[ID 13]

HAWKE'S BAY
REGIONAL COUNCIL

Mangahouanga Stream

Summary of Values

For Proposed Plan Change 7: Hawke's Bay Regional Resource Management Plan

(Outstanding Water Bodies Plan Change)

August 2020
HBRC Publication Number: 5492

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Mangahouanga Stream - Summary of Values

For Proposed Plan Change 7: Hawke's Bay Regional Resource Management Plan (Outstanding Water Bodies Plan Change)

HBRC Publication Number: 5492

Author:
Belinda Harper, Senior Planner

Reviewed by:
Gavin Ide, Principal Advisor Strategic Planning

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APPENDICES

Purpose of Report

1. This report is a compilation of information previously documented on the values associated with the Mangahouanga Stream during preparation of Proposed Plan Change 7 prior to its notification on 31 August 2019. It is one of a series of similar reports compiled for each of the respective proposed outstanding water bodies (OWB) identified in Plan Change 7.

2. The approach used by Hawke's Bay Regional Council to identify OWB in Hawke's Bay followed a process that began with a high level review documenting the values associated with 130 water bodies across the region. A short explanation is provided at the beginning of each section which discusses the relevant phase and whether the Mangahouanga Stream was considered during that part of the process.

3. Not all OWB identified in Proposed Plan Change 7 were considered during each phase of the process. For clarity, an index table (Table 1) has been included in this report which sets out the relevant phases, report names, values and page numbers for the Mangahouanga Stream.

4. No new research or further information was commissioned for the purposes of compiling this report.

5. For further information on the Outstanding Water Body Identification Methodology and each of these phases, see the Plan Change 7 Section 32 Evaluation Report[1].

6. **Table 1: Mangahouanga Stream index**

Phase	Included (yes/no)	Report name /date	Page numbers in associated report
High Level Review (Phase 1 & Phase 2)	Yes	Summary of Cultural Values Associated with Water Bodies in Hawke's Bay (March 2018)	N/A
		Summary of the Recreation, Landscape and Ecology Values Associated with Water Bodies in Hawke's Bay (March 2018)	23
Secondary Assessments (Phase 3)	Yes	Secondary assessment - Mangahouanga Stream	All of report
Local Expert Panel (Phase 4)	Yes	Outstanding Water Bodies in Hawke's Bay - Report of the Expert Panel (April 2019)	68
Final Evaluation (Phase 5)	Yes	Outstanding Water Bodies Plan Change - selecting a list of outstanding water bodies in Hawke's Bay (May 2019)	58, 62, 94, 102

Plan Change 7 Overview

7. Hawke's Bay Regional Council has prepared an amendment to the Hawke's Bay Regional Resource Management Plan (RRMP) to include a list of the region's outstanding water bodies, together with a framework which prescribes a high level of protection for these water bodies in future plan making. That change to the RRMP is referred to as 'Proposed Plan Change 7' or the 'Outstanding Water Bodies Plan Change.'

8. The water bodies identified in the Outstanding Water Bodies Plan Change have been proposed as the 'best of the best' within the region, featuring an exceptional cultural, spiritual, recreation, natural character, landscape, geology, or ecology value which is remarkable in Hawke's Bay.

9. Since commencing this OWB plan change project in early 2017, a significant amount of work has been undertaken to build a clearer picture of water bodies within the region and their potential for being classed as outstanding.

10. The Outstanding Water Bodies Plan Change amends the RPS to reflect NPSFM provisions which require the protection of the significant values of outstanding water bodies. This special protection does not lesson the importance of, or value associated with other water bodies, which are managed through other parts of the Regional Resource Management Plan or Council work programme.

11. Further information about the background and purpose of proposed Plan Change 7 is online at www.hbrc.govt.nz (search #owb).

[1] https://www.hbrc.govt.nz/assets/Document-Library/Outstanding-Water-Bodies/1.-Other-supporting-information/Section-32-Evaluation-Report.pdf

Phase One & Phase Two: High Level Review & Summary of Values

12. In June 2017, the Council embarked on a high level review documenting the cultural, spiritual, recreation, landscape, geological, natural character and ecology values associated with 130 water bodies across the region.

13. Phase 1 involved a thorough review of over ninety documents being completed. Those documents included Deeds of Treaty Settlements, statutory acknowledgements for Treaty settlements, customary uses reports, Waitangi Tribunal reports, and other documents produced in a national and regional context between 1979 and 2018.

14. This work built a clear picture of values associated with a wide range of water bodies across the region and their potential for being classified as outstanding, prior to short listing. This work culminated in a literature review with the following two tables summarising key values associated with 130 of the region's water bodies:

    - Table C1: Cultural Values Table – Summary of Cultural Values Associated with Water Bodies in Hawke's Bay.
    - Table R2: Recreation, landscape, Ecology Values Table – Summary of the Recreation, Landscape and Ecology Values Associated with Water Bodies in Hawke's Bay

15. Table C1 included all water bodies identified by name in reviewed documents, with a high level summary of the associated 'cultural and spiritual values'. This work was sent out to all Treaty settlement entities in Hawke's Bay in December 2017 for input prior to completion. No information regarding the Mangahouanga Stream was recorded during the cultural values literature review.

16. Table R2 included all water bodies identified by name in reviewed documents, with a high level summary of the associated recreation, landscape, geology and ecology values, and ratings assigned in this document.

17. Appendix 1 sets out the relevant extracts from Table R2 for the Mangahouanga Stream. No information regarding the Mangahouanga Stream was found for inclusion in Table C1.

Phase Three: Refine List & Secondary Assessments

18. In 2018, the high level review findings for 130 water bodies, and their associated values, were reported to the Council's Regional Planning Committee (RPC). The RPC selected a list of 22 candidate OWB to proceed forward a more detailed secondary assessment to see if any contained values that were clearly superior to other water bodies in Hawke's Bay.

19. The secondary assessment for the Mangahouanga Stream is set out in Appendix 2.

Phase Four: Engagement & Local Expert Panel Process

20. Phase 4 involved wider input from the public, iwi authorities, key stakeholders and territorial local authorities. Feedback from this process featured requests for an additional 20 water bodies to be identified as OWB.

21. In December 2018, Council staff contracted a local expert panel to evaluate, categorise and identify outstanding characteristics, for all value sets, from the list of 22 candidate OWB and the additional 20 water bodies put forward during engagement.

22. The local expert panel was appointed via nominations by key stakeholders, iwi authorities and city and district councils, and comprised six members[2] with good knowledge of the Hawke's Bay region.

23. The recommendations made by the panel were based on existing information, their local knowledge, and a set of assessment criteria they developed at their first meeting. The assessment criteria used by the panel to identify outstanding features is set out at the beginning of each subsection for each value set.

24. The expert panel assessed the Mangahouanga Stream as being 'Not Outstanding'. The panel found the site to be of international significance for its archaeological value (fossil bones), but subsequently determined that the archaeological value does not directly relate to the water body itself given the bones are found in ancient rocks, revealed by tectonic processes.

[2] Morry Black (Mauri Protection Agency), Matt Brady (DOC), John Cheyne (Te Taiao Environment), Andrew Curtis (Water Strategies Limited), Bernie Kelly (kayaking rep), Tom Winlove (Fish& Game Hawke's Bay)

Phase Five: Final Evaluation

25. Phase Five saw a final evaluation carried out to assist the Council's Regional Planning Committee to select a list of outstanding water bodies in Hawke's Bay, for inclusion in Proposed Plan Change 7.

26. This work summarised the key values of 42 water bodies nominated during Phases 3 and 4, and informed by
    - The secondary assessments
    - local expert panel findings
    - the values summary reports, and
    - stakeholder engagement.

27. The summary was presented by value-type, based on the work to date and in a format consistent with the direction given by Council.

28. Appendix 3 sets out the relevant extracts from the final evaluation for the Mangahouanga Stream.

Appendix 1: Table R2 - Mangahouanga Stream

Note: Appendix 1 contains extracts only - for further information please refer to the full report.

HAWKE'S BAY
REGIONAL COUNCIL

Summary of recreation, landscape and ecology values associated with water bodies in Hawke's Bay

HBRC Report No. SD18-02
Plan Number 4979

Strategic Development Group

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14 March 2018

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Prepared By:
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Waterbody / Region / Catchment	Treaty settlement entity group(s) with linkages back to waterbody	Commentary		Key values
		Key 64NZR = 64 New Zealand Rivers – A Scenic Evaluation RRS = New Zealand Recreational River Survey MAF & F = Submission on the Draft Inventory of Wild and Scenic Rivers of National Importance by MAFF W&SR = National Inventory of Wild and Scenic Rivers RiVAS = River Values Assessment System LOR & L = A List of Rivers and Lakes Deserving Inclusion in a Schedule of Protected Waters HTF = Headwater Trout Fisheries in New Zealand WONI = Potential Waterbodies of National Importance RAMSAR = Wetlands in NZ which meet the Ramsar criteria W&WH = Wildlife and Wildlife Habitat of Hawke's Bay Rivers		
Mangahouanga Stream Hawke's Bay Wairoa	Heretaunga Tamatea	64NZR	No	Geological feature
		RRS	No	
		MAF&F	No	
		W&SR	No	
		LOR&L	No	
		HTF	No	
		WONI	No	
		RAMSAR	No	
		W&WH	N/A	
		RiVAS	No	
		OTHER	**Geo preservation inventory** Mangahouanga Stream. First, and to date the only, record of terrestrial dinosaurs found in New Zealand. Rich and diverse Cretaceous vertebrate fossils in concretions, including New Zealand's only known dinosaurs and New Zealand's oldest known fossil insect, as well as fossil turtles, mosasaurs, elasmosaurs, plesiosaurs and early fish. **Classification: internationally significant**	

Appendix 2: Secondary Assessment - Mangahouanga Stream

HAWKE'S BAY
REGIONAL COUNCIL

Outstanding Water Bodies Plan Change

Candidate List of Outstanding Water Bodies in Hawke's Bay – Secondary Assessments for:

Heretaunga Aquifer, Karamu Stream, Lake Whakakī , Lake Whatumā, Lake Waikaremoana, Lake Tūtira (including Aropaoanui River + Papakiri Stream), Lake Waikareiti, Lower Ngaruroro River (below Whanawhana), Mangahauanga Stream, Makirikiri River, Porangahau River, Ruakituri River, Ruataniwha Aquifer, Taruarau River , Te Whanganui a Orotū (Ahuriri Estuary), Tukituki River, Tutaekuri River, Upper Mohaka River, Upper Ngaruroro River (above Whanawhana), Waipawa River, Waipunga River, Wairoa River.

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Outstanding Water Bodies Plan Change

Candidate List of Outstanding Water Bodies in Hawke's Bay – Secondary Assessments for:

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Reviewed by:

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Ceri Edmonds: Senior Planner

Mangahouanga Stream (Dinosaur Stream)

Key Values
Cultural
Landscape (geological features)
Natural Character

Table 1: List of publications reviewed

Year	Name	Author
1980	Dinosaur bone found in Hawke's Bay	Daily telegraph
1993	The Hunt for New Zealand's Dinosaurs	The New Zealand Geographic
1994	Cretaceous Research Paper – A Late Cretaceous polar dinosaur fauna from New Zealand	Molnar, Wiffen
1994	Rocks hold special treasures	Dominion post
1994	Dinosaur centre expected to be top attraction	Napier Courier
1994	Ancient exhibit	Dominion post
1994	Small bone was the beginning of a gigantic discovery for Hawke's Bay	Napier courier
1994	Napier Centre to feature New Zealand Dinosaur relics	Dominion post newspaper
2000	"Romancing the bone" how an amateur fossil hound unearthed dinosaur remains in a most unlikely place and rocked the word of palaeontology	Discovery Magazine
2001	Email to MTG	J. Wiffen
2016	Terrestrial fossils	The Encyclopaedia of New Zealand
2016	New Zealand Geo-preservation Inventory	Geological Society of New Zealand
2016	Scientists and Tūhoe to hunt dinosaur fossils in the Urewera range	Stuff.co.nz
2016	Tūhoe and scientists collaborate on dinosaur hunt	Science media centre
2016	Fossicking for fossils	Victorious (Victoria University)
2018	Cultural Values Table	Hawke's Bay Regional Council

Discussion

Purpose of report

1. The purpose of this report is to assist the RPC members to determine whether any of the values of the Mangahouanga Stream are outstanding for the purposes of the National Policy Statement for Freshwater Management (NPSFM).
2. This report presents the summarised findings of the values attributed to the Mangahouanga Stream in those documents referred to in Table 1, above.

Overview

3. The Mangahouanga Stream is a small stream in northern Hawke's Bay, which contains one of the most significant discoveries ever made in New Zealand – dinosaur bones. The remote mountain stream, now located high in the Urewera Ranges, was previously part of a large estuary area in the late cretaceous period, 65 million years ago.
4. In 1975, the first dinosaur bones were found at the Mangahouanga Stream, proving beyond doubt that dinosaurs had once lived in New Zealand. Prior to this discovery, it was widely thought that dinosaurs had not been present in New Zealand, with scientists believing New Zealand's land mass was too small for dinosaurs to exist.
5. The Mangahouanga Stream contains rich and diverse fossil concentrations, and is recognised as internationally significant on the New Zealand geo-preservation inventory. In the 1970s and 80s, fossil bones from four new species of dinosaur were found here, including a new genus of mosasaur that was from a previously unknown lineage of mosasaur.
6. In 2010, remains of a titanosauris were found at the Mangahouanga Stream site, which is the largest known dinosaur ever to have lived. In total, the remains of six separate species of dinosaurs have been found in the Mangahouanga Stream, and also New Zealand's oldest fossil insect. These discoveries gave scientists the very first glimpse into what New Zealand was like in the age of the dinosaurs.
7. The Mangahouanga Stream is internationally renowned, with the discoveries made in this stream changing scientific thinking around the type and size of land masses needed to support dinosaurs. These discoveries proved beyond doubt that land masses the size of New Zealand had the potential to support the full range of dinosaurs.
8. To date, the Mangahouanga Stream is the only place in New Zealand where significant dinosaur remains have been found. Other discoveries include theropod dinosaur remains in the Chatham Islands, a single therapod fossil bone (from the Jurassic period) by the mouth of the Waikato River, and dinosaur footprints in Nelson.

Location

9. The Mangahouanga Stream is located in the Urewera Ranges around 120 km inland, to the east of Te Hoe River. It is part of the Mohaka catchment and is a tributary of Te Hoe River.
10. The location of Mangahouanga Stream can be seen in Figures 1 and 2, below.

Figure 1: location of Mangahouanga Stream

Figure 2: location of Mangahouanga Stream

*Cultural values **

11. The Mangahouanga Stream is located within an area with interests relating to Ngāti Kahungunu, Ngāti Tūwharetoa, Ngai Tūhoe and Ngāti Pāhauwera.

12. While no direct customary linkages have been established back to the Mangahouanga Stream by name in the documents reviewed in Table 1, it is recognised that all fresh water bodies have special cultural, spiritual, historical and traditional associations with freshwater. The relationship between Tāngata whenua and freshwater is founded in whakapapa, which is the foundation for an inalienable relationship between Māori and freshwater that is recorded, celebrated and perpetuated across generations. Freshwater is recognised by Māori as a taonga of paramount importance, and as such, all waterbodies have important spiritual, physical and customary value.

13. Attachment 1 contains further information on the cultural values associated with the Mangahouanga Stream.

Recreation values

14. The Mangahouanga Stream is surrounded by private forestry and is difficult to access by road. The stream is accessible by car if prior arrangements are made with the forestry company who will open any locked gates and ensure no logging trucks are present in the area.

15. As such, the Mangahouanga Stream is not highly used for recreational activities.

Ecology values

16. The Mangahouanga Stream is a remote stream surrounded by private forestry and native bush areas. Given the lack of development pressures in the surrounding area the river is expected to be in a near natural state.

17. There are likely to be some native fish and wildlife associated with the Mangahouanga Stream however, no surveys or studies have been undertaken of this area so this information is unknown.

18. Future harvesting of the pine forest may have some effects on the ecology of the river and water quality.

Landscape / scenic values

19. The Mangahouanga Stream is located high in the Urewera Ranges, surrounded by a combination of private forestry and native forest areas. While the secluded bush landscape around the stream is attractive, the Mangahouanga Stream is renowned for its rich and diverse fossil concentrations.

* The HBRC and authors of this report are aware there are numerous areas, including waterbodies, where two or more iwi groups have agreed, shared interests and/or contested overlapping claims within the Hawke's Bay region. The information presented in this report is not intended to imply any exclusive rights over particular waterbodies for one or more iwi groups, nor does it confirm the validity of the claims of any group(s) over that waterbody. The information is solely for the purpose of recording important cultural and spiritual values identified by iwi groups in the region as sourced from existing published documents.

20. The Mangahouanga Stream is internationally renowned with the remains of six separate species of dinosaurs, including four new species of dinosaurs and New Zealand's oldest known fossil insect, having been discovered here.

21. The National Geo-preservation Inventory, which identifies and ranks geological features according to their relative significance, classifies the following features in the Mangahouanga Stream as nationally significant:

- The first, and to date the only, record of terrestrial dinosaurs found in New Zealand.
- Rich and diverse Cretaceous vertebrate fossils in concentrations, including New Zealand's only known dinosaurs and New Zealand's oldest known fossil insect, as well as fossil turtles, mosasaurs, elasmosaurs, plesiosaur and early fish.

22. Photographs of the Mangahouanga Stream are contained in Attachment 2.

Geological features

23. Around 70 million years ago the Mangahouanga Stream was part of a very different New Zealand landscape, vastly different from the mountain stream it is today. In the late cretaceous period the Mangahouanga Stream was part of a larger estuarine environment lying directly on the east coast. At this time, New Zealand was covered in lush rainforest and was a much larger land mass than today.

24. The fossil dinosaur remains found at Mangahouanga Stream were washed into streams by heavy rains on land, and swept down to the sea where they were preserved as marine fossils along the coast, finally ending up in the concretionary boulders in the valley of the Mangahouanga Stream.

25. In 1975, a tailbone from a four metre long, half a tonne carnivorous dinosaur was found at the Mangahouanga Stream site. In the years to follow, evidence of a nine metre allosaur, an economy version of the T-rex, an ankylosaur, a low slung armoured beast, a hypsilophosont and a four metre long plant eater were found, proving beyond doubt that both marine and terrestrial dinosaurs had once lived in New Zealand.

26. Until these discoveries, New Zealand was considered to be one of the least likely places for dinosaurs to have lived. Scientists considered the islands were too small and too isolated to have supported hungry reptilian giants. Further, experts considered dinosaur survival to be very unlikely due to New Zealand's turbulent geological history in which the land has sank and emerged from beneath the waves many times.

27. To date, the Mangahouanga Stream has provided rich and diverse fossil concentrations. A total of six separate species of dinosaurs, four of which are unique to New Zealand, have been found at this location, in addition to a range of other marine and plant fossils, including New Zealand's oldest known fossil insect, and teeth from the first known southern hemisphere sawfish.

28. Of the species of dinosaur discovered, three were meat eaters and three were herbivores. A number of marine reptiles, notably mosasaurs and plesiosaurs, and the pterosaurs, otherwise known as the flying reptile, were also found at this site.

29. The most significant findings at Mangahouanga Stream are outlined in Table 2, below.

Table 2: Significant fossil findings at Mangahouanga Stream

Year	Dinosaur name/ type	Description
1974	Theropod	The toe bone of a small theropod dinosaur was the first dinosaur remains found at the Mangahouanga Stream. This was followed by the discovery of a nine metre long allosaur, a large headed carnivorous, creature resembling a smaller spryer T. Rex. In total, three different types of theropods dinosaurs were found at the Mangahouanga Stream. Theropods are groupings of carnivorous dinosaurs.
1975, 1986	Ankylosaur	The remains of ankylosaur dinosaurs were found at the Mangahouanga Stream. This was the first dinosaur fossil which was also found in Antarctica, the significance being that dinosaur fossils were found in all lands that once made up Gondwana. Ankylosaur's are "stiff lizards" and known as the military tanks for the dinosaur world, weighing half a tonne, three metres long, with bony armour set into leathery skin for defence.

1978	Plesiosaur	A complete plesiosaur skull was exhumed, which is one of only a dozen complete plesiosaur skulls in the world. Plesiosaur's are the most numerous inhabitants of the "valley graveyard", with the remains of very young offspring as well as 10 metre adults being found.
1987	Pterosaur	The first pterosaur fossil, otherwise known as the flying reptile, was found at Mangahouanga Stream.
1990	Mosasaur	A skeleton of a mosasaur, otherwise known as the rapacious predator in our seas, was found at Mangahouanga Stream. This discovery turned out to be a completely new genus and species of mosasaur, which Joan Wiffen named Rikisaurus tehoensis and Mosasaurus flemingi. This creature was a massive carnivorous marine reptile that grew to be as long as 13 metres. It had powerful sinuous bodies, broad, webbed paddles for limbs and long conical, tooth filled heads like those of alligator. Mosasaurs were the dominant marine predators during the last 20 million years of the Cretaceous period. While mosasaurs had been discovered in New Zealand before, they are not particularly common.
1999	Titanosaurid	A titanosaurid was found at the Mangahouanga Stream site, dated at 80 million years old - three million years after New Zealand split from Gondwanaland. Titanosaurids were widespread globally and lived during the Cretaceous period, between 83 and 65 million years ago. They had small heads, a long neck and tail, and a large body. They were up to 45 metres in length and weighed up to 50 tonnes. The dinosaur would have been a "plant vacuum cleaner" living in the fringes of bush and shorelines.

Naturalness/intactness of waterbody

30. Given the lack of development pressures around the Mangahouanga Stream it is expected to be in a near natural state.

Water Quality

31. Hawke's Bay Regional Council does not monitor the water quality of the Mangahouanga Stream. However, future harvesting of the forestry land in this catchment may have effects on the water quality and ecology of this stream.

Other

32. Joan Wiffen's discoveries are internationally significant, proving the full range of dinosaurs lived in New Zealand after it split away from Gondwana in the early cretaceous period.

33. Joan's achievements are recognised within scientific publications, an award from an international scientific society (Society of Vertebrate Paleontology), and an honorary doctorate from Massey University. In 1995, Joan received an appointment as Commander of the Order of the British Empire from the queen, and in 2004, she accepted the Morris Skinner Award from the US-based Society of Vertebrate Palaeontology for outstanding and sustained contributions to scientific knowledge.

Values Summary

Overarching Value	Sub-value	Description	Outstanding Yes/no	Comments
Cultural	TBC	TBC	TBC	TBC
Recreational	TBC	TBC	TBC	TBC
Ecological	TBC	TBC	TBC	TBC
Landscape	TBC	TBC	TBC	TBC
Natural Character	TBC	TBC	TBC	TBC

Attachment 1

Managahouanga Stream – Cultural Values Report

Table 1: List of documents reviewed

Year	Name	Author
1992	Wai 119: The Mohaka River Report	Waitangi Tribunal
1997	Fisheries Resource Inventory: The Mohaka River	Matt Hickey, Fish and Game NZ
1997	Cultural Health Assessment of the Mohaka, Waikari and Waihua Rivers	Ngāti Pāhauwera Development and Tiaki Trust
2004	Wai 201: The Mohaka ki Ahuriri Report	Waitangi Tribunal
2010	Ngāti Pāhauwera Deed of Settlement documents	Ngāti Pāhauwera and the Crown
2010	Background to Settlement Aspirations and Expectations	Ngāti Hineuru
2015	Ngāti Hineuru Deed of Settlement documents	Ngāti Hineuru and the Crown
2016	Ahuriri Hapū Deed of Settlement documents	Ahuriri Hapū and the Crown
2016	Statutory Acknowledgement Document	Hawke's Bay Regional Council
2017	Ngāti Tūwharetoa Deed of Settlement documents	Ngāti Tūwharetoa and the Crown
2018	Cultural Values Table	Hawke's Bay Regional Council

*1. Overview **

Purpose

The purpose of this report is to assist the RPC members to determine whether any of the cultural values associated with the Mangahouanga Stream are outstanding for the purposes of the National Policy Statement for Freshwater Management (NPSFM).

The report summarises the values into a series of categories. It is recognised that isolating the values into categories can be problematic from a Māori worldview and many of the values are part of a narrative that doesn't fit neatly into categories. However, the intention is not to take a reductionist or isolated approach to cultural values but to try and gain an appreciation of their significance and the level of detail available to progress a plan change. In preparing the reports, it became obvious that all waterways are part of a wider cultural landscape that weaves people and the environment into a rich history of cultural and spiritual association.

* The HBRC and authors of this report are aware there are numerous areas, including waterbodies, where two or more iwi groups have agreed, shared interests and/or contested overlapping claims within the Hawke's Bay region. The information presented in this report is not intended to imply any exclusive rights over particular waterbodies for one or more iwi groups, nor does it confirm the validity of the claims of any group(s) over that waterbody. The information is solely for the purpose of recording important cultural and spiritual values identified by iwi groups in the region as sourced from existing published documents.

Ultimately, the Regional Planning Committee will need to decide what the appropriate threshold is for outstanding cultural values. Any objectives, policies or rules that are proposed to support outstanding waterbodies will be subject to scrutiny and potential challenges by those who may be affected by a plan change.

Importance

The Mangahouanga Stream is located within an area with interests relating to Ngāti Kahungunu, Ngāti Tūwharetoa, Ngai Tūhoe and Ngāti Pāhauwera.

While no direct customary linkages have been established back to the Mangahouanga Stream by name in the documents reviewed in Table 1, it is recognised that all fresh water bodies have special cultural, spiritual, historical and traditional associations with freshwater. The relationship between Tāngata whenua and freshwater is founded in whakapapa, which is the foundation for an inalienable relationship between Māori and freshwater that is recorded, celebrated and perpetuated across generations. Freshwater is recognised by Māori as a taonga of paramount importance, and as such, all waterbodies have important spiritual, physical and customary value.

In 2016, Government funding was awarded to Tūhoe and two scientists, palaeontologist James Crampton and GNS scientists John Begg, to carry on the search for fossil remains in streams that flow through Te Urewera.

Tūhoe are keen to better understand the pre-history of their homeland, Te Uru Taumatua trust said. "The possibility of dinosaur fossils in Te Urewera is of great interest to Tūhoe."

2. Archaeology

There are no recorded archaeological sites in close proximity to the Mangahouanga Stream.

3. Statutory Acknowledgement Area of Interest

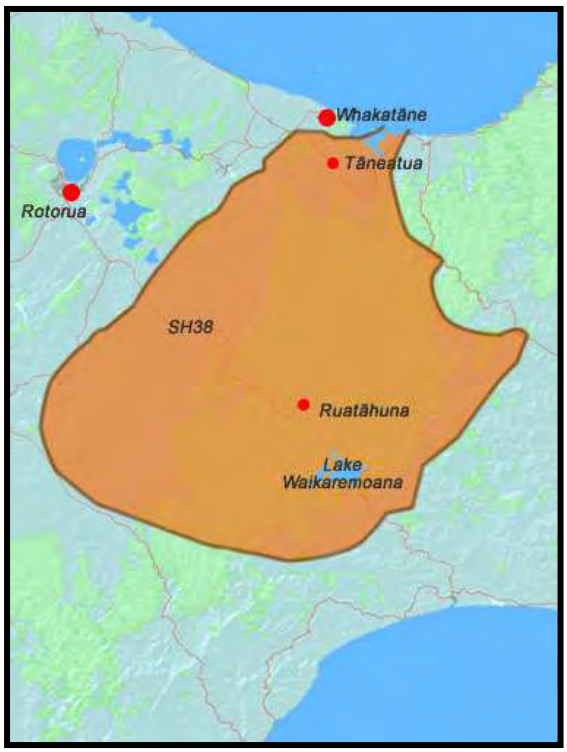

Figure 1: Tūhoe Area of Interest

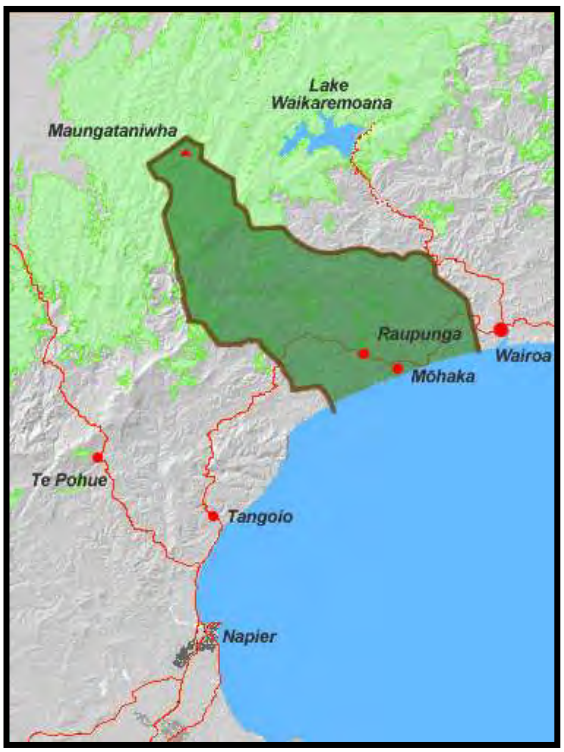

Figure 2: Ngāti Pāhauwera Area of Interest

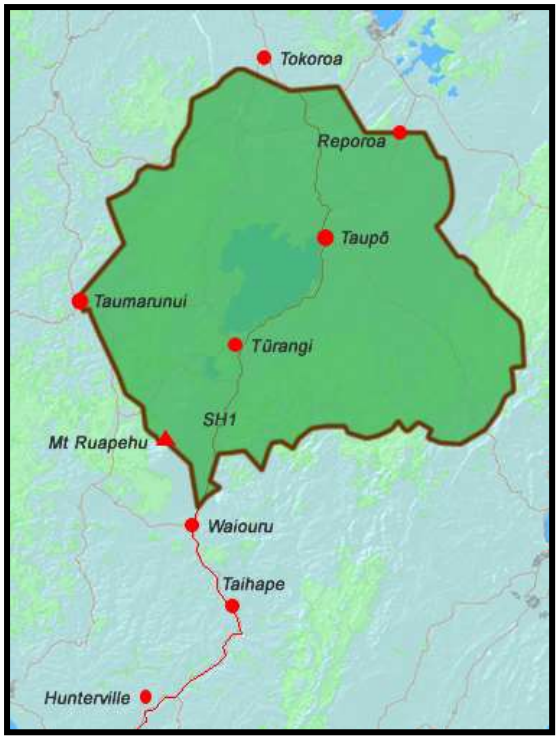

Figure 3: Ngāti Tūwharetoa Area of Interest

4. Resource Management Plans

There are no relevant provisions in resource management plans that are specific to the Mangahouanga Stream.

Attachment 2: Photographs– Mangahouanga Stream

Appendix 3: Final Evaluation - Mangahouanga Stream

Note: Appendix 3 contains extracts only - for further information please refer to the full report.

HAWKE'S BAY
REGIONAL COUNCIL

Outstanding Water Bodies Plan Change

Selecting a list of outstanding water bodies in Hawke's Bay

HBRC Report Number: SD19-18
Publication Number: 5400

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Landscape / geological features

The Mangahouanga Stream is located high in the Urewera Ranges, surrounded by a combination of private forestry and native forest areas. It is internationally renowned for its rich and diverse fossil concentrations, and the only site in New Zealand to contain significant dinosaur remains.

To date, a total of six separate species of dinosaurs, four of which are unique to New Zealand, have been found at this location. The site also contains a range of other marine and plant fossils, including New Zealand's oldest known fossil insect, and teeth from the first known southern hemisphere sawfish.

The fossils discovered in the Mangahouanga Stream prove the full range of dinosaurs lived in New Zealand after it split away from Gondwana in the early cretaceous period. Prior to these discoveries it was not thought dinosaurs lived in New Zealand.

The Mangahouanga Stream is recognised worldwide for these discoveries and is consistently identified in past publications as containing outstanding geological values.

The Mangahouanga Stream, is identified on the Geopreservation Inventory, as being Class A (internationally important) along with 4 other features in Hawke's Bay. The Inventory cites the river as the first, and to date the only, record of terrestrial dinosaurs found in New Zealand.

The local expert panel's report does not discuss the landscape values or geological features associated with the Mangahauanga Stream. Appendix 6 sets out the full findings of the local expert panel.

Cultural and Spiritual values

Since the 1980s, a large number of fossil marine and terrestrial vertebrates have been found in boulders here, making the stream an important locality for Late Cretaceous fossil records, for New Zealand.

The local expert panel considered that these fossils did not have any known outstanding cultural and spiritual values for water bodies.

Iwi authorities at the Wairoa sub-regional hui recommended that all waterbodies, including all tributaries, in the Mohaka catchment have outstanding cultural and spiritual values.

Based on the above information, staff have colour coded Mangahouanga Stream Yellow.

<u>Ruakituri River</u>

The Ruakituri River has a particular cultural, spiritual, historical and traditional association with Te Rohe o Wairoa.

According to tradition, the Ruakituri and Hangaroa Rivers (which form the Wairoa River below their confluence) were formed when kin taniwha Ruamano and Hinekorako heard the sound of the sea, and heeding its call, they decided to race to the sea, each taking a separate route by way of the two rivers.

Information reviewed indicates the water body contains the following key values:

- Wāhi Tapu, Wāhi taonga
- Mahinga kai, Pa tuna
- Acknowledged in korero tuku iho, pepeha, whakatauki, waiata.

The local expert panel found that Ruakituri River did not have any known outstanding cultural and spiritual values, and needed cultural assessment.

Iwi authorities at the Wairoa sub-regional hui recommended that all waterbodies, including all tributaries, in the Wairoa catchment have outstanding cultural and spiritual values. The Te Rohe o Te Wairoa Deed of Settlement notes the above origin story of the river.