APPENDIX THIRTEEN

Maniapoto Iwi Project Assessments

Contents

Maniapoto 1 **Priority: High**	**Marae and community water supply: protection, enhancement and education programme – Mangapū River catchment**
Project summary	This project contains three core elements: 1. To identify and protect known puna, associated waterways and swimming holes of significance to Maniapoto. 2. To collect and display information on the history of these sites. 3. To develop a programme across the Mangapū River catchment that monitors the use and quality of water supplies for communities and marae in the catchment as the main source of water for swimming, washing and drinking. During the Maniapoto priorities wānanga, it was raised that whānau are concerned about water quality for marae use and that over time this water quality may deteriorate. Marae need to ensure that any changes to water quality are measured in order to be addressed.
Vision for the project	That there is sufficient and quality water supply (for swimming, washing and drinking) for marae in the Mangapū River catchment. Puna are restored and protected.
Location	**Puna locations** -38.25003, 175.1728 (WAI 9) – Waitomo Caves Road, Waitomo -38.23385, 175.1875 (WAI 15) – Golf Road, Waitomo -38.31609, 175.11829 (WAI 22) – Oparure Road, Oparure. **Swimming locations** -38.24495, 175.1844 (SWIM 3) – Oparure Road, Oparure. -38.33257, 175.1012 (SWIM 14) – Oparure Road, Oparure. -38.31933, 175.1158 (SWIM 15) – Oparure Road, Oparure. -38.31558, 175.1214 (SWIM 17) – Oparure Road, Oparure.
Brief description of site	**Puna sites** Kaputuhi Marae located on Waitomo Caves Road, Waitomo, is linked ancestrally to the Mangapū River and is directly opposite the road to the puna identified at (WAI 9). Rereāmanu Marae is closely connected to the puna known as Te Puna o te Roimata (WAI 15) located at 41 Golf Rd, Waitomo, where the first Māori King, Pōtatau Te Wherowhero, is said to have been confirmed by the Maniapoto leaders of the day, as the first Māori King. The puna located at WAI 22 is opposite the Oparure Marae (Waipatoto Marae) on a little stream where a whānau urupā is situated. **Swimming sites** The Oparure Marae (Waipatoto Marae) is within close proximity of both SWIM 17 and SWIM 15 sites. The Te Kura Kaupapa Maori o Oparure school is located opposite both of these sites and both the marae and kura use the river for swimming. Further along the river is SWIM 14 located on Gadsby Road, which is a further swimming area for local hapū.

	Rereāmanu Marae is also located along the Mangapū River and linked to SWIM 3 where whānau would swim, wash, eel and have picnics.
Key threats/impacts	These particular puna and swimming areas are full of historical significance for the iwi, hapū and local whānau. The key pressure at WAI 9 is farming and its effects on the waters. It was noted that the kaitiaki for this specific puna was transferred to another area because of the high pollution. At SWIM 3, water quality is an issue as the river is silted up and very shallow. Willow management and sedimentation are issues raised for SWIM 14 and again sedimentation is identified as a concern at SWIM 15.
Project goal/s (SMART)	- The protection/restoration of existing puna within the Mangapū River catchment. - Ensure sufficient and quality water supply (for washing and drinking) for marae communities and 3 marae in the Mangapū River catchment. - Through the use of signage, educate the public about the locations of the puna and swimming areas to avoid further degradation and instead encourage their restoration and protection.
Project actions/works required	1. It is anticipated that all of the puna and swimming holes will need to be correctly identified and located within the Mangapū River catchment and this would include a desktop assessment, interviews with marae whānau and some field visits. 2. Fencing off 3 x puna (7 wire post and batten) with works being led or supported by marae or local whanau. 3. Fencing off of 4 x swimming holes. 4. Native planting and landscaping for puna and swimming holes. 5. Gather mātauranga Māori from people from the local marae about the puna within the catchment and swimming areas along the Mangapū River to create a baseline for the water supply monitoring. 6. Work with marae affiliated with the Mangapū River to undertake riparian planting to improve water quality. 7. Develop training to protect, enhance and educate people on the water supply monitoring programme that monitors the use and quality of water supplies for communities and marae in the catchment as the main source of water for washing and drinking. 8. Develop interpretation panels for the puna and swimming areas from the mātauranga Māori gathered from the people at local marae with historical significance to those places. 9. Investigate opportunities to provide legal protection for puna that have been protected and restored. Look at potential to place puna into reserves as a form of protection.
Risks to project success	- Marae whanau without capacity/capability to engage in the project. - This project will rely on the collaboration of a number of key stakeholders and requires commitment to the project. - Access to sites.
Land tenure	Tenure for puna is a mix of privately owned and iwi owned lands. Swimming

<table>
<tr><td></td><td>holes are on Crown administered land and will require talking with the Commissioner of Crown Lands.</td></tr>
<tr><td>Knowledge gaps and response</td><td>- The size of puna areas to be fenced and restored is unknown, however we know of 3 confirmed puna at the site descriptions. There may be more.
- The length of fencing for puna is unknown, however fencing is proposed for the length of the Mangapū River through Waipā Project X.</td></tr>
<tr><td>Project duration (years)</td><td>5 years.</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works description</th><th>Cost ($)</th></tr>
<tr><td>Capacity building and information capture
- Fencing and planting wānanga 2x ($2500 each x 2 wānanga)
Capture of mātauranga Māori interviews (3 marae x 4 kaumātua/kaitiaki interviews per marae/$600 per interview x 12 interviews)</td><td>12,200</td></tr>
<tr><td>Weed control</td><td>12,540</td></tr>
<tr><td>Fencing off puna (3x) for protection</td><td>1500</td></tr>
<tr><td>Fencing off of swimming areas (4x) for protection</td><td>2000</td></tr>
<tr><td>Puna/swimming areas riparian planting (5,000 plants)</td><td>23,750</td></tr>
<tr><td>Information panels ($1500 each x 7)</td><td>10,500</td></tr>
<tr><td>Development of monitoring programme</td><td>6000</td></tr>
<tr><td>Project management/staffing/incidentals (25%)</td><td>17,122.50</td></tr>
<tr><td>Total</td><td>85,612.50</td></tr>
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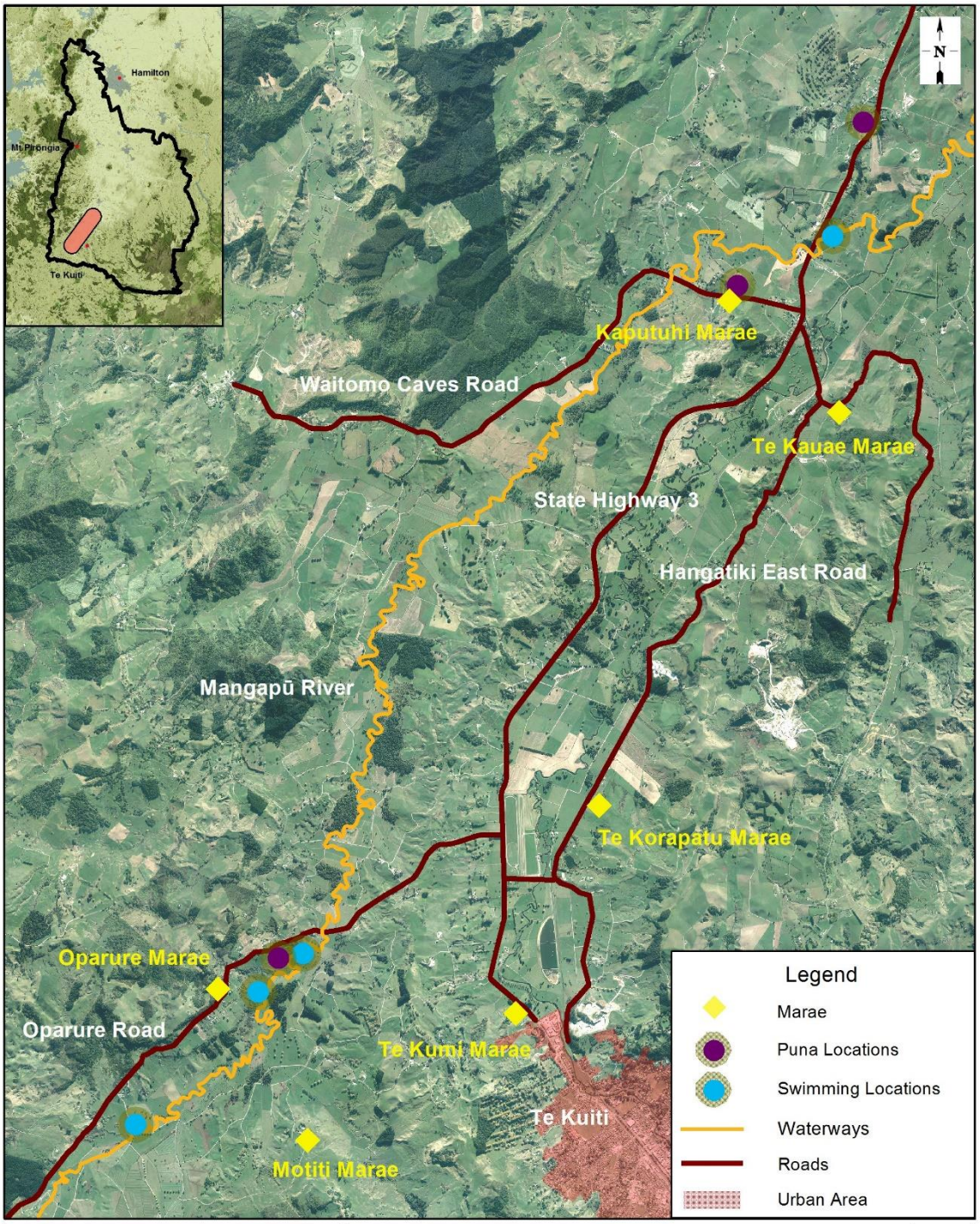

Marae and Community Water Supply: protection, enhancement and education programme – Mangapū River Catchment

WWRRS Project Map

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

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

0.0 0.4 0.8 1.2 1.6 2.0
Kilometers

Scale 1:55,000@A4 Portrait

A4

Waikato Regional Council
Te Kaunihera ā Rohe o Waikato

Maniapoto 2 **Priority: High**	**Marae and community water supply: protection, enhancement and education programme – Waipā River catchment**
Project summary	This project contains three core elements: 1. To identify and protect known puna, associated waterways and swimming holes of significance to Maniapoto. 2. To collect and display information on the history of these sites. 3. To develop a programme across the Waipā River catchment that monitors the use and quality of water supplies for communities and marae in the catchment as the main source of water for swimming, washing and drinking. During the Maniapoto priorities wānanga, it was raised that whānau are concerned about water quality for marae use and that over time this water quality may deteriorate. Marae need to ensure that any changes to water quality need to be measured in order to be addressed.
Vision for the project	Ensure sufficient and quality water supply (for washing and drinking) for communities and marae in the Waipā River catchment. Restoration and protection of puna.
Location	**Puna locations** -38.15284, 175.20439 (WAI 12) -38.06225, 175.2061 (WAI 20) **Swimming locations** -38.19107, 175.2129 (SWIM 2) -38.06325, 175.20579 (SWIM 4) -38.15304, 175.2082 (SWIM 6) -38.28205, 175.3533 (SWIM 7) -38.18571, 175.20079 (SWIM 13) -38.06398, 175.2001 (SWIM 16) -38.19815, 175.25299 (SWIM 18)
Brief description	**Puna sites** Kahotea Marae located on Kahotea Road, Ōtorohanga, is located directly on the puna identified as WAI 12 which gives this puna a higher level of importance as a water supply and should be monitored, particularly if it is currently used for the marae water supply. WAI 20 has been signalled by whanau as a site that has three puna wai Māori located within the same area. Te Kopua Marae is located right next to one of the puna and there are two further puna situated just below the marae on the flat. The puna by Te Kopua Marae was used for ceremonial purposes (blessings or baptisms), whereas the remaining two puna were used for washing clothes and bathing. **Swimming sites**

	Te Kotahitanga Marae located on Otewa Road, Ōtorohanga, is within close proximity to the swimming area SWIM 2, which was once said to have a sandy bottom and clear water. The area is still used for swimming, however the water is murky and dirty looking. As the river heads towards Ōtorohanga South School, SWIM 13 appears and is opposite the Taarewaanga Marae located by Ōtorohanga College. This swimming area is known as the Red Bridge and many whanau swam her and recalled when the water was clear. Te Kopua Marae is situated near both SWIM 4 (which was known by the marae whanau as the 'local swimming hole') and SWIM 16 (where swimming and fishing took place). The SWIM 6 area is located at the back of Kahotea Marae just outside of Ōtorohanga – it had a lagoon with a sandy bottom and was a popular swimming spot. Unfortunately, the water is now stagnant and unhealthy to swim in. Further up from Otewa Marae (also referred to as Ko Te Hokingamai ki te Nehenehenui marae) is SWIM 7. Te Keeti Marae is located on Phillips Ave, Ōtorohanga, which becomes Rangiatea Road where SWIM 18 is situated.
Key threats/impacts	These four particular puna are full of historical significance for the iwi, hapū and local whanau of Te Kopua Marae and Kahotea Marae, where one puna is located on site at the marae. The proximity and importance of the puna to the marae calls for them to be preserved, restored and/or maintained. At SWIM 4 there is native bush of mainly kahikatea trees near a local whanau property. Protection of the remnants of native bush and kahikatea is key. Flood control and deforestation has decreased the quality of the water at SWIM 6 and natives have been removed in favour of poplars and willows on the banks. At SWIM 7 there are flood control, farming and erosion pressures. Pollution from farming has contributed to the lack of swimming holes in use. SWIM 18 is below the drop of the Parapara Stream and can be dangerous in terms of increasing water levels if there have been rainfall in the upper catchment of the Rangitoto Range.
Project goal/s (SMART)	- The protection/restoration of existing puna within the Waipā River catchment. - Ensure sufficient and quality water supply (for washing and drinking) for communities and marae in the Waipā River catchment. - Through the use of signage, educate the public about the locations of the puna and swimming areas to avoid further degradation and instead encourage their restoration and protection.
Project actions/works required	1. It is anticipated that all of the puna and swimming holes will need to be correctly identified and located within the Waipā River catchment and this would include a desktop assessment, interviews with marae whānau and some field visits. 2. Fencing off 2 x puna (7 wire post and batten) with works being led or supported by marae or local whanau. 3. Fencing off of 7 x swimming holes. 4. Native planting and landscaping for puna and swimming holes. 5. Gather mātauranga Māori from people from the local marae about the puna within the catchment and swimming areas along the Waipā River to

<table>
<tr><td></td><td>create a baseline for the water supply monitoring.
6. Work with marae affiliated with the Waipā River to undertake riparian planting to improve water quality.
7. Develop training to protect, enhance and educate people on the water supply monitoring programme that monitors the use and quality of water supplies for communities and marae in the catchment as the main source of water for washing and drinking.
8. Develop interpretation panels for the puna and swimming areas from the mātauranga Māori gathered from the people at local marae with historical significance to those places.
9. Investigate opportunities to provide legal protection for puna that have been protected and restored. Look at potential to place puna into reserves as a form of protection.</td></tr>
<tr><td>Risks to project success</td><td>- Marae whanau without capacity/capability to engage in the project.
- This project will rely on the collaboration of a number of key stakeholders and requires commitment to the project.
- Access to sites.</td></tr>
<tr><td>Land tenure</td><td>Tenure for puna is a mix of privately owned and iwi owned lands. Swimming holes are on Crown administered land and will require talking with the Commissioner of Crown Lands.</td></tr>
<tr><td>Knowledge gaps and response</td><td>- The size of puna areas to be fenced and restored is unknown, however we know of 3 confirmed puna at the site descriptions. There may be more.
- The length of fencing for puna is unknown, however fencing is proposed for the length of the Waipā River through Waipā Project X.</td></tr>
<tr><td>Project duration (years)</td><td>5 years</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works description</th><th>Cost ($)</th></tr>
<tr><td>Capacity building and information capture
- Fencing and planting wānanga 2x ($2500 each x 2 wānanga)
Capture of mātauranga Māori interviews (6 marae x 4 kaumātua/kaitiaki interviews per marae at $600 per interview x 24 interviews)</td><td>19,400</td></tr>
<tr><td>Weed control</td><td>12,540</td></tr>
<tr><td>Fencing off puna (2x) for protection</td><td>1000</td></tr>
<tr><td>Fencing off of swimming areas (7x) for protection</td><td>3500</td></tr>
<tr><td>Puna/swimming areas riparian planting (5000 plants)</td><td>23,750</td></tr>
<tr><td>Information panels ($1500 each x 9)</td><td>13,500</td></tr>
<tr><td>Development of monitoring programme</td><td>6000</td></tr>
<tr><td>Project management/staffing/incidentals (25%)</td><td>19,922</td></tr>
<tr><td>Total</td><td>99,612</td></tr>
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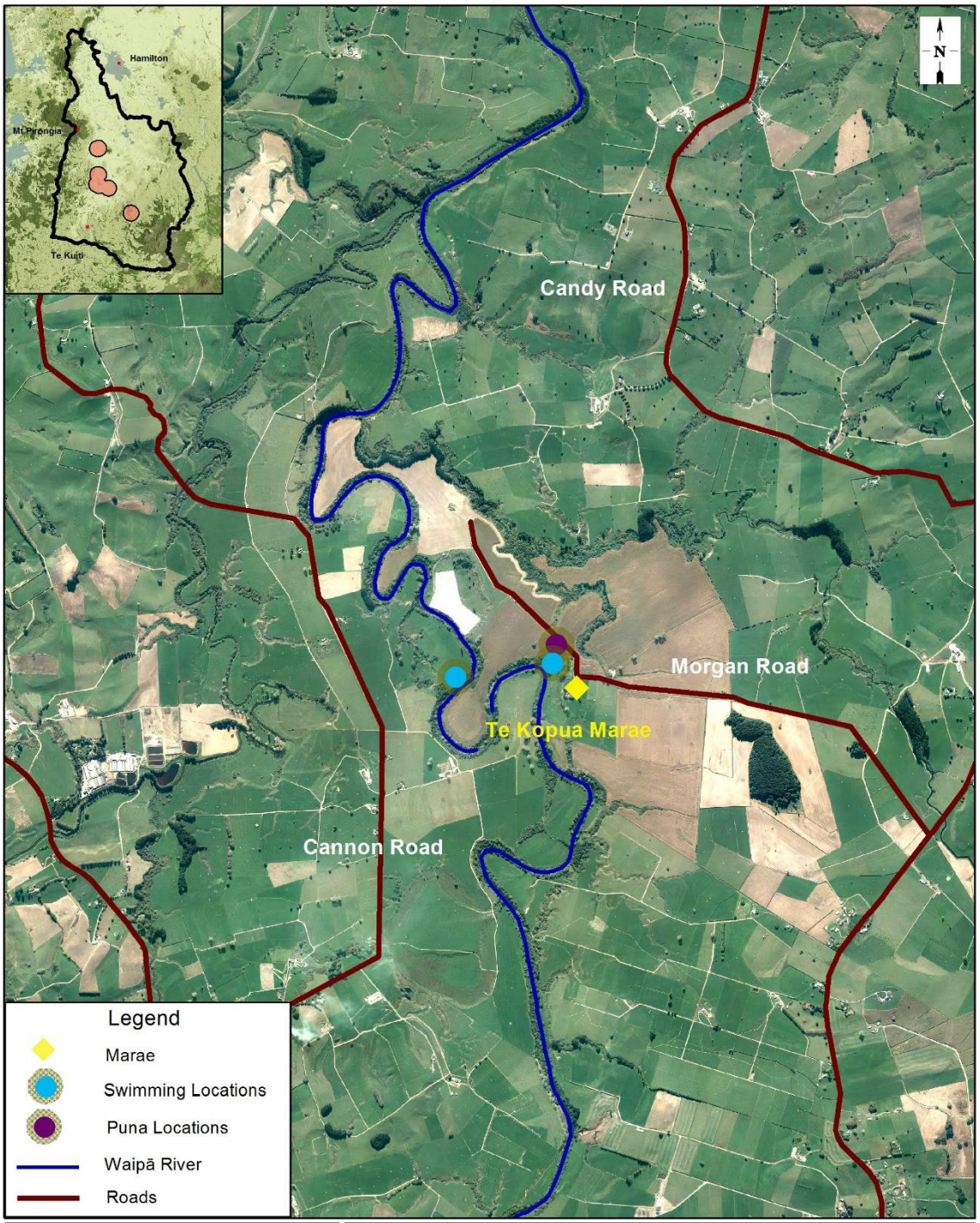

Marae and Community Water Supply: protection, enhancement and education programme – Waipā River Catchment 1/2

WWRRS Project Map

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

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

0.0 0.2 0.4 0.6 0.8 1.0
Kilometers

Scale1:26,000@A4 Portrait

A4

Waikato REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

Maniapoto 3 Priority: High	Waitomo Stream – Erosion protection and remediation with riparian planting
Project summary	Erosion and sedimentation has been identified as having a significant impact on the Waitomo River, degrading the water and kai that can be safely taken by the local marae situated near the river. This project will involve identifying remediation measures for river margins that are prone to erosion and implementing river erosion controls and riparian planting of indigenous species to stabilise the riverbanks, reduce erosion and enhance aquatic biodiversity.
Vision for the project	The vision for the Waitomo Stream (from the Waitomo Caves to Ōtorohanga) is to improve the water quality and reduce erosion by undertaking fencing and riparian planting. The reduction of E. coli and sediment levels in the stream will result in improved swimmability for the community and safe gathering of kai by the local marae.
Location	Waitomo Stream
Brief description of	The Waitomo Stream runs from Waitomo village to the Waipā River at Ōtorohanga and is approximately 21km long. The streambanks require more vegetation for stabilisation, particularly during periods of high flow which exacerbates flooding and sediment movement. **Kai** Whānau noted at KAI 44 that koura were plentiful in Waitomo Stream and watercress was particularly plentiful along the smaller tributaries by Pōhatuiri Marae. The Waitomo Stream is known for its tuna at all three sites (KAI 11, KAI 44 and KAI 47), however it was noted at PRESSURE 43 that commercial eel fishers had overfished these sites many years ago and the tuna fishery has not recovered since. At site KAI 47 trout was once present in the stream. **Swimming** At KAI 47, Tokikapu Marae whanau recall that the Waitomo Stream was a special place for swimming. **Puna** A puna is located at WAI 13 near Pōhatuiri Marae used by the whanau.

Key threats/impacts	The key threats are: - The riverbank erosion which has been estimated to cause more than 1000 tonnes of sediment per year to the Waitomo Stream and effectively the Waipā River. The levels of sediment can increase when there are major flooding events. - Stock access to the Waitomo Stream reduces the water quality and destroys the existing riparian vegetation. - The lack of riparian cover and associated fish habitat reduces adult fish habitat which has ongoing effects for the whanau from the local marae in Waitomo Valley.
Project goal/s (SMART)	The project goal is to prevent further erosion of Waitomo streambanks to reduce sedimentation load. This can be achieved by fencing and riparian planting (with 5m setback) for the entire 21km of the Waitomo Stream over an 8-10 year period, and constructing erosion control structures where planting alone will not be sufficient to stabilise banks. This will effectively reduce the sediment from the Waitomo Stream by 15% over a 15 year period. With the reduction of sediment, the restoration and preservation of kai and swimming areas is envisaged for the Waitomo Stream.
Project actions/works required	The project seeks to influence landowners along the Waitomo Stream to: 1. allow fencing of target streams with at least a 5m wide riparian margin 2. allow planting of this margin with native plant species or (where appropriate) exotic plant species 3. allow river stabilisation works to be undertaken where required 4. allow fencing of existing indigenous vegetation to exclude stock 5. implement works by marae whanau and organisations that marae and whanau are keen to work with. A project manager and staff will be needed to undertake co-ordination of the project, landowner and marae engagement, provide reporting and information and manage other aspects of the project. This project could be undertaken as a whole, or in components. **Riverbank erosion protection and remediation** Nearly the entire length of the stream (18.6km) is erosion prone and effectively unmanaged. Erosion protection structures may be required regularly along the stream. The structures should be created in a way that it also provides habitat for fish species. Approximately 18.6km of the river is currently unmanaged for erosion. It is estimated that this would require between 0-6 erosion protection structures per kilometre at a cost of $15,000/km ($279,000). Note that Waikato Regional Council holds an existing consent for erosion protection structures along this stream and therefore proposed works should be discussed with WRC during the planning stage. **Riparian management of rivers/streams for fish habitat and soil conservation purposes**

<table>
<tr><td></td><td>1. Carry out riparian fencing with at least a margin of 5m from the top of the streambank (at least 5 wire with 2 electric wires at $8/m) along 25km of streambank (12.5km of stream length).
2. This would also include any adjoining wetland areas within the riparian fencing.
3. Undertake a mix of native and exotic (where appropriate) soil conservation riparian planting within the fenced area (where it doesn't exist naturally).
4. There is estimated to be approximately 12.5ha of planting, and associated weed control and maintenance.

Project management/staffing/incidentals (25%)
This is a multi-faceted project involving multiple landowners and stakeholders. Project management/staffing is estimated to 25% of the project cost.</td></tr>
<tr><td>Land tenure – likelihood of adoption and adoption circumstances</td><td>This land is predominantly privately owned.</td></tr>
<tr><td>Risks to project success</td><td>- If it is found that there is already a large amount of fencing close to the streambank (i.e. with a narrow riparian margin), landowners may be unwilling to move fences back to allow room for native planting.
- Landowners may not allow access to fence/plant along the streambank.</td></tr>
<tr><td>Knowledge gaps and response</td><td>- Identifying where there is already fencing along the stream. Fencing estimates have been made using information from WRC catchment surveys and examining aerial photographs.
- Investigating how close existing fences are to the stream edge and whether they provide for the 5m riparian margin.
- Identifying where the erosion structures are required and can be placed on the stream.</td></tr>
<tr><td>Project duration (years)</td><td>10 years</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works description</th><th>Cost ($)</th></tr>
<tr><td>18.6km river erosion control ($15,000/km)</td><td>279,000</td></tr>
<tr><td>25km of streambank fencing, 5 wire (2 electric)</td><td>200,000</td></tr>
<tr><td>Riparian planting river/streams 12.5ha</td><td>469,400</td></tr>
<tr><td>Project management/staffing/incidentals (25%)</td><td>237,100</td></tr>
<tr><td>Total</td><td>1,185,500</td></tr>
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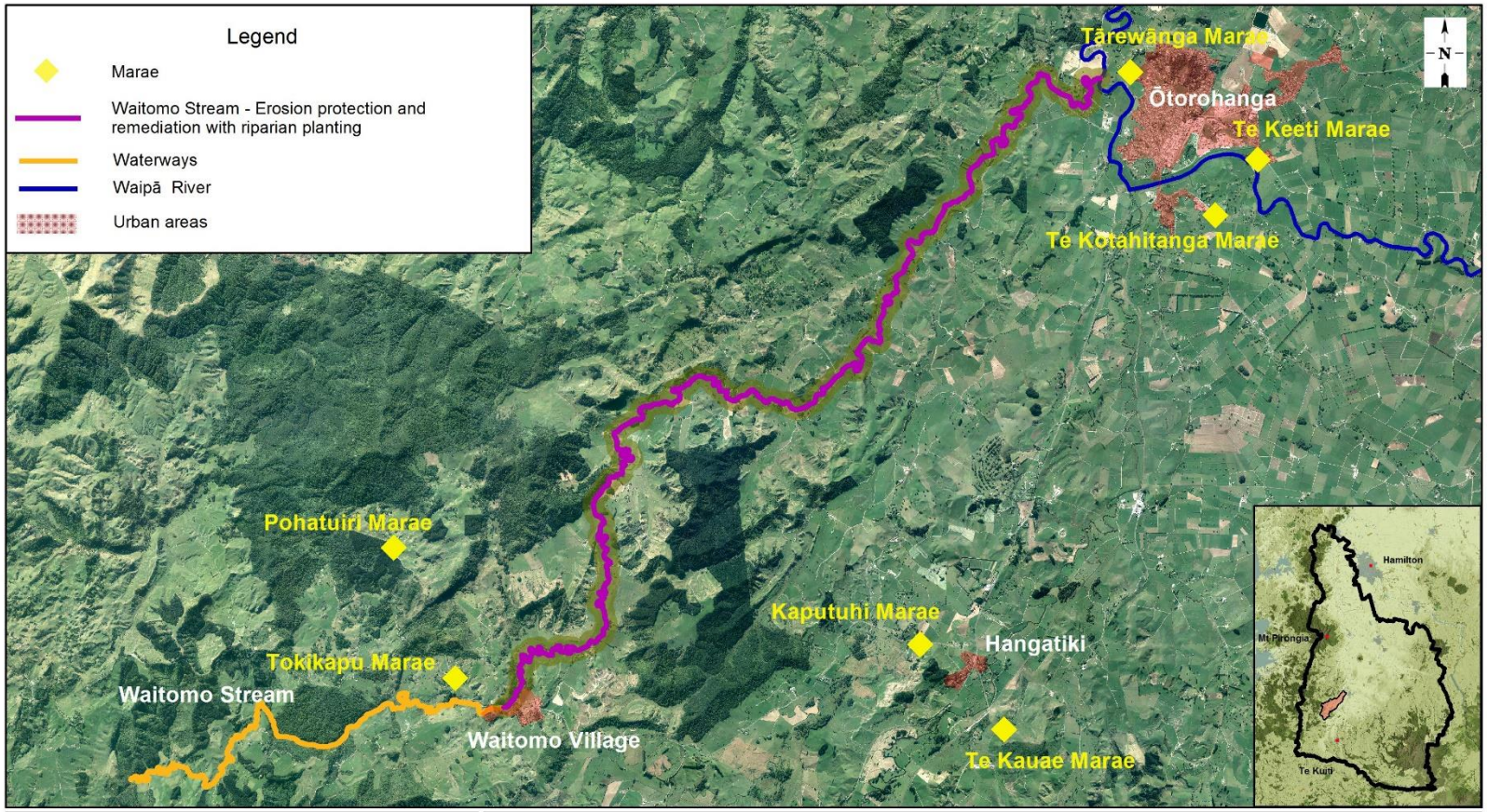

Waitomo Stream -
erosion protection and remediation
with riparian planting

WWRRS Project Map

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

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

0.00 0.75 1.50 2.25 3.00 3.75
Kilometers

Scale 1:75,000@A4 Portrait

A4

Waikato Regional Council
Te Kaunihera ā Rohe o Waikato

Maniapoto 4 Priority: High	Middle Pūniu River – erosion protection and remediation with riparian planting
Project Summary	Erosion and sedimentation has been identified as having a significant impact on the middle Pūniu River, degrading the water and kai that can be safely taken by the local marae situated near the river. This project will involve identifying river margins that are prone to erosion and implementing remediation measures, including riparian planting of indigenous species to stabilise the riverbanks, reduce erosion and enhance aquatic biodiversity.
Vision for the project	The vision for the middle Pūniu River is to improve the water quality and reduce erosion by undertaking fencing and riparian planting. The reduction in E. coli and sediment levels in the stream will result in improved swimmability for the community and safe gathering of kai by the local marae.
Location	Middle section of the Pūniu River
Brief description of site	There are two marae along the Pūniu River, Mangatoatoa Marae (Maniapoto) and Rawhitiroa/Owairaka Marae (Raukawa). The area from Seafund Road to Brill Road is approximately 37km. Erosion control plantings have already been done in 25% of this area. The upper portion has a gravel and stony river bed which becomes a mix of gravel and silt further downstream. There are significant lengths of river that are unfenced and unvegetated. Some erosion control structures have been constructed (by private landowners and regional council).
Key threats/impacts	The key threats are: - Riverbank erosion along this reach generally occurs during high flow events and particularly where there is no stabilising vegetation. It's estimated that approximately 7200 tonnes per year of sediment is added to the Waipā River from the Pūniu River, excluding major flood events. - There is lateral bank erosion in the upper reach and bank slumping in the lower reaches. - The lack of riparian cover and associated fish habitat reduces adult fish habitat, which has ongoing effects for the whanau from the local marae who would like to harvest fish. - Due to the lack of fencing along significant lengths of the river, stock access to the Pūniu River has reduced water quality, trampled banks and destroyed riparian vegetation.

	- Crack willow causes blockages and flow diversion causing erosion. - Devegetated banks cause bank slumping and increased sediment to water.
Project goal/s (SMART)	Within 10 years of project commencement, a 37km reach of the Pūniu River is stable, fenced and vegetated (5m setback), providing increased shade, shelter and food for native fish. Stock are 100% excluded from the Pūniu River. The river is swimmable, fishable and has access for recreation and use.
Project actions/ works required	The project seeks to influence landowners along the Pūniu River to: 1. allow fencing of the river where it is currently unfenced 2. allow planting to be undertaken along the river margin and target streams with at least a 5m wide riparian margin, and planting of this margin with native or (where appropriate) exotic plant species. 3. allow river stabilisation works to be undertaken where required 4. implement works by marae whanau and partnering organisations. A project manager and staff will be needed to undertake co-ordination of the project, landowner and marae engagement, provide reporting and information and manage other aspects of the project. This project could be undertaken as a whole, or in components. **River erosion protection and remediation** Approximately 8km of the stretch has already been managed for erosion. Of the remaining 16km it is estimated that 8km requires erosion protection works at 5 structures per kilometre ($12,500/km) for a total cost of $100,000. Note that Waikato Regional Council holds an existing consent for erosion protection structures along this stream and therefore proposed works should be discussed with WRC during the planning stage. Based on aerial photographs and on-the-ground knowledge of the reach, it is estimated that 8km of this reach would require willow control at $20/m of river ($160,000). Willow disposal (burning) is estimated to be 20% of the removal costs ($32,000). **Riparian management of rivers/streams for fish habitat and soil conservation purposes** 1. Carry out an estimated 32km (bank length) of riparian fencing (5 wire, 2-electric) along this reach ($256,000). 2. This should have a minimum of a 5m set back from the top of the bank and include adjoining wetland areas. 3. Native planting – 5m planted margin on both sides of the stream for 32km of bank length would require 16ha of native planting ($600,832). Riparian planting with should be a mix of native species with exotics where required for stability. It is estimated that willow poles would be required at 15m intervals over 8km of streambank length (533 poles = $7462).

<table>
<tr><td></td><td>Project management/staffing/incidentals (25%)
This is a moderately complex project involving multiple landowners and stakeholders. Project management/staffing is estimated to be 25% of the project cost.</td></tr>
<tr><td>Land tenure – likelihood of adoption and adoption circumstances</td><td>This land is predominantly privately owned.</td></tr>
<tr><td>Risks to project success</td><td>- If it is found that there is already a large amount of fencing close to the streambank (i.e. with a narrow riparian margin), landowners may be unwilling to move fences back to allow room for native planting.
- Landowners may not allow access to fence/plant along the streambank.</td></tr>
<tr><td>Knowledge gaps and response</td><td>- Identifying where, along the stream, there is already fencing. Fencing estimates have been made using information from WRC catchment surveys and examining aerial photographs.
- Investigating how close existing fences are to the stream edge and whether they provide for the 5m riparian margin.
- Identifying where the erosion structures are required and can be placed on the stream, and the design of these structures</td></tr>
<tr><td>Project duration (years)</td><td>10 years</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works description</th><th>Cost ($)</th></tr>
<tr><td>River erosion management and protection</td><td>100,000</td></tr>
<tr><td>Willow/poplar management</td><td>160,000</td></tr>
<tr><td>Willow/polar disposal</td><td>32,000</td></tr>
<tr><td>Fencing 32km 5 wire (2 electric)</td><td>256,000</td></tr>
<tr><td>Willow pole planting</td><td>7462</td></tr>
<tr><td>Native planting 16ha</td><td>600,832</td></tr>
<tr><td>Project management/staffing/incidentals (25%)</td><td>289,073</td></tr>
<tr><td>Total</td><td>1,445,367</td></tr>
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Maniapoto 5 **Priority: High**	**Piharau restoration and protection – upper Waipā River catchment**
Project summary	During the development of the Maniapoto Fisheries Plan for the upper Waipā River catchment, it was identified that Piharau populations have diminished significantly. Piharau was once part of the traditional Maniapoto lifestyle. Fresh water has a deep spiritual significance to Maniapoto; it is the wellspring of life. The physical and spiritual nourishment has sustained generations, and maintained the functions of marae for many years. The health and wellbeing of the people of Maniapoto is closely linked to the health and wellbeing of freshwater resources. While the quality of the water in the river has changed, and the times of abundant fish and kai have gone, the commitment of the people of Maniapoto remain the same. It is this inherent obligation of the river kaitiaki that has driven the development of the Maniapoto Fisheries Plan for the upper Waipā River catchment. Freshwater fish, including but not limited to tuna, piharau and kanae, were significant to the traditional Maniapoto lifestyles and knowledge was handed down from generation to generation.
Vision for the project	Restoration, preservation and protection of piharau in the upper Waipā River catchment, and Maniapoto being active managers of the upper Waipā River piharau fishery.
Location	**Piharau locations (waterways upstream and downstream of each location)** 1. Site -38.18256, 175.2032 (KAI 12) – opposite Waipā Esplanade, Ōtorohanga (Kahotea Marae) 2. Site -38.18883, 175.22199 (KAI 23) – Phillips Ave, Ōtorohanga (Te Keeti Marae) 3. Site -37.99217, 175.19489 (KAI 20) – O'Shea Road, Pirongia (Purekireki Marae) 4. Site -38.0475, 175.1706 (KAI 6) – Ormsby Road, Puketotara (Purekireki Marae) 5. Site -38.12474, 175.1453 (KAI 10) – Turitea Road, Ōtorohanga (Hiona Marae) 6. Site -38.09092, 175.1617 (KAI 35) – Kawhia Road, Tihiroa (Hiona Marae) 7. Site -38.09339, 175.08989 (KAI 55) – Kawhia Road, Te Rauamoa (Hiona Marae) 8. Site -38.25203, 175.18397 (KAI 29) – Mangarino Road, Waitomo (Te Kauae Marae)
Brief description of sites	**Piharau sites** Piharau is now considered a delicacy as it is a scarce kai source in the Waipā River. It was once plentiful – piharau would run in their season and there was a multitude. However, nowadays, it is rarely seen in

	much of the upper Waipā River. Some kaitiaki as recent as 2015 noted that they still catch piharau in the Waipā River, however it is kept a highly guarded secret so that the remaining piharau aren't exploited to extinction. Kahotea Marae, Ōtorohanga, is located close to KAI 12 and Te Keeti Marae, which is directly in front of KAI 23, is located quite close to the township of Ōtorohanga. Two of the Pirongia based marae are associated with two or more sites: Purekireki Marae (KAI 20 and KAI 6) and Hiona Marae (in the vicinity of KAI 10, KAI 35 and KAI 55). Te Kauae Marae, Hangatiki, is very close to KAI 29 on Mangarino Road, Waitomo.
Key threats/impacts	Piharau were once plentiful in Maniapoto rohe and now they are at threat of becoming extinct. The gathering of piharau is already a specialised practice and certain whānau were given the traditional knowledge. Not many whanau still uphold their kaitiaki responsibilities to harvest piharau. There is an issue that this information may not be transferred and will be lost for future generations. There is also concern that access may be an issue, where some of the piharau sites are. The key pressure is farming and its effects on the waters. At KAI 12 there is willow, flood control and wastewater discharge. Further upstream from (KAI 20) are stopbanks for flood control. Erosion and flood control are key pressures around KAI 6. There is a weir located behind Te Keeti Marae, which is also next to Piharau site KAI 23.
Project goal/s (SMART)	- The protection/restoration of existing piharau populations within the upper Waipā River catchment. - Within 2 years, cultural knowledge/history of piharau is recorded, transcribed. - Within 5 years, a transfer of knowledge and experience from Maniapoto whanau who have undertaken the kaitiakitanga related to the protection, preservation and harvest of piharau to the next generation of kaitiaki. - Through wānanga, educate the public about the general locations of piharau in order to avoid further degradation to their habitat and encourage their restoration and protection. - Within 10 years, marae having piharau back on the kaihakari tables for Poukai and other special events.
Project actions/works required	1. It is anticipated that all of the 8 x piharau sites will need information gathered from marae whānau associated with those sites. 2. Each of the 8 sites will have up to 3 interviews to gather the mātauranga Māori related to piharau practices at each specific site. 3. Work with marae affiliated with each piharau site to undertake riparian planting to improve water quality at that habitat to encourage piharau regeneration. 4. Develop training to protect, enhance and educate people on piharau in the upper Waipā River.

<table>
<tr><td></td><td>5. Hold 5 x wānanga, one at each marae near Piharau sites, to share knowledge with other Maniapoto whanau and kaitiaki on the seasons for piharau, harvesting methods, habitat and the preservation and restoration of piharau.</td></tr>
<tr><td>Risks to project success</td><td>- Marae whanau without capacity/capability to engage in the project.
- This project will rely on the collaboration of a number of key stakeholders and requires commitment to the project.
- Access to sites.</td></tr>
<tr><td>Land tenure</td><td>Tenure for land where piharau exist is a mix of privately owned, Crown and Iwi land.</td></tr>
<tr><td>Knowledge gaps and response</td><td>- There may be a gap in the remaining knowledge about piharau in Maniapoto.
- Piharau lifecycle, etc, may need an external expert to provide expert advice at wānanga.</td></tr>
<tr><td>Project duration (years)</td><td>3 years</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works description</th><th>Cost ($)</th></tr>
<tr><td>Collate information for 8 piharau sites</td><td>8000</td></tr>
<tr><td>Puna/swimming areas riparian planting (5000 plants)</td><td>23,750</td></tr>
<tr><td>Capacity building and information capture
- Piharau wānanga 2x ($2500 each x 2 wānanga)
- Capture of matauranga Māori interviews – 5 marae x 3 kaumātua/kaitiaki interviews per marae ($600 per interview x 15 interviews)
- External expert to attend wānanga x 2 ($8000 each x 2 wānanga)</td><td>30,000</td></tr>
<tr><td>Piharau training programme</td><td>6000</td></tr>
<tr><td>Project management/staffing/incidentals (25%)</td><td>16,937.50</td></tr>
<tr><td>Total</td><td>84,687.50</td></tr>
</table>
</td></tr>
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Maniapoto 6 **Priority: High**	**Pou whenua – upper Waipā River catchment (iPou project)**
Project summary	This project aligns to an existing Maniapoto Taonga Register project where GIS is used to map areas of significance to Maniapoto throughout the upper Waipā River catchment. Interviews are held and data is recorded, transcribed, mapped and stored with narratives. It also aligns with the Maniapoto Restoration Priorities Report, where sites of significance have been identified through wānanga. The project will extend on the work done through the Taonga Register project and enable a certain level of knowledge about the upper Waipā River and its waterways to be shared. This information transfer will prevent future loss. An interactive pou (iPou) will be installed at each of the 20 locations throughout the upper Waipā River catchment. The iPou are linked through a QR code that can be scanned using a smart phone QR reader to display content (historical/environmental). The code is linked to a database, and the information can be easily and regularly updated or added to.
Vision for the project	The transfer of knowledge to the people of Maniapoto and the wider community in regard to places of significance for Maniapoto is crucial to understanding the importance of a waahi tapu. This project is focused on knowledge transfer and ensuring that Maniapoto iwi and hapū understand their connection to the upper Waipā River and its waterways, and provides opportunity for whanau to reconnect. The promotion of education and connection to the upper Waipā River for Maniapoto people is significant.
Location	Upper Waipā Catchment
Brief description of site	The specific iPou sites will be determined by Maniapoto at locations along the upper Waipā River and its waterways within the Maniapoto rohe. Twenty sites may be selected due to historical, cultural, spiritual or ecological significance as determined by Maniapoto.
Key threats/impacts	- Many sites are known to Maniapoto through the Taonga Register and Priorities Report, however permissions or consents are likely to be required. - Cultural safety surrounding the iPou.
Project goal/s (SMART)	- Within 3 years of the project starting, the installation of up to 20 iPou along the Upper Waipā River within the Maniapoto rohe. - The transfer of cultural knowledge. - Through the use of the iPou, the ability to educate the public about the river locations (e.g. the puna and swimming areas nearby) to avoid further degradation and instead encourage their restoration and protection.

<table>
<tr><td>Project actions/works required</td><td>1. Maniapoto already have a wide collection of sites and historical knowledge available through the Taonga Register project, which could be easily transferred to the iPou project.
2. Identify 20 sites using the Taonga Register.
3. Hold a wānanga to discuss the 20 sites with Maniapoto whanau and introduce the project.
4. Collate information for iPou identified by Maniapoto.
5. Create database of knowledge associated with each iPou.
6. Engage with landowners to negotiate agreements for an iPou to be established at each of the 20 sites.
7. Engage an iPou developer and iPou fabricator to create iPou.
8. Organise a hui to discuss the unveiling of each iPou and cultural safety of the entire project.
9. Organise the physical unveiling of the 20 iPou.
10. Install the 20 iPou.
11. Unveil the 20 iPou.
12. Provide monitoring and milestone reports.</td></tr>
<tr><td>Risks to project success</td><td>1. Marae whanau without capacity/capability to engage in the project.
2. This project will rely on the collaboration of a number of key stakeholders and requires commitment to the project.
3. Access to sites and consent to install each iPou.</td></tr>
<tr><td>Land tenure</td><td>Tenure for land where iPou will be installed is a mix of privately owned and iwi owned land.</td></tr>
<tr><td>Knowledge gaps and response</td><td>Consent process for installation of the iPou at each of the 20 sites.</td></tr>
<tr><td>Project duration (years)</td><td>3 years.</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><th>Works 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 (at $25,000 each)</td><td>500,000</td></tr>
<tr><td>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>144,250</td></tr>
<tr><td>Total</td><td>721,250</td></tr>
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Maniapoto 7 **Priority: High**	**Kaitiaki training – implementation of the Maniapoto cultural health indicator tool – Mangaōkewa River**
Project summary	Implement the cultural health indicator tool on the Mangaōkewa River as a pilot to be replicated to other marae throughout the upper Waipā River catchment. Promote opportunities and learning about the Mangaōkewa River through projects, wānanga and kaitiaki practices. Develop tools that will contribute to the Maniapoto Tiaki Taiao Toolbox to support kaitiaki in management of important mahinga kai areas and freshwater management. Build capacity and capability within Maniapoto kaitiaki to ensure that the people understand environmental values and resource use. Kaitiaki practices must be captured and taught so that information will not be lost for future generations. Build relationships between kaitiaki and local authorities for the protection of the environment.
Vision for the project	- Increase numbers of rangatahi and whanau knowledgeable in Maniapoto kaitiakitanga practices along the Mangaōkewa River to ensure strong connection to the awa and its cultural history. - To contribute to the Maniapoto Tiaki Taiao Toolbox of resources for kaitiaki. Protection and management of mahinga kai areas and monitoring of freshwater management. Build strong relationships and engagement between local authorities and mana whenua.
Location	Mangaōkewa River.
Project description	The first stage of the cultural health indicators project will be completed at the end of 2017 and will require implementation from 2018 onwards. The following kaitiaki have been involved to date: 1. Te Wharekura ō Maniapoto 2. Mau Maniapoto 3. Te Kawau Māro ō Maniapoto 4. Iti a Rata Kōhanga Reo 5. Puawai ki Te Awamutu Kōhanga Reo 6. Te Hokinga Mai ō Te Nehenehenui marae 7. Te Kohanga Reo ō Nga Kakano 8. Te Mara Kai ō Te Kuiti 9. Te Korapatu Marae 10. Oparure Marae 11. Motiti Marae 12. Te Kuiti Pa 13. Te Keeti Marae This project focuses on the next steps of implementation. Wānanga-ā-marae and wānanga-ā-hapū. This would involve working with kaitiaki to develop tools and training for their use (e.g. SHMAK), and implementing the kaitiaki tools through the wānanga with marae and hapu.

	Building capacity and capability amongst marae and hapu by engaging and building strong relationships with local authorities and natural resources agencies (e.g. DOC and MPI).
Vision	- For Maniapoto kaitiaki to have capacity and capability to effectively manage their mahinga kai areas and freshwater management. - For rangatahi and whanau to have a strong connection to the river and perform kaitiaki practices.
Key threats/impacts	The key threats are the deterioration of Ngāti Maniapoto values in the practice of kaitiakitanga due to a lack of knowledge transfer and succession planning. In order for Maniapoto to uphold the values as stated in the Ngā wai o Maniapoto (Waipā River) Act 2012: - Te Mana o te Awa o Waipā - Te Mana o te Wai - Te Mana tuku iho o Waiwaia. Maniapoto Kaitiaki need to improve capacity and capability. The implementation of this CHI project provides this opportunity.
Project goal/s (SMART)	- Implement the cultural health indicator tool on the Mangaōkewa River. - Share and present the findings and learnings of the CHI tool with other marae and hapu. - Promote opportunities and learning about our awa through projects, wānanga and practices. - Develop tools that will contribute to the Maniapoto Tiaki Taiao Toolbox to support kaitiaki in the management of important mahinga kai areas and freshwater management. - To initiate and continue two-way capacity and capability building to ensure that any effects from resource use on the people of Maniapoto, or on environmental values, are appropriately avoided or mitigated to a mutually agreed level.
Project actions/works required	**Year 1** **Wānanga-ā-marae, wānanga-ā-hapū** • 3 x kaitiaki tools wānanga • 3 x wānanga to implement kaitiaki and CHI tools **Capacity and capability building with local authorities** • 3 x wānanga to influence engagement with local authorities **Year 2** **Wānanga-ā-marae, wānanga-ā-hapū** • 3 x kaitiaki tools wānanga – what impacts you? • 3 x wānanga to implement kaitiaki and CHI tools **Capacity and capability building with local authorities** • 3 x wānanga – engagement with local authorities **Year 3** **Wānanga-ā-marae, wānanga-ā-hapū** • 3 x kaitiaki tools wānanga – RMA 101

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- 3 x wānanga to implement kaitiaki and CHI tools

Capacity and capability building with local authorities

- 3 x wānanga – engagement with local authorities

Wānanga will be recorded, transcribed, mapped, stored and held for use so Maniapoto kaitiaki, iwi planning documents and future marae and hapu can replicate this project.
</td></tr>
<tr><td>Risks to project success</td><td>

- Requires collaboration with key stakeholders and commitment.
- Sensitivity of the information/access to information and information sharing.
</td></tr>
<tr><td>Land tenure</td><td>Mixed ownership by private/crown/iwi.</td></tr>
<tr><td>Knowledge gaps and response</td><td>Understanding how many kaitiaki/mana whenua already engage with local authorities and the relationships that they currently have.</td></tr>
<tr><td>Project duration (years)</td><td>3 years</td></tr>
<tr><td>Costs</td><td>

Works description – year 1	**Cost ($)**
Kaitiaki tool training noho marae (15 people)	
2 x expert speakers (NIWA) at $8000 per wānanga x 3	24,000
Venue, kai and koha x 3 (2 day workshop)	9000
Facilitator x 3 wānanga	3000
Participants travel (15 participants per wānanga)	1800
One day wānanga for CHI tool (15 people)	
2 x expert speakers (NIWA) at $4000 per wānanga x 3	4000
Venue, kai and koha x 3	1500
Facilitator x 3 wānanga	1500
Participants travel (15 participants per wānanga)	1800
Filming (6 days filming)	3600
Film editing (9 days editing)	6300
Project management/staffing/incidentals (10%)	5650
Total for year 1	**62,150**
Total for year 2	**62,150**
Total for year 3	**62,150**
Total	**186,450**

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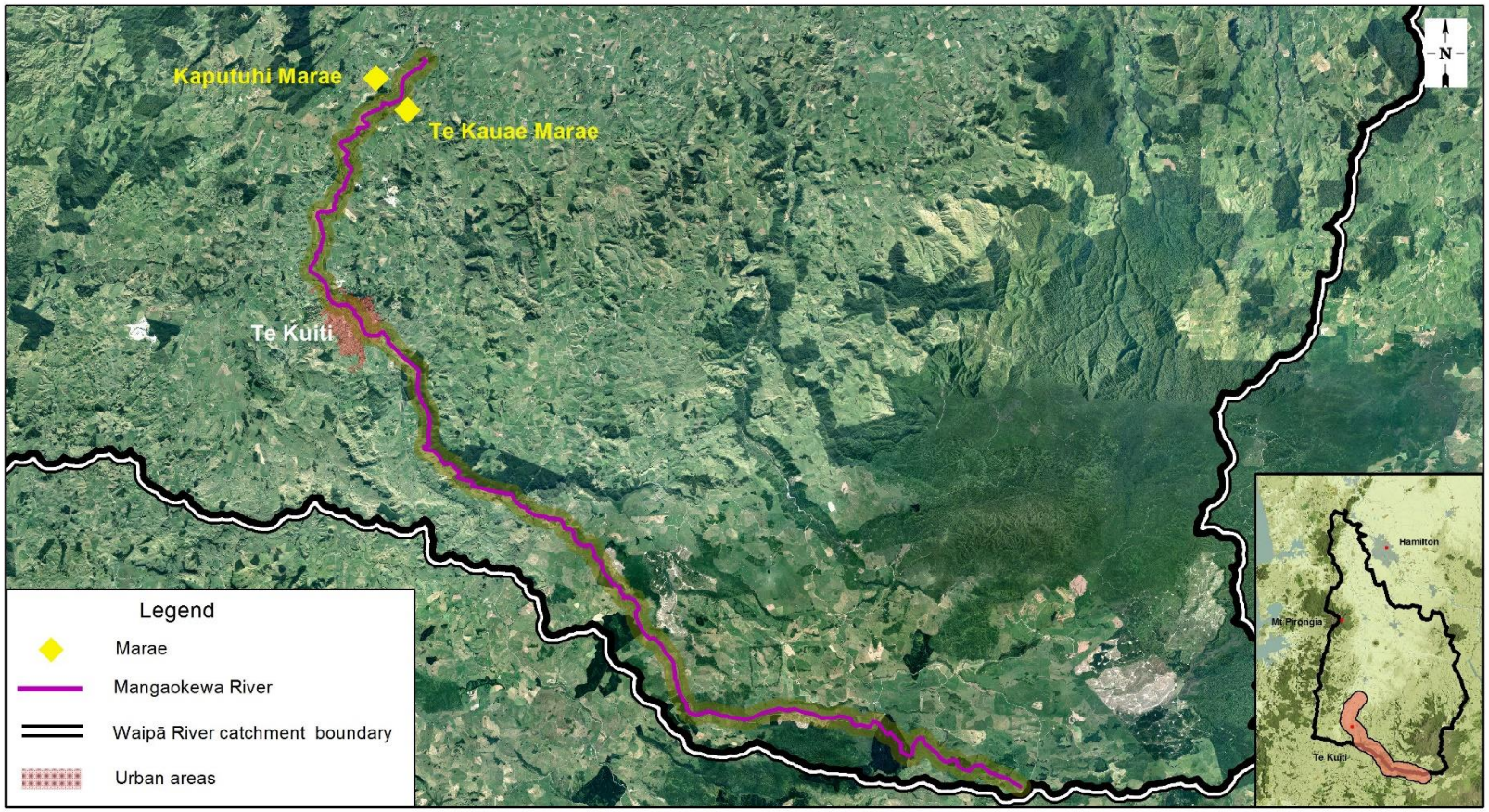

Kaitiaki training - Implementation of the Maniapoto Cultural Health Indicator tool – Mangaokewa River

WWRRS Project Map

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

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

0 2 4 6 8 10
Kilometers

Scale 1:200,000@A4 Landscape

A4

Waikato REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

Maniapoto 8 **Priority: High**	**Better farming practices programme for governors/managers of Māori land blocks – upper Waipā River catchment**
Project summary	Develop a programme across the upper Waipā River catchment that works with governors and managers of Māori land blocks to educate them on better farming practices and land utilisation to potentially reduce the sedimentation and other land use impacts from Māori land trusts in the upper Waipā River catchment.
Vision for the project	- Leadership development for governors and managers on Māori land trusts to enhance governance capability and decision making and ultimately lead to improved land utilisation. - At least 3 upper Waipā River catchment Māori land trusts undergoing the programme per year.
Location	All Māori land trusts within the upper Waipā River catchment.
Project Summary	The Maniapoto Priorities Report identifies farming as a significant pressure within the upper Waipā River catchment. Throughout the report there is reference to native bush land being cleared for farming purposes, which impacted the ability of Maniapoto to manage and protect historic resources. This project will focus on creating a governance programme for the current land use of Māori land trusts within the upper Waipā River catchment. The programme will focus on better farming practices (particularly for farms bordering waterways) than the existing land use, and modelling new environmentally and economically feasible forms of land use. It will investigate land options that will protect traditional values and heritage and strengthen the relationship between the governors/managers/owners and their lands and waterways. The programme will also look to provide facilitated support and regular progress monitoring and mentoring for the duration of the programme to participants.
Vision	For governors and managers on Māori land trusts in the upper Waipā River catchment to ensure best practice farming, enhanced governance capability and decision making to reduce sedimentation, E. coli and nitrates into the river and waterways. The vision is to reduce degradation of the Waipā River through farming and land use practices.
Key threats/impacts	The key threats are to Ngāti Maniapoto values. The Ngā Wai o Maniapoto (Waipā River) Act 2012 (Act) clearly illustrates the vision and overarching purpose of the Act and the aspirations of Maniapoto to restore and maintain the quality and integrity of the waters that flow into and form part of the Waipā River for present and future generations, and the care and protection of the mana tuku iho o Waiwaia. The values include: - Te Mana o te Awa o Waipā - Te Mana o te Wai - Te Mana tuku iho o Waiwaia.
Project goal/s (SMART)	- Increased governance capability development within the participating Māori land trusts.

	- Greater relationship with key stakeholders and community through participating in the programme. - More environmentally friendly use of upper Waipā River catchment land and its production. - Collaborative relationship building and growing external networks. - Record cultural history of each participating Māori land trust (governors/managers) in the upper Waipā River catchment. - Provide training on best farming practices incorporating improved environmental and economic benefits. - Better future strategic planning with environmental considerations incorporated.
Project actions/works required	1. 3 x Māori land trusts (governors/managers) in the upper Waipā River catchment complete this programme. 2. Interview 3 x (governors/managers) from 3 x Māori land trusts participating in the programme. 3. Record, film, transcribe, store and make available this information for iwi planning projects, e.g. waahi tapu on Māori land trust land. 4. Develop a governance training programme for Māori land trusts within the upper Waipā River catchment on best farming practices. 5. Where appropriate, identify alternative land use options and conduct feasibility studies on environmental/economic benefits vs conventional land use.
Risks to project success	- Lack of capacity/ finance or motivation to engage by Māori land trusts within the upper Waipā River catchment. - Reluctant governors/managers. - Requires collaboration with key stakeholders and commitment. - Sensitivity of the information/access to information and information sharing.
Land tenure	Iwi and Māori land trust land.
Knowledge gaps and response	- Number of Māori land trusts in the upper Waipā River catchment. - There may be minimal knowledge of active land management and environmental issues. - Limited governance experience. - Limited knowledge of effects of existing farming practices on the environment and waterways. - Lack of external networks within the upper Waipā River catchment and other Māori land trusts. - Opportunity to collaborate and share traditional knowledge of land history with external partners.
Project duration (years)	2 years

Costs

Works description	**Cost ($)**
Programme development	6000
Programme resources (30 resource packs)	3000
Venue, kai and koha x 3 (1 day workshop)	4500
Facilitator	4800
Expert advice/presenters x 6 (3 workshops)	1200
Participants travel (10 participants per workshop)	1200
Governor/manager interviews (3 trusts x 3 interviews per trust = 9)	4500
Interviewer x 9 interviews	3600
Travel/kai ($100 per interview)	900
Filming (3 days filming)	2400
Film editing (9 days editing)	6300
Project management/staffing/incidentals (20%)	7680
Total	**46,080**