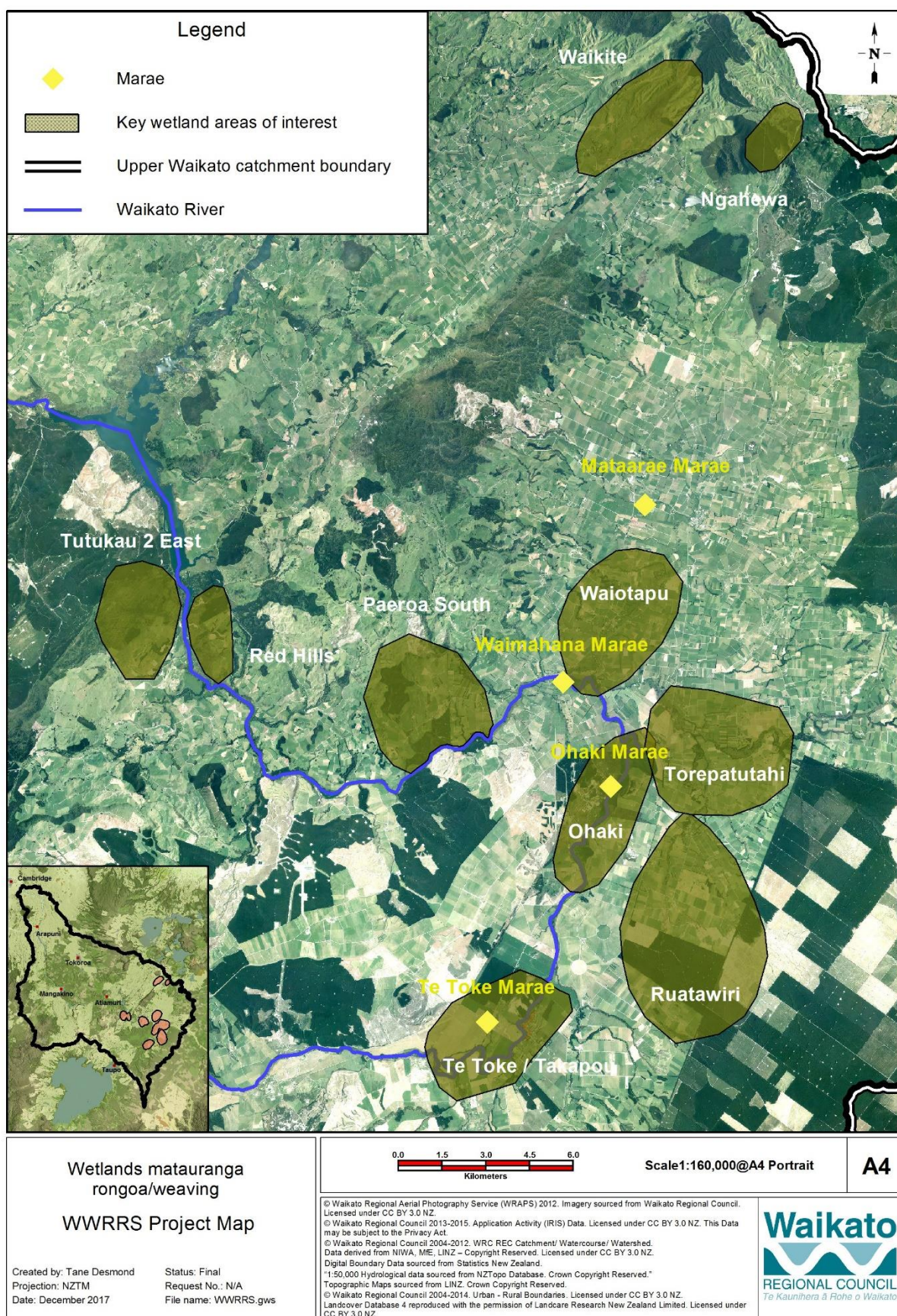


Orakei Korako (Ngati Tahu-Ngati Whaoa Runanga Trust Photo 2014)

<p>NTNW 4</p> <p>Ngati Tahu-Ngati Whaoa</p>	<p>Wetlands, Ngati Tahu-Ngati Whaoa mātauranga - Rongoa, weaving</p>
<p>Priority: Very high</p>	
<p>Vision</p>	<p>That wetland sites in the Ngati Tahu-Ngati Whaoa rohe are well understood from both a matauranga and western science perspective.</p> <p>Understanding promotes holistic management through planning and implementation of remedial and enhancement measures.</p> <p>Management achieves understanding and preservation across multiple values and assists in achieving Ngati Tahu-Ngati Whaoa aspirations.</p>
<p>Location</p>	<p>The following wetland sites in the Ngati Tahu-Ngati Whaoa rohe: Red Hills Conservation Covenant, Deep Creek/Torepatutahi, Waikite, Ngahewa, Ohaki, Tutukau Z East, Takapou/Te Toke, Wai-O-Tapu, Ruatawiri.</p>
<p>Brief description of site</p>	<p>Wetlands were once abundant within the rohe prior to European land clearance and drainage for residential, forestry and agricultural development. Many wetlands, particularly in the Reporoa Basin, have been extensively drained for agricultural use since European settlement. The extent of wetlands remaining in the rohe is now only 1100 ha or 0.005% of the total land area. It is unknown what the historical extent of wetland coverage was, but the entire Reporoa Basin consisted of large areas of floodplain and rich soils, and the translation of the name Reporoa is “long swamp”. The Waikato River meandered and was historically much wider in some areas such as around Ohaki and Mihi, enabling the establishment of large areas of either permanently or periodically inundated wetland areas.</p> <p>Wetlands historically were utilised by the Ngati Tahu-Ngati Whaoa people for harvest of mahinga kai (fish, birds and plants), use of rongoa species and harvest of harakeke and other materials for weaving and construction of various tools. They formed part of the mosaic of areas and resources associated with Te Awa o Waikato that the iwi moved between to sustain our people.</p> <p>The remaining wetlands in the rohe are now limited in extent and integrity. These remaining areas are considered of high importance to protect, enhance and restore where possible to facilitate ecological gains as well as the preservation and enhancement of cultural values.</p> <p>Land tenure of these sites is mixed, however the majority occur on both Ngati Tahu-Ngati Whaoa Runanga land and trust blocks, land administered by the Department of Conservation and some on private land.</p>

	<p>The sites range in size, integrity and values. The issues at each site also vary, however as with most wetlands the key issues include hydrological integrity, plant and animal pests, and in some cases issues with flow ramping for the operation of the hydro system on the Waikato River.</p> <p>Our iwi environmental plan, <i>Rising above the mist – Te Aranga ake I te taimahatanga</i>, has the following long term goals in regards to wetlands:</p> <p><i>“More wetland areas reinstated; Native species associated with wetlands are abundant; Fewer exotic plant and animal pests in wetland areas; Traditional practices associated with wetlands are revived.”</i></p>
Project goal/s (SMART)	<p>Within 2 years of project commencement, the historic use of wetland sites is documented and the current state of these areas is known. Issues impacting on cultural values are identified.</p> <p>Within 20 years, work to remediate these issues is planned, funded and implemented in collaboration with others. NTNW iwi are engaged in restoration, learning and restoring cultural traditions and values.</p>
Works required (quantity and description)	<p>The work would involve a two staged approach:</p> <p>Stage one: Step one: Collation of historic information/matauranga on the use of various wetland areas in the rohe, the resources they contained, what they were used for.</p> <ul style="list-style-type: none"> - Review of existing information by NT-NWRT staff/contractor - 100 hours at \$100 per hour - \$10,000 - One on one interviews – 10 interviews at \$800 per interview (2 hours all inclusive) - Filming and film editing x 2 days each at \$1400 per day <p>Step two: Assessment of the state of these areas, identification of issues at these sites impeding/impacting on cultural values. Development of options for remedial measures and assessment of approaches to restore mauri at these sites.</p> <ul style="list-style-type: none"> - Consultant/contractor – development of management plan/options \$30,000. <p>Stage two: Step one: Implementation of remedial/enhancement measures is undertaken in collaboration with others.</p> <p>Costs for this component will remain unquantified until step one is complete and options/costings are known. Works will include fencing, planting, weed control and animal pest control.</p> <p>Step two:</p>

	<p>Information shared with Ngati Tahu-Ngati Whaoa iwi and traditional use revived.</p> <ul style="list-style-type: none"> - Wananga x 2 – venue/kai/koha \$1500; facilitator \$1000, travel expenses \$600. - Sharing of information with iwi/public (resource for application through website) \$5000 setup costs and development of output/content (in conjunction with various other projects/information – costs may be less). 														
Risks to project success	<p>There is minimal risk to success in the initial stages of this project. Given the uncertainty about what remedial works may be required at particular sites, one of the key risks is that future funding to implement works may not be available as this is not included in this Project Assessment Form at this stage. It is anticipated that these works and costings would be included in the first review of the Restoration Strategy.</p>														
Land tenure – likelihood of adoption and adoption circumstances	<p>Many of the wetland sites included in this project are either on land owned by Ngati Tahu-Ngati Whaoa Runanga or land trusts, or on land owned by the Crown and administered by the Department of Conservation or Land Information New Zealand.</p> <p>The adoption of this project and ongoing measures of protection and enhancement may be supported by agencies and land trusts but the response by private landowners is not known and will strongly depend on what type of works and access arrangements are proposed.</p>														
Knowledge gaps and response	<p>There is limited information on some of these wetland areas, their current state and suitability for restoration or rehabilitation. The status of access to these sites is currently relatively unknown.</p>														
Project duration (years)	<p>Initial work – (both steps) 2 years</p> <p>Second stage – (both steps) 20 years</p>														
Up-front cost – total for implementation phase/project duration	<table border="1"> <thead> <tr> <th>Work description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Stage one, step one</td><td>20,800</td></tr> <tr> <td>Stage one, step two</td><td>30,000</td></tr> <tr> <td>Stage two, step one</td><td>Cost unknown</td></tr> <tr> <td>Stage two, step two</td><td>11,200</td></tr> <tr> <td>Project management/staffing/incidentals (30%)</td><td>18,600</td></tr> <tr> <td>Total</td><td>80,600</td></tr> </tbody> </table>	Work description	Cost (\$)	Stage one, step one	20,800	Stage one, step two	30,000	Stage two, step one	Cost unknown	Stage two, step two	11,200	Project management/staffing/incidentals (30%)	18,600	Total	80,600
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Lake Ngahewa Wetland (Department of Conservation – Paul Cashmore 2017)



Torepatutahi Wetland (Ngati Tahu-Ngati Whaoa Runanga Trust – 2015)

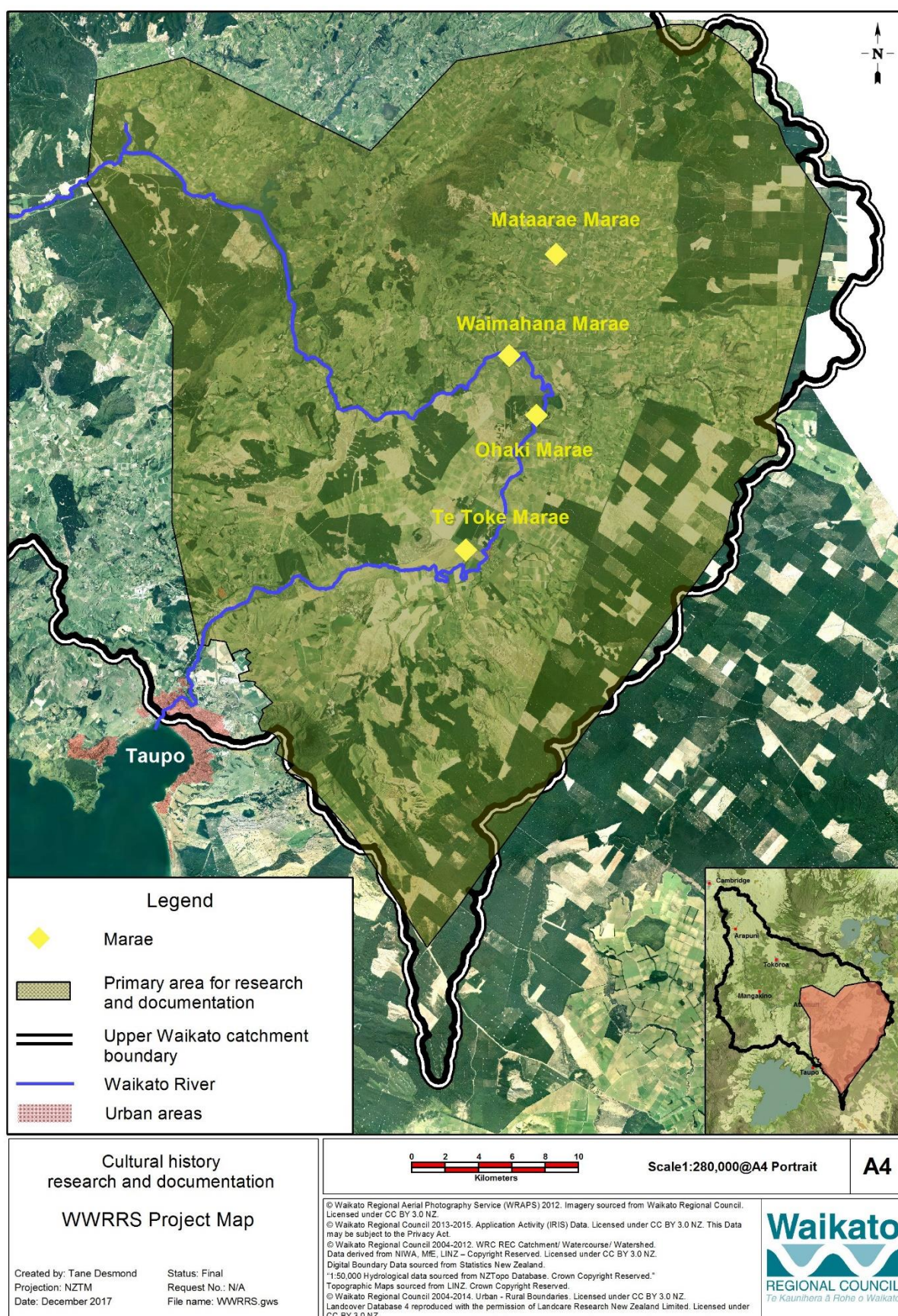


Waikite Wetlands (Department of Conservation 2009)

<p>NTNW 5</p> <p>Ngati Tahu-Ngati Whaoa</p>	<p>Cultural history research and documentation</p>
<p>Priority: Very high</p>	
<p>Vision</p>	<p>Cultural history of Ngati Tahu-Ngati Whaoa association with Te Awa o Waikato is well known, documented and utilised by Ngati Tahu-Ngati Whaoa.</p> <p>Ngati Tahu-Ngati Whaoa awa history is preserved, and significance applied and used in river management decision making processes.</p>
<p>Location</p>	<p>Throughout Ngati Tahu-Ngati Whaoa rohe along and within Te Awa o Waikato catchment</p>
<p>Brief description of site</p>	<p>Over 81 kilometres of the main stem of Te Awa of Waikato and approximately 2200 kilometres of tributaries fall in the Ngati Tahu-Ngati Whaoa rohe.</p> <p>Te Awa o Waikato and its catchment is a resource of great cultural, historical, traditional and spiritual significance to the people of Ngati Tahu-Ngati Whaoa. Our relationship with Te Awa o Waikato and its tributaries, and our respect for it, gives rise to our responsibilities to protect the river and all it encompasses, and to exercise our mana whakahaere in accordance with long established tikanga to ensure the wellbeing of the river.</p> <p>The awa holds many sites of significance to the Ngati Tahu-Ngati Whaoa people. Many of these sites have been highly impacted through development of the river and many connections have been lost through loss of land and access to sites</p> <p>In particular the following are key areas for knowledge collation:</p> <ul style="list-style-type: none"> - Many historic names relate to resource abundance and use in various areas. Many of these are neither documented nor currently used or understood. - Historic marae and kainga locations and their associations with resources. Many of these are not formally documented and few are formally recognised for iwi members. - Island pa (in the river) were extensively used by Ngati Tahu-Ngati Whaoa, historically. Many of these island pa have been lost in the creation of hydro dams, and their history and significance have not been fully documented. - Many other cultural sites and geothermal areas were also lost during inundation of areas by hydro dam creation. These sites' history and significance have not been fully documented. <p>Our iwi environmental plan, <i>Rising above the mist – Te Aranga ake i te taimahatanga</i>, documents this project as an opportunity in the following korero:</p> <p><i>“It is essential that knowledge and history and identity is kept alive as part of continuing cultural existence. Opportunities lie in resurfacing and sharing the</i></p>

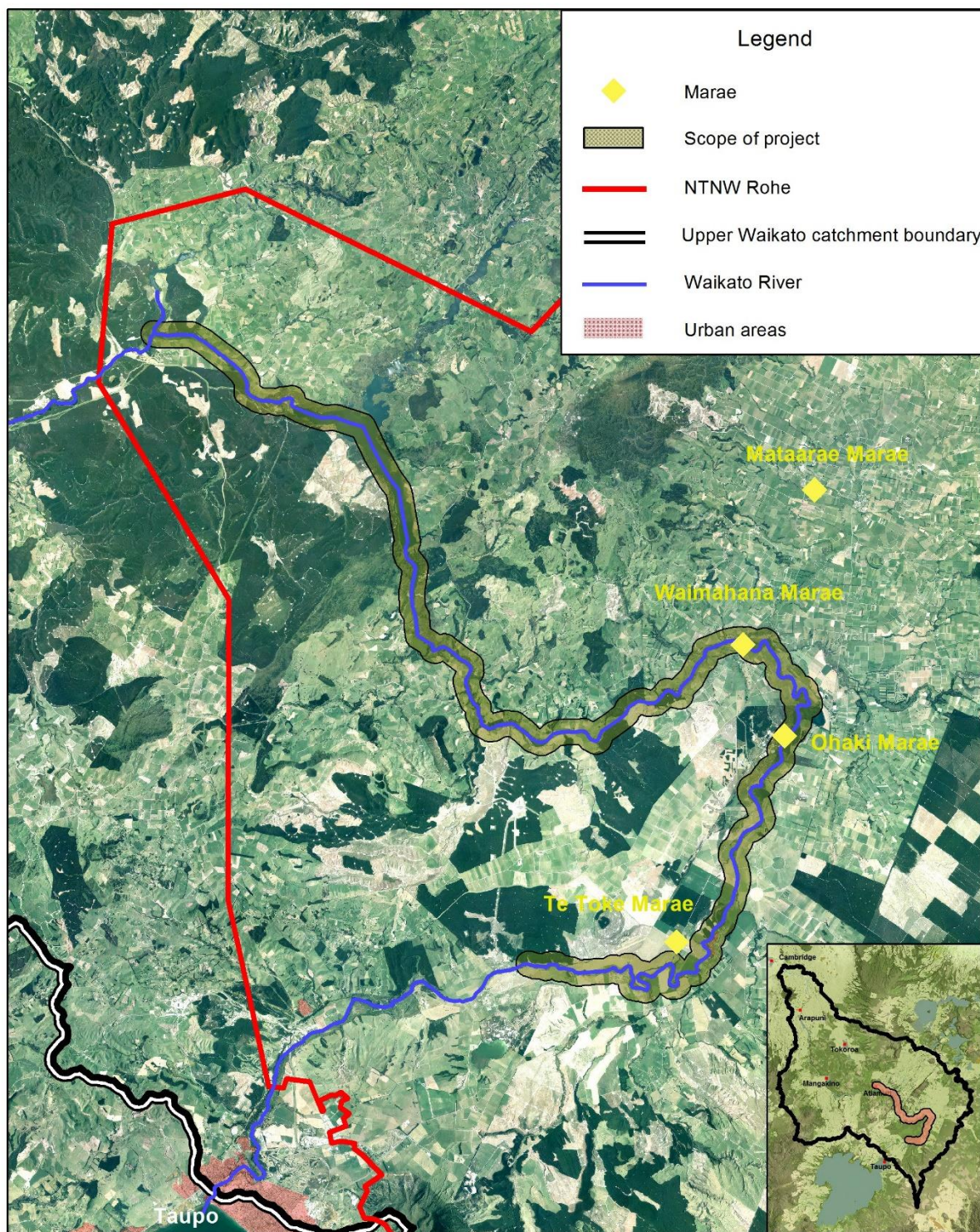
	<p><i>knowledge of significant sites, ensuring iwi members can access these sites, and making time and space to learn the korero about them"</i></p> <p>Our long term goals (from the IEMP) are:</p> <ul style="list-style-type: none"> - <i>Wahi tapu and their history are known by the iwi</i> - <i>All wahi tapu are appropriately managed</i> - <i>Historical knowledge of significant sites is retained, widely known and appreciated</i> - <i>Significant sites to the iwi are restored where feasible</i> <p>This project would contribute to achieving these goals</p>						
Key threats/issues	<table border="1"> <thead> <tr> <th>Key threat</th><th>Impact on feature</th></tr> </thead> <tbody> <tr> <td>Loss of knowledge</td><td>Links to historic cultural use of resources and sites is lost. Compromises the ability to assess and implement remedial/enhancement work across multiple values.</td></tr> <tr> <td>Loss of connection with Te Awa o Waikato</td><td>Cultural values of sites are not well understood. Management of these areas does not fully encompass consideration of these values. Management of these sites is not holistic. Some cultural sites may be destroyed due to lack of knowledge.</td></tr> </tbody> </table>	Key threat	Impact on feature	Loss of knowledge	Links to historic cultural use of resources and sites is lost. Compromises the ability to assess and implement remedial/enhancement work across multiple values.	Loss of connection with Te Awa o Waikato	Cultural values of sites are not well understood. Management of these areas does not fully encompass consideration of these values. Management of these sites is not holistic. Some cultural sites may be destroyed due to lack of knowledge.
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Loss of knowledge	Links to historic cultural use of resources and sites is lost. Compromises the ability to assess and implement remedial/enhancement work across multiple values.						
Loss of connection with Te Awa o Waikato	Cultural values of sites are not well understood. Management of these areas does not fully encompass consideration of these values. Management of these sites is not holistic. Some cultural sites may be destroyed due to lack of knowledge.						
Project goal/s (SMART)	Within 5 years of project commencement, the cultural history of Ngati Tahu-Ngati Whaoa's resource and historic sites is well known, documented, shared and utilised by Ngati Tahu-Ngati Whaoa iwi and others. History is preserved, and significance applied and used in river management decision making processes.						
Works required	<p>Collation of cultural history regarding the meaning and purpose of the locations of old marae and island pa. Documentation of place name association with resources within areas.</p> <ul style="list-style-type: none"> - Review of existing information by staff/contractor – 100 hours at \$100 per hour – \$10,000. - One on one interviews – 10 interviews at \$800 per interview (2 hours all inclusive). - Filming and film editing x 2 days each at \$1400 per day. <p>Work with landowners where old marae sites were present to install 6 kohatu or other recognition of their historic cultural importance</p> <ul style="list-style-type: none"> - \$10,000 per site – 6 sites. <p>Providing this information in formats available to Ngati Tahu-Ngati Whaoa iwi.</p> <ul style="list-style-type: none"> - Wananga x 2 – venue/kai/koha \$1,500; facilitator \$1000, travel expenses \$600. - Sharing of information with iwi/public (resource for application through website) \$5000 setup costs and development of output/content. 						

Risks to project success	Lack of cooperation by landowners for access and recognition of sites. Inability to locate information relevant to the kaupapa of this project.																		
Land tenure – likelihood of adoption and adoption circumstances	Most information will be collated regardless of land ownership. Some sites will be on private land for potential installation of kohatu or site identification. The likelihood of adoption may vary between landowners and this will be assessed on a site by site basis.																		
Knowledge gaps and response	The project is focused on filling these knowledge gaps in relation to this kaupapa. These costings have been based on best estimate of time and resources.																		
Project duration	5 years																		
Up-front cost – total for implementation phase/project duration	<table border="1"> <thead> <tr> <th>Work description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Review of existing information</td><td>10,000</td></tr> <tr> <td>One on one interviews</td><td>8000</td></tr> <tr> <td>Filming and film editing</td><td>2800</td></tr> <tr> <td>Development and installation of 6 kohatu</td><td>60,000</td></tr> <tr> <td>Wananga to share findings</td><td>6200</td></tr> <tr> <td>Sharing of information with iwi/public (resource for application through website)</td><td>5000</td></tr> <tr> <td>Project management/staffing/incidentals (30%)</td><td>27,600</td></tr> <tr> <td>Total</td><td>119,600</td></tr> </tbody> </table>	Work description	Cost (\$)	Review of existing information	10,000	One on one interviews	8000	Filming and film editing	2800	Development and installation of 6 kohatu	60,000	Wananga to share findings	6200	Sharing of information with iwi/public (resource for application through website)	5000	Project management/staffing/incidentals (30%)	27,600	Total	119,600
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Total	119,600																		



NTNW 6 Ngati Tahu-Ngati Whaoa	Waka paddle, korero sharing and building connection with Te Awa o Waikato									
Priority: Very high										
Vision	Ngati Tahu-Ngati Whaoa connections to our ancestral awa are enhanced, our culture of waka use is enacted and preserved, and our korero is shared.									
Location	Parts of the main stem of the Waikato river in the rohe – Nga Awa Purua to Atiamuri.									
Brief description of site	<p>Over 81 kilometres of the main stem of Te Awa o Waikato fall in the Ngati Tahu-Ngati Whaoa rohe. The sections of the river which are able to be paddled range from below Nga Awa Purua to Atiamuri Dam (approximately 70 kilometres of river).</p> <p>Te Awa o Waikato and its catchment is a resource of great cultural, historical, traditional and spiritual significance to the people of Ngati Tahu-Ngati Whaoa. Our relationship with Te Awa o Waikato and its tributaries, and our respect for it, gives rise to our responsibilities to protect the river and all it encompasses, and to exercise our mana whakahaere in accordance with long established tikanga to ensure the wellbeing of the river.</p> <p>These sections of Te Awa o Waikato which form part of the site to be paddled include a range of ancestral sites including kainga, pa, tuahu, cultivations, harvest areas and wahi tapu sites.</p> <p>This project is for a biennial event where Ngati Tahu-Ngati Whaoa will paddle Te Awa o Waikato within the rohe and learn about cultural history and connect with the awa.</p> <p>This activity assists in reinforcing the relationship between our people and our ancestral river. This project provides an opportunity for our kaumatua to share their stories with others and be on the river with our people. It seeks to encourage participation in our tradition of waka paddling and use of the river.</p>									
Key threats/issues	<table><tr><th>Key threat</th><th>Impact on feature</th></tr><tr><td>Loss of knowledge</td><td>Links to historic waka routes and use of the river is lost. Cultural sites only accessible from the river are not known.</td></tr><tr><td>Loss of connection</td><td>Ngati Tahu-Ngati Whaoa intrinsic links as a river iwi are not fully enabled through being “on” the river.</td></tr><tr><td>Loss of waka skills</td><td>Opportunity for practices and techniques for waka paddling are compromised and diminished within the iwi.</td></tr></table>		Key threat	Impact on feature	Loss of knowledge	Links to historic waka routes and use of the river is lost. Cultural sites only accessible from the river are not known.	Loss of connection	Ngati Tahu-Ngati Whaoa intrinsic links as a river iwi are not fully enabled through being “on” the river.	Loss of waka skills	Opportunity for practices and techniques for waka paddling are compromised and diminished within the iwi.
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Loss of waka skills	Opportunity for practices and techniques for waka paddling are compromised and diminished within the iwi.									

Project goal/s (SMART)	At least 80 Ngati Tahu-Ngati Whaoa people are involved every two years with the event, with many paddling and others assisting. Korero and history are shared through engagement in traditional cultural practices. Opportunity and ability to fully engage with the river is increased. Use of waka and associated skills are increased and maintained amongst the Ngati Tahu-Ngati Whaoa people.																		
Works required (quantity and description)	For each event the following is required: <ul style="list-style-type: none"> - A training/safety day prior to the paddle day – tutors/trainers \$2000 per day. - Provision of waka (in addition to Ngati Tahu-Ngati Whaoa waka) – for paddle day. Up to 6 boats at \$150 per day. - Safety boats (x3) for a day \$4500. - Catering for 100 people at \$50 per person per event. - Incidentals for event – water bottles, sunscreen, petrol vouchers – \$1000 per event. - Participation T-shirts – 100 x \$25 per event. - Koha for marae use \$500 per day. 																		
Risks to project success	There are minimal risks to this project. Ngati Tahu-Ngati Whaoa have an active waka group and paddlers. This type of event has been successfully run before so the issues and barriers are well known.																		
Land tenure – likelihood of adoption and adoption circumstances	The sections of river to paddle and access are open to the public so there are no tenure issues. Any boat ramps to be used or existing infrastructure are publicly owned or relevant permissions obtained from landowners. Adoption of access by private landowners is relatively high at key access points.																		
Knowledge gaps and response	There are minimal knowledge gaps. The river sections to be paddled are well known, access points and limitations are well understood. Ngati Tahu-Ngati Whaoa have been involved and organised similar events before and are aware of all requirements.																		
Project duration (years)	15 years – event held biennially (7 events)																		
Up-front cost – total for implementation phase/project duration	<table border="1"> <thead> <tr> <th>Works description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Training/safety day x 7 events</td><td>14,000</td></tr> <tr> <td>Hire of additional waka x 7 events</td><td>6300</td></tr> <tr> <td>Safety boat hire x 7 events</td><td>31,500</td></tr> <tr> <td>Catering x 7 events</td><td>35,000</td></tr> <tr> <td>Koha x 7 events</td><td>3500</td></tr> <tr> <td>Incidentals x 7 events</td><td>24,500</td></tr> <tr> <td>Project management/staffing/incidentals (25%)</td><td>28,700</td></tr> <tr> <td>Total</td><td>143,500</td></tr> </tbody> </table>	Works description	Cost (\$)	Training/safety day x 7 events	14,000	Hire of additional waka x 7 events	6300	Safety boat hire x 7 events	31,500	Catering x 7 events	35,000	Koha x 7 events	3500	Incidentals x 7 events	24,500	Project management/staffing/incidentals (25%)	28,700	Total	143,500
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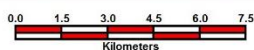


Waka paddle, korero sharing and building connection with Te Awa o Waikato

WWRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WWRRS.gws



Scale 1:200,000@A4 Portrait

A4

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Waka (Ngati Tahu-Ngati Whaoa Runanga Trust 2015)



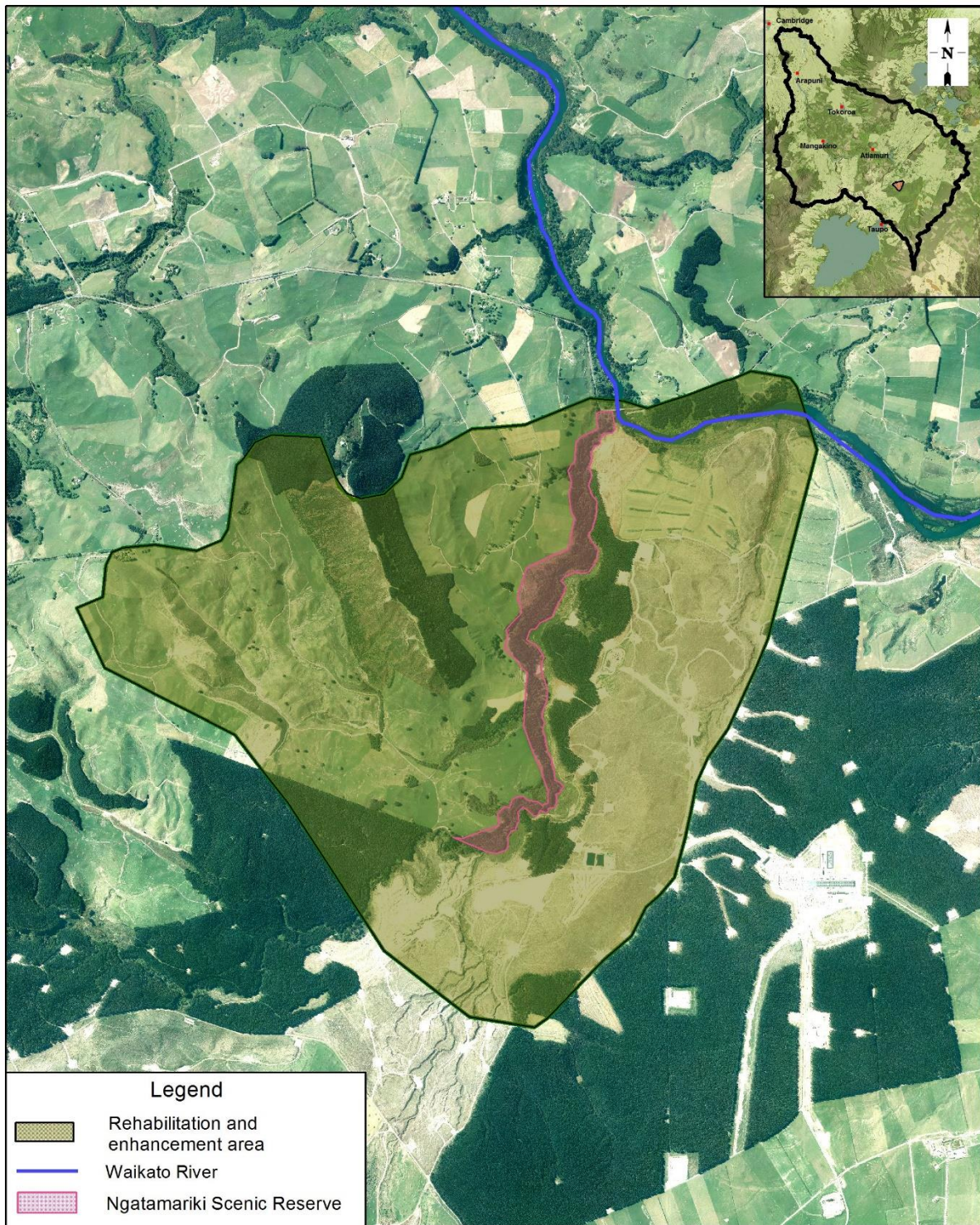
Te Awa o Waikato – Vaile Road (Ngati Tahu-Ngati Whaoa Runanga Trust 2015)

NTNW 7 Ngati Tahu-Ngati Whaoa	Ngatamariki Scenic Reserve / Orakonui catchment rehabilitation and enhancement
Priority: Very high	
Vision	The cultural, ecological, geothermal and recreational values of Ngatamariki Scenic Reserve and the lower Orakonui catchment are rehabilitated, enhanced and protected.
Location	Lower Orakonui Stream Catchment/Ngatamariki Scenic Reserve
Brief description of site	<p>The Ngatamariki Scenic Reserve is Crown land administered by the Department of Conservation. It is approximately 50ha in size and follows the Orakonui Stream as a long, narrow strip. The Orakonui Stream (and the reserve) join Te Awa o Waikato at Tutukau Bridge.</p> <p>There are several geothermal sites of significance within and close to the reserve which support geothermal vegetation and geodiversity values.</p> <p>A Rehabilitation and Enhancement Plan has been developed for the reserve and surrounding lower Orakonui catchment to identify opportunities to achieve gains in rehabilitation of ecological, geothermal, mahinga kai, recreational and cultural values at this site. The scope of the area is approximately ~1300ha, however rehabilitation primarily focuses on the reserve. But by working with adjacent landowners and encouraging activities on private land, it is hoped to enhance this work.</p> <p>Ngati Tahu-Ngati Whaoa wish to be instrumental in their role as kaitiaki of the cultural and natural resources in our rohe; to practice kaitiakitanga and what it means to us. We are committed to working with others to achieve this. Our vision and aspirations in regards to this are captured in our IEMP and outlined below:</p> <p>Hauora: Taiao Ora, Whanau Ora, Mauri Ora</p> <p>Flourishing nature – thriving families – the essence of vitality</p> <p>Our vision is created by:</p> <p>Whakangakautanga – Aspirations:</p> <ul style="list-style-type: none"> - <i>To see iwi fully involved</i> - <i>To begin the process of restoration</i> - <i>To see people enjoy places under our management</i> - <i>To establish good working relationships with others</i> - <i>To generate opportunities for the Ngati Tahu-Ngati Whaoa iwi</i> - <i>To see resources managed in accordance with the tikanga of our iwi.</i>

	<p>We actively look for sites and partnerships where we can work with others to enable us to achieve our vision and aspirations. We see Ngatamariki Scenic Reserve and the lower Orakonui Stream/margins of Te Awa o Waikato as one site where this is achievable. We wish to take a lead on rehabilitation opportunities at this site and work with others to achieve this.</p> <p>The site holds high cultural values for the Ngati Tahu-Ngati Whaoa people. The stream was a harvest site for mahinga kai, there are pa in close proximity, and other key cultural sites in vicinity of the Waikato river. There were cultivation areas in the surrounds along with ngawha, which were suitable for bathing and other purposes.</p>										
Key threats/issues	<table border="1"> <thead> <tr> <th>Key threat</th><th>Impact on feature</th></tr> </thead> <tbody> <tr> <td>Weeds in geothermal areas (pampas, wilding conifers)</td><td>Impact on native vegetation, affect geothermal values.</td></tr> <tr> <td>Weeds in native forest areas, stream buffers</td><td>Inhibit native forest regeneration, reduce riparian habitat and suitable habitat for forest birds and taonga species.</td></tr> <tr> <td>Soil erosion/sediment from steep incised nature of areas around reserve</td><td>Deposition of sediment into geothermal areas and stream results in diminished geothermal values, and impacts on water quality in the Orakonui Stream.</td></tr> <tr> <td>Lack of access to stream, cultural sites, geothermal</td><td>Ability to visit the site, share in cultural history, and ngawha limited for iwi members.</td></tr> </tbody> </table>	Key threat	Impact on feature	Weeds in geothermal areas (pampas, wilding conifers)	Impact on native vegetation, affect geothermal values.	Weeds in native forest areas, stream buffers	Inhibit native forest regeneration, reduce riparian habitat and suitable habitat for forest birds and taonga species.	Soil erosion/sediment from steep incised nature of areas around reserve	Deposition of sediment into geothermal areas and stream results in diminished geothermal values, and impacts on water quality in the Orakonui Stream.	Lack of access to stream, cultural sites, geothermal	Ability to visit the site, share in cultural history, and ngawha limited for iwi members.
Key threat	Impact on feature										
Weeds in geothermal areas (pampas, wilding conifers)	Impact on native vegetation, affect geothermal values.										
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Soil erosion/sediment from steep incised nature of areas around reserve	Deposition of sediment into geothermal areas and stream results in diminished geothermal values, and impacts on water quality in the Orakonui Stream.										
Lack of access to stream, cultural sites, geothermal	Ability to visit the site, share in cultural history, and ngawha limited for iwi members.										
Project goal/s (SMART)	<p>Within 5 years of project commencement, work at high priority rehabilitation sites in the reserve is underway and ecological integrity has improved. Adjacent landowners are active in assisting with rehabilitation measures on their land which adds value to work in the reserve.</p> <p>Within 5 years, opportunities for increasing recreational opportunities and sharing cultural values have become part of the work. The public and iwi have access to some areas of the reserve and Ngati Tahu-Ngati Whaoa history and stories are being shared.</p> <p>Within 10 years key rehabilitation, areas are being actively managed for weeds, planting has occurred and native vegetation is recovering.</p>										
Works required (quantity and description)	<p>Control of weeds in key rehabilitation areas as per management plan (6 years). Total cost \$83,398.</p> <p>Plants for key rehabilitation areas as per management plan (6 years). Total cost \$105,760.</p>										

	<p>Plant maintenance/weed control for key rehabilitation areas as per management plan (6 years). Total cost \$37,317.</p> <p>Signage at entrance to reserve or adjacent Tutukau Road Reserve, to share values and information, \$10,000.</p> <p>Walkway in reserve to geothermal area – construction. Cost estimate only and would need to be scoped further, \$260,000 (does not include maintenance).</p>
Risks to project success	<p>Landowners surrounding the reserve may not support the work in the reserve. Work in the reserve may be compromised by activities/weeds or other land use issues on surrounding land.</p> <p>Costs may be more than originally budgeted due to higher infestation of weed species, increases in price and unknown issues in rehabilitation.</p> <p>Track construction costs and ongoing maintenance are relatively unknown and have been based on a broad costing. Cost may be significantly more once an alignment is selected and scoped.</p>
Land tenure – likelihood of adoption and adoption circumstances	<p>The land tenure in Ngatamariki Scenic Reserve is Crown land administered by the Department of Conservation. Adoption of proposed remediation works is likely as DOC has been supportive of this project to date.</p> <p>Surrounding landownership is private. There may be support for initiatives by surrounding landowners, however this may vary between properties.</p>
Knowledge gaps and response	<p>The information used in this project assessment is based on preparation of a rehabilitation plan which has focused on the scenic reserve. This information has been well researched. Some information from surrounding private land is well known and has been incorporated, however the extent and costs for rehabilitation in some areas within the lower Orakonui are not currently well known. Track construction costs are also broad estimates and no scoping of location or issues have been undertaken.</p>
Project duration (years)	20 years

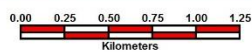
Up-front cost – total for implementation phase/project duration	Works description	Cost (\$)
	Control of weeds in key rehabilitation areas as per management plan	83,398
	Plants for key rehabilitation areas as per management plan	143,077
	Plant maintenance/weed control for key rehabilitation areas as per management plan	
	Signage at entrance to reserve or adjacent Tutukau Road Reserve – values, information	10,000
	Construction of walkway (does not include maintenance)	260,000
	Project management/staffing/incidentals (30%)	148,942
	Total	645,417



**Ngatamariki Scenic Reserve /
Orakonui catchment rehabilitation
and enhancement
WRRS Project Map**

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WRRS.gws



Scale 1:35,000@A4 Portrait

A4

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Orakonui South geothermal feature (Photo supplied by Mercury, 2016)



Orakonui South geothermal feature (Photo supplied by Mercury, 2016)

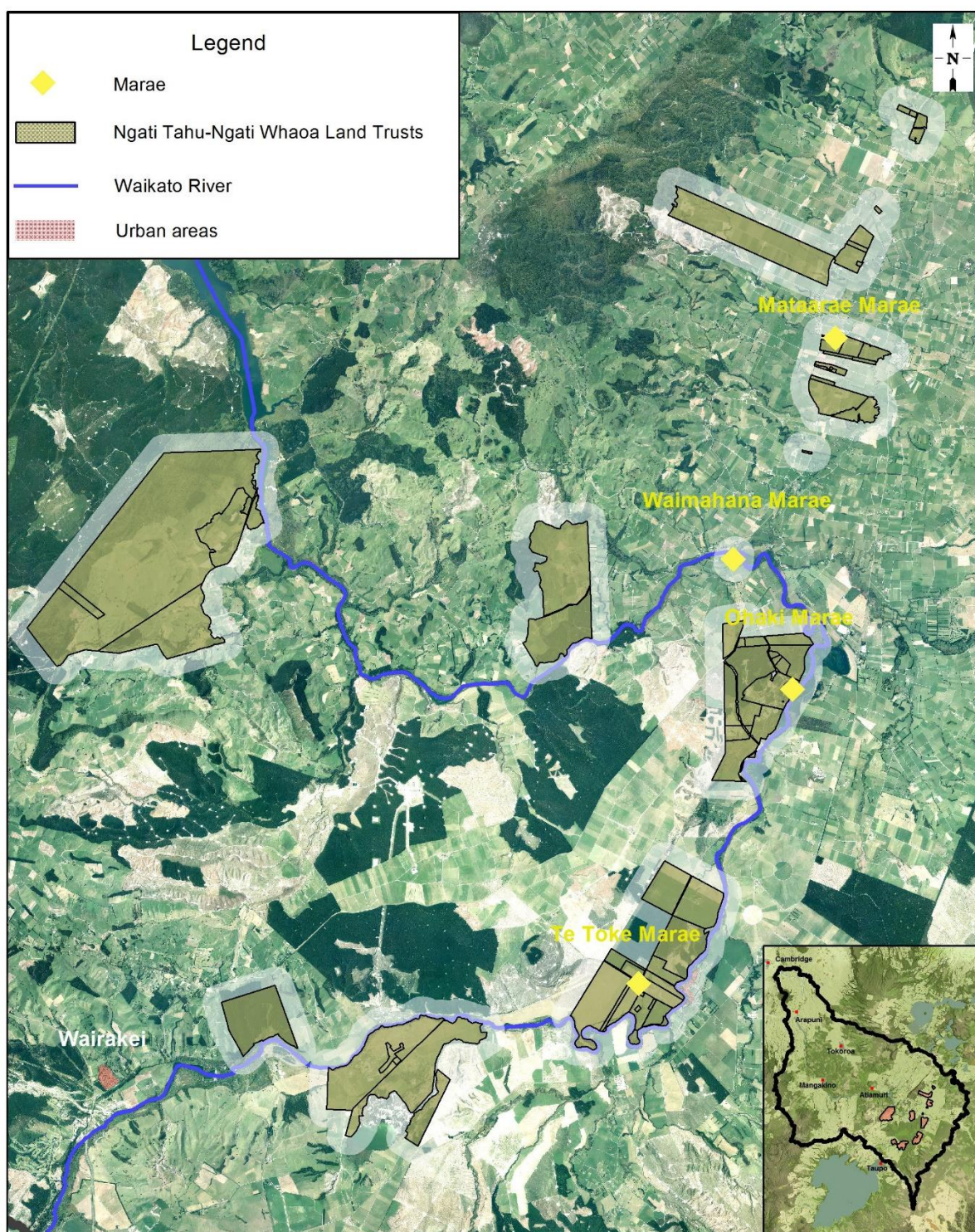


Orakonui Stream (Photo supplied by Mercury, 2016)

<p>NTNW 8</p> <p>Ngati Tahu-Ngati Whaoa</p>	<p>Support of Ngati Tahu-Ngati Whaoa land blocks to achieve sustainability outcomes</p>
<p>Priority: Very high</p>	
<p>Vision</p>	<p>Hauora: Taiao Ora- Whanau Ora – Mauri Ora. “Flourishing nature, thriving families – the essence of vitality.”</p> <p>All land under Ngati Tahu-Ngati Whaoa iwi ownership is enhanced, iwi are active kaitiakitanga and the land is preserved for future generations.</p>
<p>Location</p>	<p>All Ngati Tahu-Ngati Whaoa land blocks/trusts in the rohe. These land trusts include those specifically listed below, along with other smaller whanau blocks not included on the attached PAF map.</p> <p>Tutukau Z East, Takapou, Ohaki Tribal Trust, Tauhara No 2 Trust, Paeroa South, Tahorakuri 2, Whanau trusts, Tauhara Moana.</p>
<p>Brief description of site</p>	<p>A total of approximately 5000ha of land in the Ngati Tahu-Ngati Whaoa rohe is owned by iwi through various land trusts. Land use of these areas include the following:</p> <ul style="list-style-type: none"> - Drystock farming - Dairy farming - Geothermal power generation - Tourism - Leased to others. <p>There are many opportunities on iwi land to realise environmental opportunities and empower iwi to actively practice kaitiakitanga. Our iwi environmental plan, <i>Rising above the mist – Te Aranga ake I te taimahatanga</i>, identified the following opportunity:</p> <p><i>“There are opportunities for land Trust to identify further areas of land they wish to protect, either because they have wahi tapu or because they are unproductive or vulnerable to erosion. There are opportunities to retire less productive land and re-establish tree cover on it and then concentrate farm inputs on the more productive land without losing profit.”</i></p> <p>Our IEMP also states the following goal in relation to whenua: <i>The land is providing resources, income and wellbeing for the iwi and others without environmental degradation.</i></p> <p>To identify and work towards achieving these additional environmental benefits (above relevant legislative requirements), several restoration strategies/enhancement plans have already been completed for some Ngati Tahu-Ngati Whaoa land trusts. Some activities identified in these plans have also already been implemented.</p> <p>The runanga would like to be the leader/co-ordinator of this work to help the land trusts play their role in achieving the Vision and Strategy for Te Awa o Waikato.</p>

Key threats/issues	In general the following threats and issues may be found at some trust lands:	
	Key threat	Impact on feature
	Erosion/sediment	Contribution to sediment loads to the Wai-O-Tapu stream and the main Waikato River.
	Stock access to seeps, wetland areas	Reduced water quality and soil compaction. Loss of wetland vegetation and habitat.
	Unfenced areas of native vegetation	Reduced biodiversity opportunities, reduced opportunity for native corridors between tributaries and main river.
	Lack of riparian cover and associated fish habitat	Reduced habitat for tuna and koura.
	Wilding conifers	Compete with native communities, particularly in geothermal areas.
	Other weeds (including willow)	Compete with other native species and alter ecological processes.
Project goal/s (SMART)	Within 10 years of project commencement, at least 75% of Ngati Tahu-Ngati Whaoa land trusts are implementing aspects of agreed restoration strategies. Ngati Tahu-Ngati Whaoa are active kaitiaki in the rohe, on their land, and have the knowledge and tools to play a role in achieving Te Ture Whaimana o te awa o Waikato.	
Works required	<p>A project liaison officer to work with Ngati Tahu-Ngati Whaoa land trusts to guide development of restoration strategies and implementation plans for environmental enhancement and protection. Provide support for planning, seeking funding and assisting with implementation of enhancement activities to help achieve active kaitiakitanga. Work would involve working with trusts who already have restoration plans, to implement these, as well as working with other trusts to develop restoration plans and implement.</p> <p>Project liaison officer – 12 hours per week for 6 years. Contractor at \$100 per hour.</p> <p>Development of strategies and implementation plans for environmental enhancement and protection – 10 plans at \$5000 each. These plans would address opportunities and measures above and beyond what is likely to be required through the Healthy Rivers Plan change.</p>	
Risks to project success	<p>Some land trusts may not be willing to participate.</p> <p>Funding may not be available for implementation of some projects (once identified).</p>	
Land tenure – likelihood of adoption and adoption circumstances	All land is owned by Ngati Tahu-Ngati Whaoa land trusts. The rate of willingness to adopt environmental initiatives is not known and may vary between trusts. Adoption is likely to increase if we provide a key point of contact and ongoing support to trusts to identify opportunities and assist	

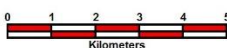
	with planning, seeking funding and implementation of enhancement activities.	
Knowledge gaps and response	Knowledge of restoration opportunities for land trusts who have already had management plans is well known. For many smaller land trusts this information and what would be required is relatively unknown and would need to be ascertained.	
Project duration	6 years	
Up-front cost – total for implementation phase/project duration	Works description	Cost (\$)
	Engagement with land trusts for restoration strategies and management plans/support Project liaison officer – contactor \$100 per hour up to 12 hours per week for 6 years	374,400
	Restoration strategies and management plans for some land trusts developed (10 trusts at average \$5000 each)	50,000
	Project management/staffing/incidentals (20%)	84,880
	Total	509,280



Support of Ngati Tahu-Ngati Whaoa
land blocks to achieve
sustainability outcomes
WWRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WWRRS.gws



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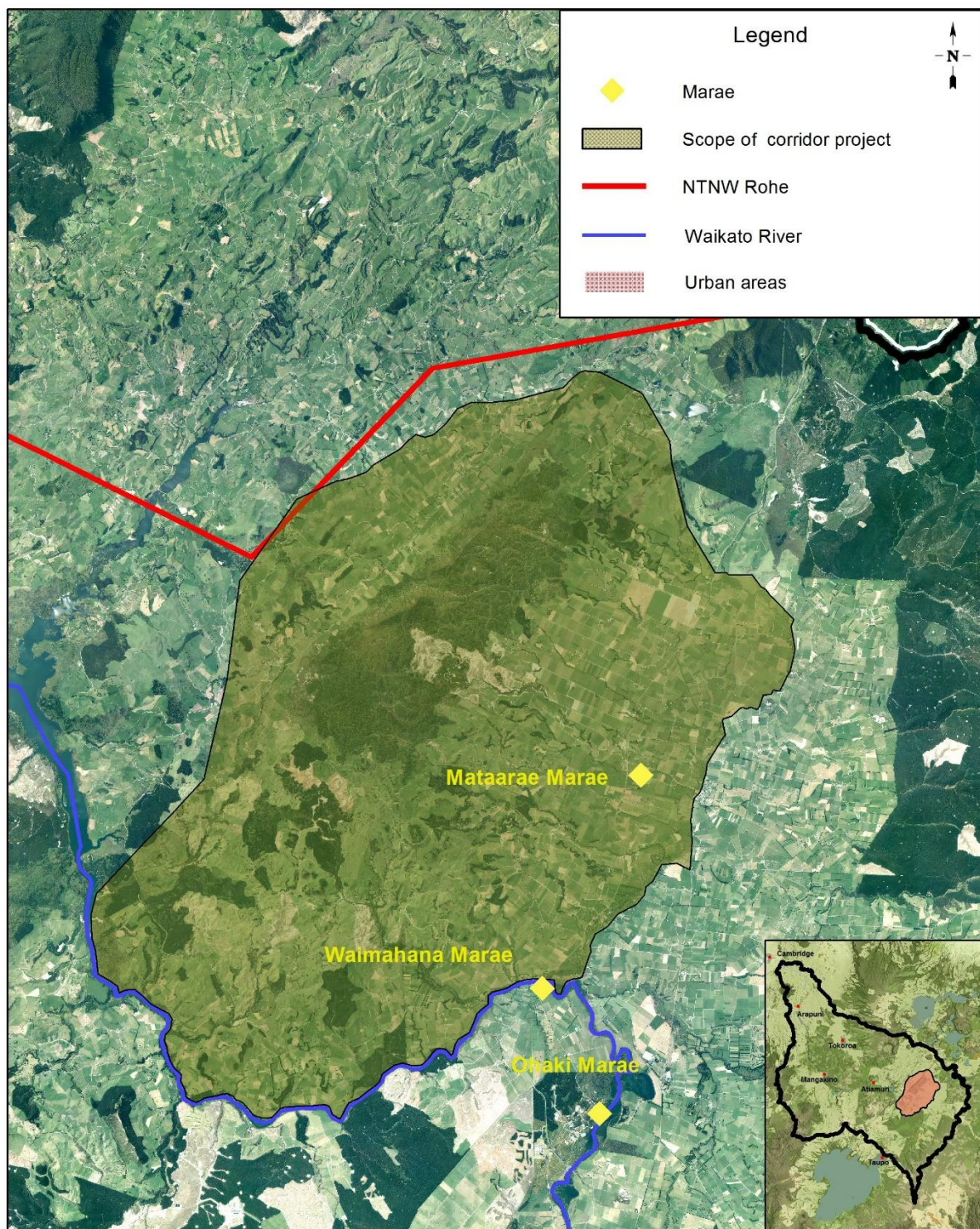
NTNW 9 Ngati Tahu-Ngati Whaoa	Establish fenced and planted corridors for all streams from the Paeroa Range within the catchment
Priority: Very high	
Vision	All streams running from the Paeroa Range are fenced and planted and are providing biodiversity/riparian corridors, improved habitat for mahinga kai, and soil conservation and water quality benefits for Te Awa o Waikato.
Location	Paeroa Range and associated tributaries flowing from the range within the NTNW rohe.
Brief description of site	<p>The Paeroa Range encompasses the largest remaining area of native vegetation in the rohe is and one of the larger ranges in the Upper Waikato catchment. The range is dominated by Te Kopia Scenic Reserve administered by the Department of Conservation (~2000ha), Ruatitihi-o-Paeroa Scenic Reserve owned and administered by Ngati Tahu-Ngati Whaoa Runanga Trust (~90ha), and some privately owned areas of native vegetation contiguous with the reserves. The range has numerous tributaries flowing to the Whirinaki Stream, the Wai-O-Tapu Stream and directly into the main awa.</p> <p>The vegetation of the range consists of the following associations:</p> <ul style="list-style-type: none"> - kamahi-rewarewa - rimu/black maire - rimu-northern rata/tawa-hinau-rewarewa-mangeao-kamahi - rimu/kamahi - Hall's totara/kamahi-broadleaf-tawheowheo. <p>There are also populations of the mistletoe <i>Peraxilla tetrapetala</i> and <i>Dactylanthus taylorii</i> in the area, along with most common forest birds.</p> <p>In a report commissioned for the Department of Conservation in 1995¹¹, the Te Kopia reserve ranked as one of the North Island's most important because:</p> <ul style="list-style-type: none"> - it has a range of vegetation types - it represents a once extensive area of forest which formed the transition between the hardwood forests north of Rotorua and the podocarp forests of the Taupō region - its relatively large in size - it has a high value area of geothermal features and vegetation on its western side. <p>Much of the remaining high value stream habitat is located in the tributaries close to the range. There are numerous existing soil conservation areas providing sediment and riparian values on areas</p>

¹¹ Vegetation and Flora of Lands Administered by Bay of Plenty Conservancy – 1995, Written by Sarah Beadle

	<p>which drain into the Reporoa Basin (and the Wai-O-Tapu Stream) or into the Whirinaki Arm.</p> <p>The Paeroa Range has high cultural values for the Ngati Tahu-Ngati Whaoa people. All areas within the wider rohe of Ngati Tahu-Ngati Whaoa were linked and our people used these various areas seasonally or for specific purposes. There were many kainga (settlements), cultivations, urupa, tuahu and other locations which were used for different purposes, including provision of food and materials, warmth, protection and refuge.</p> <p>The original forests in the area provided an abundance of kai sources such as fern root and birds, and the native trees provided materials for making waka, tools and whare. Ngawha around the area provided warmth and bathing. Various locations also provided micro climates for planted cultivations, including the growing of kumara.</p> <p>Areas around the wider Paeroa Range and Maunga Kakaramaea held pa which were places of refuge and battles. Burial grounds are also present in different areas, including the burial site of one of the prominent ancestors of Ngati Tahu-Ngati Whaoa – Maaka, who is a direct descendant of Tahumatua. Tahumatua is the eponymous ancestor from whom the tribe derive part of its name.</p> <p>Large areas of flax and wetlands would have been historically present in and around both the Reporoa Basin and the nearby Waikite Valley (adjacent to the Paeroa Range). These areas would have provided birds for food and flax for weaving.</p> <p>Various tracks linked these resources and areas together, with many streams used as pathways. Tracks also provided links to the rest of the Ngati Tahu-Ngati Whaoa rohe to the west, east and south of these sites and between the lowlands and the Paeroa Range.</p> <p>Ngati Tahu-Ngati Whaoa have a desire to see the links from the Paeroa Range extended and improved. The idea of corridors to link the range and the streams will provide reinstatement for seed dispersal, wildlife corridors, facilitate mahinga kai movement and habitat, link geothermal areas, assist in reinstating tupuna tracks, and recognise key pa, kainga, and mahinga kai sites.</p> <p>Ngati Tahu-Ngati Whaoa wish to facilitate and work with others to achieve our vision. We wish to work with relevant agencies and the community to develop and coordinate a process and method to achieve this long term vision.</p>
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	<p>This project will draw together and build on existing upper Waikato River priorities identified in the Restoration Strategy, while also looking at sites which are not covered in the Restoration strategy.</p> <p>This work will not replace any requirements of regulatory processes on private landowners. This project seeks to build on additional opportunities which fall outside of these processes.</p>																
Key threats/issues	<table> <tr> <th>Key threat</th><th>Impact on feature</th></tr> <tr> <td>Loss of kai species and abundance</td><td>Availability of healthy and abundant mahinga kai for Ngati Tahu-Ngati Whaoa people.</td></tr> <tr> <td>Loss of access</td><td>Ability to harvest in some areas and practice kaitiakitanga.</td></tr> <tr> <td>Erosion/sediment</td><td>Contribution to sediment loads to the Wai-O-Tapu and Whirinaki streams and the main Waikato River.</td></tr> <tr> <td>Stock access to seeps, wetland areas</td><td>Reduced water quality and soil compaction. Loss of wetland vegetation and habitat. Increased nutrient loads to streams.</td></tr> <tr> <td>Unfenced areas of native vegetation</td><td>Reduced biodiversity opportunities, reduced opportunity for native corridors between tributaries and main river.</td></tr> <tr> <td>Lack of riparian cover and associated fish habitat</td><td>Reduced habitat for tuna and koura.</td></tr> <tr> <td>Other weeds (willow, blackberry, wilding pine)</td><td>Compete with other native species and alter ecological processes of streams and native riparian areas.</td></tr> </table>	Key threat	Impact on feature	Loss of kai species and abundance	Availability of healthy and abundant mahinga kai for Ngati Tahu-Ngati Whaoa people.	Loss of access	Ability to harvest in some areas and practice kaitiakitanga.	Erosion/sediment	Contribution to sediment loads to the Wai-O-Tapu and Whirinaki streams and the main Waikato River.	Stock access to seeps, wetland areas	Reduced water quality and soil compaction. Loss of wetland vegetation and habitat. Increased nutrient loads to streams.	Unfenced areas of native vegetation	Reduced biodiversity opportunities, reduced opportunity for native corridors between tributaries and main river.	Lack of riparian cover and associated fish habitat	Reduced habitat for tuna and koura.	Other weeds (willow, blackberry, wilding pine)	Compete with other native species and alter ecological processes of streams and native riparian areas.
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Project goal/s (SMART)	<p>Ngati Tahu-Ngati Whaoa are influential in working with others in developing mechanisms and frameworks to achieve the following long term goals:</p> <ul style="list-style-type: none"> - All streams from the Paeroa Range are fully fenced (where pastoral) to exclude stock and protect erosion prone areas. - All streams from the Paeroa Range are fully planted in natives or other appropriate species. - Plantings are maintained and are providing suitable corridors for movement of species. - Overall increase in riparian habitat facilitates a greater abundance, diversity and integrity of native species (mahinga kai, birds, invertebrates, plants) within the rohe. - Increased riparian links are contributing to soil conservation measures and water quality improvements in Te Awa o Waikato. 																
Works required (quantity and description)	<p>This project is focused on Ngati Tahu-Ngati Whaoa having the ability and resource to advocate and work with others to achieve these outcomes.</p>																

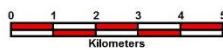
	<p>This work would be a two stage approach:</p> <p>Stage 1: Project liaison officer to work with others (agencies, community) to assess current state, needs, opportunities and risks to achieving the vision.</p> <p>Development of an overarching plan to achieve the vision. Investigation of potential frameworks and methods for implementation. 3 years – contractor costs \$100 per hour for 8 hours per week. Total cost \$124,800.</p> <p>Stage 2: Implementation of works and sourcing of funding. Costs for this component will remain unquantified until step one is complete and options and work requirements are known.</p>										
Risks to project success	<p>There is some risk to being able to fully implement this project. Given the uncertainty about the extent of what works may be required to achieve this goal, one of the key risks is that future funding to implement works may not be available or considered a priority to achieve this goal.</p> <p>The adoption of this project and ongoing measures of protection and enhancement may be supported by agencies and land trusts the response of private landowners is unknown. This will depend on what type of works and access arrangements are proposed.</p>										
Land tenure – likelihood of adoption and adoption circumstances	A mixture of land ownership is present in and around the Paeroa Range. There are some sites on land owned by Ngati Tahu-Ngati Whaoa land trusts or on land owned by the Crown. Much of the area is in private land ownership.										
Knowledge gaps and response	<p>The detailed information on the current condition and protection of the relevant streams is currently unknown. Therefore the extent of the work required to achieve this vision is unknown.</p> <p>The willingness of others (community and agencies) to be part of this project is currently unknown.</p> <p>Current legislative changes may also impact what works may be required by others to achieve this vision (eg, Healthy Rivers Plan Change 1).</p>										
Project duration	<p>Stage one – 3 years</p> <p>Stage two – unknown</p>										
Up-front cost – total for implementation phase/project duration	<table border="1"> <thead> <tr> <th>Works description</th><th>Cost (\$)</th></tr> </thead> <tbody> <tr> <td>Stage one – project liaison officer</td><td>\$124,800</td></tr> <tr> <td>Stage two project costs unknown</td><td>-</td></tr> <tr> <td>Project management/staffing/incidentals (20%)</td><td>\$24,960</td></tr> <tr> <td>Total</td><td>\$149,760</td></tr> </tbody> </table>	Works description	Cost (\$)	Stage one – project liaison officer	\$124,800	Stage two project costs unknown	-	Project management/staffing/incidentals (20%)	\$24,960	Total	\$149,760
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Establish fenced and planted
corridors for all streams from the
Paeroa Range within the catchment
WWRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WWRRS.gws



Scale 1:145,000@A4 Portrait

A4

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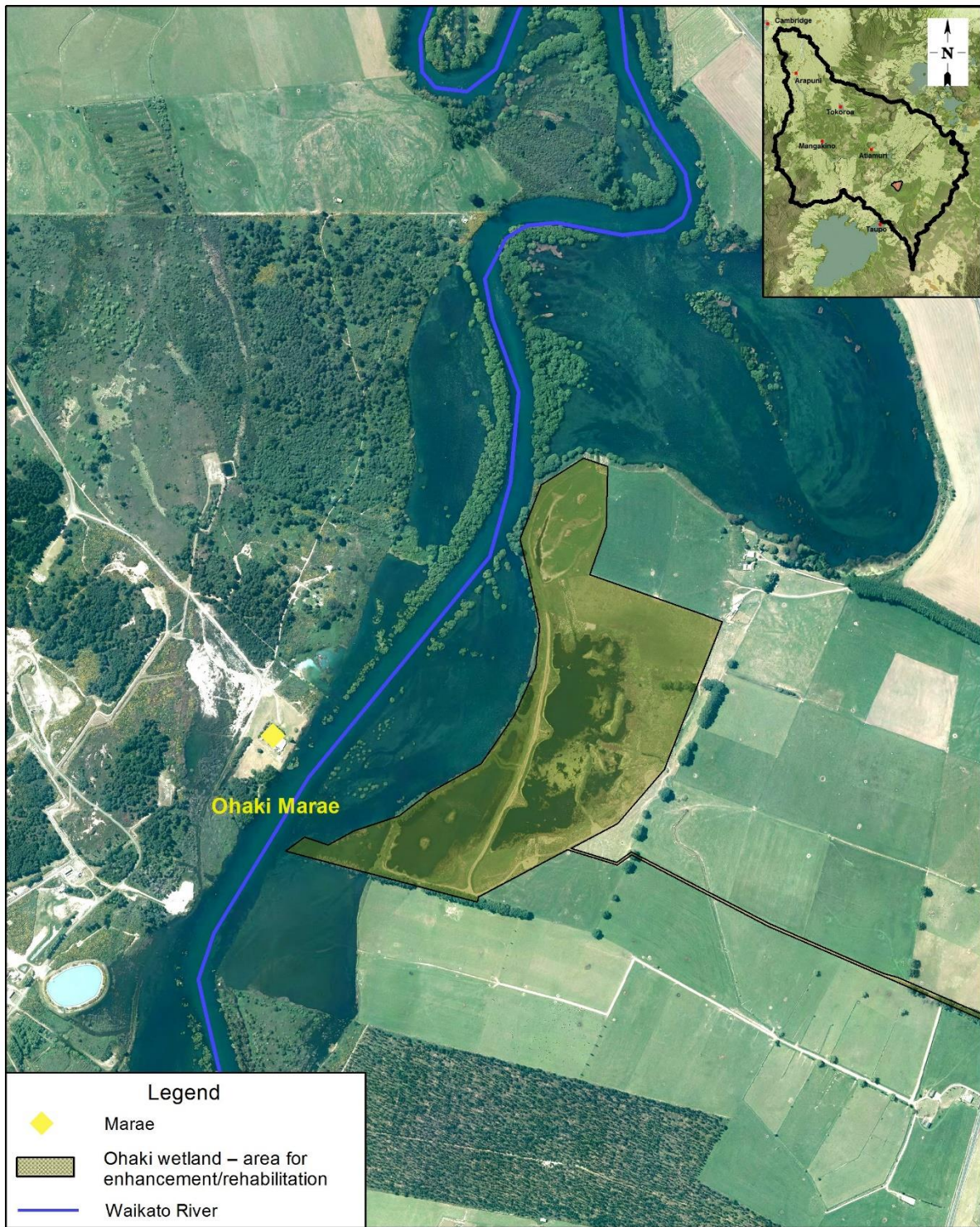


Paeroa Range (Ngati Tahu-Ngati Whaoa Runanga Trust – 2013)

NTNW 10 Ngati Tahu-Ngati Whaoa	Ohaki Wetland enhancement and restoration
Priority: Very high	
Vision	Ohaki Wetland is fully planted and provides the following: <ul style="list-style-type: none"> - A source of materials for cultural purposes - Maximum habitat for water fowl - Protects and enhances natural values of the land - Assists in playing a role in enhancing water quality in this area - Extends wetland habitat and biodiversity for the upper Waikato River. - Access to enhance iwi, community and general public appreciation, knowledge and enjoyment of wetlands.
Location	Ohaki Wetland, Broadlands Road, Broadlands
Brief description of site	<p>Ohaki Wetland is a 36ha constructed wetland adjacent and connected to Te Awa o Waikato. The wetland is owned by Ngati Tahu-Ngati Whaoa Runanga Trust and protected by a conservation covenant. The wetland is jointly managed by the Runanga and Fish & Game Eastern Region.</p> <p>The wetland was created in 2010 by Fish & Game and Contact Energy with funding from WCEET and others. The wetland is located at a site of previous natural wetlands and in an area which has been subject to subsidence from operation of the Ohaki Power plant.</p> <p>The wetland was created to provide further wetland habitat in an area of the awa which was once rich and abundant with these ecosystems. Some planting has occurred already at the site and various interpretation and signage is provided for visitors. The site is used for gamebird hunting purposes during hunting season. There is currently a network of existing pest animal control in place over approximately half the wetland area.</p> <p>Ohaki Wetland adds value and connectivity to the other wetlands in the area, including Rawhiti to the south and the associated wetlands on the western side of the river at Ohaki Marae, as well as Hardcastle Lagoon which bounds the northern end of Ohaki Wetland.</p> <p>The predominant land use in the catchment is pastoral farming. The wetland is fed from a small inflowing stream to the east and from groundwater.</p> <p>The wetland is fully fenced (3.01km boundary fence) with fencing in variable condition.</p> <p>The total land area within the wetland (excluding the open water areas) is 22.4ha. Of this, approximately 7ha is already planted and another 1ha</p>

	<p>planned in 2017. A total of approximately 15ha remains in grass. A proportion of this grass area is currently grazed as a management tool to minimise pest plant growth. With planting grazing will be gradually reduced with the intent to be fully stock free upon planting completion.</p> <p>The area has strong cultural associates for the Ngati Tahu-Ngati Whaoa people. The Ohaki and Waimahana areas were places of large kainga, pa and cultivations for the iwi. The geothermal areas were used for bathing and other purposes, while the river and associated wetlands provided food, materials and transport pathways.</p>								
Key threats/issues	<table border="1"> <thead> <tr> <th>Key threat</th><th>Impact on feature</th></tr> </thead> <tbody> <tr> <td>Willow invasion(from other sites)</td><td>Loss of open water habitat within the wetland, shading of other plant species and spread within wetland areas.</td></tr> <tr> <td>Potential for further enhancement of site not realised</td><td>Potential of wetland enhancement and associated values not realised.</td></tr> <tr> <td>Iwi ability to use the site for harakeke and other plant harvest not realised</td><td>Site remains not fully vegetated and full potential of the wetland is unrealised. Opportunities for cultural harvest are reduced.</td></tr> </tbody> </table>	Key threat	Impact on feature	Willow invasion(from other sites)	Loss of open water habitat within the wetland, shading of other plant species and spread within wetland areas.	Potential for further enhancement of site not realised	Potential of wetland enhancement and associated values not realised.	Iwi ability to use the site for harakeke and other plant harvest not realised	Site remains not fully vegetated and full potential of the wetland is unrealised. Opportunities for cultural harvest are reduced.
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Iwi ability to use the site for harakeke and other plant harvest not realised	Site remains not fully vegetated and full potential of the wetland is unrealised. Opportunities for cultural harvest are reduced.								
Project goal/s (SMART)	Within 20 years of project commencement, Ohaki Wetland is fully planted and stock continue to be excluded. The wetland increases the available habitat for bird species and contributes to a network and corridor of wetland habitats in the Upper Waikato catchment.								
Works required	<p>Continue to plant and enhance the 36ha constructed wetland located at Ohaki adjacent/connected to the Waikato River to facilitate fauna, flora and ecological values. This work would involve:</p> <ul style="list-style-type: none"> - Planting and maintenance of remaining areas in wetland (15ha) at \$37,552 per hectare. Planting will be at 1.5m spacing and some plants will be clumped. Areas to be planted will be “ripped” prior to planting to loosen pumice soils. Mulch will be used and native planting fertiliser tablets to enhance survival. Planting times factor in frosts and dry summers to enhance plant survival. - Maintenance of invasion of willow within the wetland (from the main river). Willow control (2ha total over 20 years) at \$4000 per hectare (ground control). - Maintenance of existing fences to ensure stock exclusion – average of \$1000 per year for 20 years for removal of windfalls, repair of fencing, and some replacement if required. 								
Risks to project success	There are minimal risks to the project success.								

	<p>The runanga is the landowner and continued enhancement measures are supported by Fish & Game. The wetland is protected by a conservation covenant.</p> <p>The site is difficult to ensure planting success, however both the runanga and Fish & Game have developed methods to achieve plant survival in the upper catchment. This knowledge and these techniques should be applied to this project to reduce plant loss.</p>												
Land tenure	Land is owned by Ngati Tahu-Ngati Whaoa Runanga Trust. There are no barriers to adoption. The site is co-managed in conjunction with Fish & Game who are supportive of continued enhancement to achieve the goals of the covenant.												
Knowledge gaps and response	The site is well known and there is extensive knowledge available to provide background to this project. The limitations and issues with enhancement/restoration are already known for this site.												
Project duration (years)	20 years												
Up-front cost – total for implementation phase/project duration	<table> <tr> <th>Works description</th><th>Cost (\$)</th></tr> <tr> <td>Planting and maintenance of remaining areas in wetland (\$37,552 per hectare)</td><td>563,280</td></tr> <tr> <td>Willow control (2ha total over 20 years) at \$4000 per hectare</td><td>8000</td></tr> <tr> <td>Maintenance of existing fences – average of \$1000 per year for 20 years</td><td>20,000</td></tr> <tr> <td>Project management/staffing/incidentals (20%)</td><td>118,256</td></tr> <tr> <td>Total</td><td>709,536</td></tr> </table>	Works description	Cost (\$)	Planting and maintenance of remaining areas in wetland (\$37,552 per hectare)	563,280	Willow control (2ha total over 20 years) at \$4000 per hectare	8000	Maintenance of existing fences – average of \$1000 per year for 20 years	20,000	Project management/staffing/incidentals (20%)	118,256	Total	709,536
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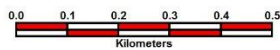


Ohaki Wetland enhancement and restoration

WWRRS Project Map

Created by: Tane Desmond
Projection: NZTM
Date: December 2017

Status: Final
Request No.: N/A
File name: WWRRS.gws



Scale 1:12,000@A4 Portrait

A4

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Ohaki Wetland graphic (Fish & Game, 2010)



Ohaki Wetland (Fish & Game, 2011)