

Lake Whatumā

Summary of Values

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

Lake Whatumā - Summary of Values

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

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Purpose of Report

1. This report is a compilation of information previously documented on the values associated with Lake Whatumā 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 Lake Whatumā 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 Lake Whatumā.
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 Report¹.
6. **Table 1: Lake Whatumā 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)	6
		Summary of the Recreation, Landscape and Ecology Values Associated with Water Bodies in Hawke's Bay (March 2018)	6
Secondary Assessments (Phase 3)	Yes	Secondary assessment - Lake Whatumā.	All of report
Local Expert Panel (Phase 4)	Yes	Outstanding Water Bodies in Hawke's Bay - Report of the Expert Panel (April 2019)	61 - 62
Final Evaluation (Phase 5)	Yes	Outstanding Water Bodies Plan Change - selecting a list of outstanding water bodies in Hawke's Bay (May 2019)	18, 24, 32, 35, 40, 43, 50, 51, 92, 101

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 lessen 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.
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 Tables C1 and R2 for Lake Whatumā.

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 Lake Whatumā 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 members² 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 found Lake Whatumā to have outstanding ecology and cultural and spiritual values. Their findings are set out in Appendix 3.

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 4 sets out the relevant extracts from the final evaluation for Lake Whatumā.

Appendix 1: Tables C1 and R2 - Lake Whatumā

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



Summary of cultural values associated with water bodies in Hawke's Bay

HBRC Report No. SD18-01
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Summary of cultural values associated with water bodies in Hawke's Bay

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14 March 2018

Prepared By:
Belinda Harper, Senior Planner

Referencing

When referencing in another report any of the values contained in this document, the author of that report must include the following text as a footnote to the referenced material:

"There are numerous water bodies in the Hawke's Bay region where two or more iwi groups have agreed, shared interests and/or contested overlapping claims. By referring to these values it is not intended to imply any exclusive rights over a particular water body for one or more iwi group, nor does it confirm the validity of the claims of any group(s) over that water body. This information is being referred to solely for the purpose of identifying the important cultural and spiritual values identified by iwi groups in the region".

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Waterbody / Region / Catchment	Treaty settlement entity	Commentary		Key values
		<p><u>Key</u> DOS = Deed of settlements, SA = statutory acknowledgements, TSL = Treaty settlement legislation, CUR = customary usage reports, WTR = Waitangi tribunal reports, OTHER = any other relevant documents</p> <p>No = waterbody not referred in document N/A = No such document exists.</p> <p>NOTE 1: The 'Key Values' column sets out a pool of eight key values, identified by the tāngata whenua representatives on the Council's Regional Planning Committee, which broadly reflect the most significant cultural values associated with water bodies. The relevant key values for each water body is listed in this column.</p> <p>See commentary column for further explanation about the identified key value for each waterbody.</p> <p>NOTE 2: The HBRC is aware there are numerous areas, including waterbodies, where two or more iwi groups have agreed, shared interests and/or contested overlapping claims within the HBRC region. The information presented in The Table 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 over that waterbody. The information is solely for the purpose of recording important cultural</p>		<p>Note: key values as follows:</p> <p>Wāhi Tapu, Wāhi taonga Wai Tapu Acknowledged in korero tuku iho, pepeha, whakatauki, waiata Mahinga kai, Pa tuna Pa, kāinga Tauranga waka Rohe Boundary Battle site</p>
<p>Lake Whatumā (Lake Hatuma)</p> <p>Hawke's Bay Tukituki</p>	<p>Heretaunga Tamatea</p> <p>Te Taiwhenua O Tamatea / Te Taiwhenua O Heretaunga</p>	<p>DOS</p> <p>SA</p> <p>TSL</p> <p>CUS</p> <p>WTR</p> <p>OTHER</p>	<p>Lake Whatumā derives its name from its use as a plentiful source of kai and is a taonga of great significance. It lies at the heart of the spiritual and cultural wellbeing and identity and culture of Heretaunga Tamatea.</p> <p>Lake Whatumā was a traditional area of residence to a significant permanent population, and used by a number of surrounding hapū who travelled to the lake to gather resources on a seasonal basis.</p> <p>The Lake was a significant mahinga kai central to the wellbeing of Heretaunga Tamatea. It was particularly known for eels, but also other freshwater fish, freshwater mussels, birds (including kereru), and raupo pollen. Its surrounds provided toitoi, patete, koareare.</p> <p>Official name change from Lake Hatuma to Lake Whatumā.</p> <p>N/A</p> <p>N/A</p> <p></p> <p></p> <p>Tukituki River Catchment Cultural Values and Uses Report (June 2012)</p> <p>Lake Whatumā was particularly significant for early Māori providing a huge abundance of food and resources and was well known as an eeling lake, other food sources included kōkopu, pātiki, kokopāra, kākāhi, toitoi, koareare, raupō, pikopiko, kouka, pāpera, kawau, pūkeko, weka, and kākāhi.</p> <p>There are numerous remains of middens, tools, bones, pits, chisels and axes indicating there was a high population of Māori in the area.</p> <p>The remains of several fortified pā are still in the area including Te Moanairokia, Ohineiwhatūia, Pukekaihou, Waipukurau, Ruatangaroa, Kaimanawa, Kaitoroa.</p>	<p>Wāhi Tapu, Wāhi taonga Pa, kāinga Mahinga kai, Pa tuna</p>

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

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

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Waterbody / Region / Catchment	Treaty settlement entity group(s) with linkages back to waterbody	Commentary		Key values
		<p>Key</p> <p>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</p>		
Lake Whatumā (Lake Hatuma) Hawke's Bay Tukituki	Heretaunga Tamatea	64NZR	N/A	Ecology (native fishery, flora)
		RRS	N/A	
		MAF&F	N/A	
		W&SR	N/A	
		LOR&L	Group three: Supports a few turf species, a low lands swap nettle (<u>Urtica linarifolia</u>) and <u>Potamogeton Pectinatus</u> , <u>Zannichellia sp.</u> Which have limited distribution.	
		HTF	No	
		WONI	No	
		RAMSAR	No	
		W&WH	N/A	
		RiVAS	No	
OTHER	<u>Wetlands of National Importance to Fisheries, MAF Fish 1987</u> Category C (important) This 110 ha lake is fringed with raupo and supports a commercial eel fishery. The area can dry out during droughts, such as that in 1983. (Criteria area meets not listed)			

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:

Heretaunga Aquifer, Karamu River, Lake Whakakā , 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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Lake Whatumā (Lake Hatuma)



Key Values

Cultural

Ecology (wildlife, fisheries, aquatic vegetation)

Table 1: List of publications reviewed

Year	Name	Author
1986	A List of Rivers and Lakes Deserving Inclusion in A Schedule of Protected Waters	Grindell & Guest
1987	Wetlands of National Importance to Fisheries	Ministry of Agriculture & Fisheries
2000	Lake Whatumā Management Plan 1999 - 2004	Hawke's Bay Regional Council
2005	Sports Fish and Game Bird Management Plan	Fish and Game New Zealand
2006	A Review and Risk Assessment of Toxic Cyanobacteria in the Hawke's Bay	Cawthron Institute
2008	Lake Whatumā Ecological Monitoring	Hawke's Bay Regional Council
2008	Wetland Monitoring Review	Hawke's Bay Regional Council
2009	Bird Species of Concern at Wind Farms in New Zealand	Department of Conservation
2011	Lake algal bloom leads to warning	Hawke's Bay Today
2013	Close Approaches and Acoustic Triangulation: techniques for mapping the distribution of booming Australasian bittern (<i>Botaurus poiciloptilus</i>) on small wetlands	Colin O'Donnell (DOC), Emma Williams (Massey), John Cheyne (Wetland works)
2013	Australasian Bittern	New Zealand Birds Online
2013	Concise Statement of Evidence of Peter McIntosh before the Board of Inquiry Tukituki Catchment Proposal	Peter McIntosh
2014	Hawke's Bay Biodiversity Inventory – Current State of Knowledge	Hawke's Bay Regional Council
2015	Forest and Bird Magazine – Spring 2015 Issue	Forest and Bird

2016	The IUCN Red List of Threatened Species	Global Species Programme, various scientists and partners worldwide
2016	Booming Bitterns	Radio New Zealand
2016	Central Hawke's Bay: Locals help to uncover secretive bittern world	Hawke's Bay Today
2017	Assessment of Lakes in the Hawke's Bay Region using Lake SPI	NIWA
2017	Whatumā Lake and Tukituki Catchment	Hawke's Bay Regional Council
2017	Conservation Status of New Zealand Birds, 2016	Department of Conservation, Forest and Bird New Zealand
2018	Cultural Values Table	Hawke's Bay Regional Council
2018	Selected Shallow Lakes – An assessment of water quality and related values (draft)	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 Lake Whatumā 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 Lake Whatumā in those documents referred to in Table 1, above.

Overview

3. Lake Whatumā is an oval shaped shallow lake with a surface area of 160 hectares, with an additional adjacent wetland margin of around 76 hectares, which is in a degraded state. The lake has high wildlife values and is home to the largest population of the globally endangered Australasian bittern in Hawke's Bay.
4. The lake is privately owned by a number of individuals and surrounding land uses are predominately sheep and beef farming. The lake commonly suffers water shortages in the summer which can have a detrimental effect on the lakes ecology. The lake is jointly managed by the Department of Conservation and surrounding landowners.
5. Historically, much of the surrounding/Tukituki catchment run off was stored in Lake Whatumā during periods of prolonged heavy rain. This caused extended periods of inundation of the land surrounding the lake which was problematic for surrounding landowners. Water levels are now managed artificially by a weir.
6. A number of management plans have been developed over the last 20 years aimed at the restoration and rehabilitation of the lake through plantings and raising the lake's water level. However, due to a conflict of interests, and different visions for the lake, a management plan has not been agreed on.
7. Lake Whatumā is a large shallow lake which is also a specific type of wetland area. It is one of the last few remaining wetlands of this type in Hawke's Bay. It is listed a priority wetland in the Hawke's Bay Regional Resource Management Plan, and was identified as a Recommended Area for Protection by the Department of Conservation under the Protected Natural Areas Programme.
8. In 2017, the Lake was identified as one of the six environmental hotspots by Hawkes Bay Regional Council, and funding has been allocated towards an environmental enhancement plan of action to protect Lake Whatumā.
9. During summer, when lake levels are low, Lake Whatumā suffers from algae blooms which severely affects the lake's water quality and wildlife habitats.

Location

10. Lake Whatumā is located approximately 3 km south of Waipukarau and is part of the greater Tukituki catchment area. The total catchment area for Lake Whatumā is around 5,400 hectares.
11. The location and extent of Lake Whatumā is shown in Figures 1 and 2 below.



Figure 1: Location of Tukituki Catchment



Figure 2: Extent Lake Whatumā

Cultural values *

12. Lake Whatumā is a significant waterway for Heretaunga Tamatea. It lies at the heart of the spiritual and cultural wellbeing and identity. The lake derives its name from its use as a plentiful source of kai and is a taonga of great significance. Throughout history, many hapū utilised the lake's resources.
13. The Lake was a significant mahinga kai. It was particularly known for eels, but also other freshwater fish, freshwater mussels, birds (including kereru), and raupo pollen. Its surrounds provided toitoi, patete, koareare. Around the lake was forest known as a source of kererū. The name of the lake is said to be a reference to the lake's first discoverers eating until they were fully satisfied.
14. Up until the 1940s the hapū located at Tapairu, Whatarākai, Mataweka and Takapau undertook regular food-gathering excursions to Lake Whatumā, particularly for tuna, kōkopu, kākahi and native birds. Continued drainage and the impact of surrounding land use meant that by the 1950s, the lake had degraded as a food source.
15. Lake Whatumā was a traditional area of residence to a permanent population and was utilised by a number of surrounding hapū who travelled to the lake to gather resources on a seasonal basis. There are numerous archaeological remains indicating there was a high population in the area. The remains of several fortified pā are still in the area.
16. Attachment 1 contains a more detailed explanation of the cultural values associated with Lake Whatumā.

Recreation values

17. Lake Whatumā is highly valued for its gamebird hunting, with the lake supporting a significant population of the dabbling duck population in Hawke's Bay. A number of maimais are located in and around the lake.
18. Historically, the Lake was used for a range of recreational uses including rowing, sailing and speed boating. However due to the frequently low lake levels these activities ceased some time ago.
19. In the past, algae blooms have occurred at Lake Whatumā which severely impacts on the recreational values of the lake.

* 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.

Ecology values

20. Lake Whatumā is 236 hectares in size¹, with a maximum depth of 0.8 m, and is one of the few remaining wetlands in Hawke's Bay. The area is recognised as having high wildlife value.
21. Lake Whatumā and its surrounding wetland margin is currently in a degraded state. The lake suffers from water shortages in the summer and is prone to flooding after prolonged heavy rain. The water level of Lake Whatumā is artificially controlled via a weir.
22. In the 1990s, the Department of Conservation identified Lake Whatumā as having high ecological values and as part of its Protected Natural Areas Programme identified the lake as a 'Recommended Area for Protection'.
23. In the 1990's, Lake Whatumā was identified by DOC as one of the top eight priority wetlands and lakes in Hawke's Bay.
24. In 2017, Hawke's Bay Regional Council rated the overall ecological quality of Lake Whatumā as 'moderate'. The rating was reduced due to poor water quality and evaluated by its bird communities.
25. The ecological values associated with Lake Whatumā are discussed in more detail below.

Fish

26. Six species of fish have been recorded in the lake, including longfin eel, shortfin eel, common bully, goldfish and rainbow trout. In 2005, Lake Whatumā was identified as being regionally significant for native fish. The lake is recognised as providing a particularly important habitat for eels.
27. In 2008, fish surveying could not take place as the monitoring sites were completely dry. The status of the native fish population in Lake Whatumā is currently unknown.

Wildlife

28. Despite its degraded state, Lake Whatumā supports a wide range of water birds, holding one of the best populations of the globally endangered Australasian bittern in Hawke's Bay. The lake also supports large populations of game birds. The area is highly ranked as a Site of Special Wildlife Interest (SSWI).
29. The native Australasian bittern is extremely rare, with the total New Zealand population estimated to be between 750 and 1000. Lake Whatumā supports around 1% of the national population, and 25% of the total population in Hawke's Bay. The lake is recognised as being one of the most accessible sites to listen or watch for the Australasian bittern.
30. A total of twenty-four species of water birds have been recorded at Lake Whatumā over the last 20 years. The list includes the New Zealand dabchick, an uncommon endemic which is near threatened globally, and the Spotless Crake and Marsh Crake, two native wetland birds which are common nationally but now very rare in Hawke's Bay.
31. The lake is one of the preferred locations for the cattle egret which migrates from eastern Australia in autumn. On arrival to New Zealand, these birds feed along the western coast of New Zealand before moving on to congregate at a few favoured sites (one being Lake Whatumā), where they invariably associate with cattle herds on damp pasture.
32. Fourteen other species of land birds have been recorded at the lake in the past. Four are common natives, whilst the remainder are common introduced species in Hawke's Bay.
33. In 2005, Fish and Game New Zealand identified the Whatumā wetland as a regionally significant game bird habitat.

Reptiles and amphibians

34. In 2001 and 2003, frogs were seen fleetingly at various points around Lake Whatumā. The frogs are thought to be the southern bell frog, native to Australia and reasonably widespread in New Zealand.

¹ 160 hectares (lake surface area) + 76 hectares (wetland margin).

35. Frogs have rapidly declined recently in New Zealand through fungal disease. As such, the presence of frogs in this wetland is viewed as positive, particularly given they do not significantly impact on the natural ecology of the area.
36. In 2005 and 2008, frogs were not detected at Lake Whatumā, possibly due to water levels and the absence of suitable habitat.

Aquatic plants

37. In 2017, NIWA assessed the condition of eleven lakes within the Hawke's Bay Region using the LakeSPI method. The LakeSPI (Lakes Submerged Plant Indicators) is based on a principle that the ecological condition of a particular lake in New Zealand can be characterised by the composition of submerged aquatic plants in them.
38. The 2017 sampling results show the lake has predominantly native plants extending across the entire lake bottom. The dominance of native aquatic plants (e.g. turf species) was a good indicator of a healthy lake structure and function.
39. Notwithstanding, the shallow nature of Lake Whatumā makes it particularly vulnerable to change over a short time frame (e.g. vulnerability to drought). This combined with the low water levels which regularly occur over summer, puts Lake Whatumā's submerged native plant community at risk.
40. This is apparent from monitoring results in 2008, where the water levels in Lake Whatumā were too shallow to access using a canoe. At this time, the only submerged plants recorded were invasive plant species and a native milfoil.

Wetland plants

41. Five major vegetation types dominate the area being willows, raupo, sedges, rushes and pasture. The lake has been significantly modified with little of the original vegetation cover left. Historically, the lake would have been surrounded by tall dense forest, dominated by kahikatea on the wet soils near its shore.
42. Swamp nettle is the only known rare plant in the Lake Whatumā wetland. This endemic species is listed as nationally threatened. In 2005, swamp nettle was flourishing and widespread and considered to be one of the best populations in Hawke's Bay. However in 2008, concerns were raised about the invasive weed Beggars tick impeding the swamp nettle.
43. Vegetation maps taken in 2007 show that the raupo on the Northern and Eastern sides of the lake has expanded when compared to the 1999 imagery. However, during this same time period lake levels are significantly lower.

Macroinvertebrates

44. Aquatic macroinvertebrates occupy a key place in aquatic ecosystem functioning and provide a useful measure of water quality and habitat condition.
45. In 2008, monitoring results indicated Lake Whatumā could support a considerable diversity of small animal life, but that the water quality is compromised by artificial nutrient input.
46. In 2008, aquatic invertebrate sampling could not occur as the monitoring sites were completely dry.

Landscape / scenic values

47. Lake Whatumā is located on the southern edges of the township of Waipukarau. It is a shallow, oval-shaped, low lying lake, which is surrounded by wetland vegetation. Historically, the lake has been subject to toxic algae blooms which can make the lake unsightly and potentially unsafe. Adjoining land uses are predominately sheep and beef farming.
48. Photographs of Lake Whatumā are contained in Attachment 2.

Naturalness/intactness of waterbody

49. Lake Whatumā has undergone significant modifications and the lake levels are artificially controlled via a weir. Very little of the original vegetation remains around the lake.

Water Quality

50. The water quality data for Lake Whatumā is limited. However, reviewed information indicates that Lake Whatumā is a eutrophic lake which can experience algal blooms. Historically, elevated levels of total phosphorous and problematic cyanobacteria has been recorded at Lake Whatumā.
51. Cyanobacteria can produce toxins known as cyanotoxins. Cyanotoxins are a threat to human and animal health when consumed or through contact.
52. In 2017, NIWA assessed the ecological condition of Lake Whatumā. Sampling results showed water clarity was poor with the through-water visibility estimated by divers as only 0.2 m at the margins.

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

Lake Whatumā – Cultural Values Report



Key Cultural Values

Spiritual values

Wāhi Tapu, wāhi taonga, wai tapu

Mahinga kai, Pā tuna

Pā, Kāinga

Rohe boundary

Table 1: List of documents reviewed

Year	Name	Author
2000	Lake Whatumā Management Plan 1999 - 2004	Hawke's Bay Regional Council
2012	Tukituki River Catchment Cultural Values and Uses	Te Taiwhenua O Tamatea & Te Taiwhenua O Heretaunga for HBRC
2016	Heretaunga Tamatea deed of settlement + documents schedule (specifically statements of association)	Heretaunga Tamatea and the Crown
2018	Cultural Values Table	Hawke's Bay Regional Council

1. Introduction *

Purpose

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

This report presents the summarised findings of the cultural values attributed to Lake Whatumā in those documents referred to in Table 1, above.

The report summarises the cultural values associated with Lake Whatumā 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

* 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.

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 water bodies are part of a wider cultural landscape that weaves people and the environment into a rich history of cultural and spiritual association.

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

Lake Whatumā is a significant waterway for Heretaunga Tamatea, one of six large natural groups negotiating the settlement of Ngāti Kahungunu Treaty of Waitangi claims. It lies at the heart of the spiritual and cultural wellbeing and identity. The lake derives its name from its use as a plentiful source of kai and is a taonga of great significance.

Over time many hapū utilised the lake's resources. Tīpuna identified as having fished the lake included Toroiwaho, Te Aomataura, Rangitotohu, Te Rangitekahutia, Te Kīkiri, Parakiore, Te Hauapu, Tapuhara, Te Rangikataepa and Pareihe.

Current hapū associated with Whatumā are Ngāi Toroiwaho, Ngāti Mārau and Ngāi Tahu ki Takapau.

Ngāti Mārau has a strong affiliation with Whatumā.

The lake remained an important mahinga kai until recent times and it was said that around 900 tāngata whenua lived around the lake's edges in 1852.

2. Mahinga kai

The Lake was a significant mahinga kai site central to the wellbeing of Heretaunga Tamatea. It was particularly known for eels, but also other freshwater fish, freshwater mussels, birds (including kereru), and raupo pollen. Its surrounds provided toitoi, patete, koareare. Around the lake was forest known as a source of kererū. The name of the lake is said to be a reference to the lake's first discoverers eating until they were fully satisfied.

It has been suggested that the settlement surrounding Waipukurau arose due to the lake and its abundant resources.

Up until the 1940s the hapū located at Tapairu, Whatarākai, Mataweka and Takapau undertook regular food-gathering excursions to Hatuma, particularly for tuna, kōkopu, kākahi and native birds. Continuing drainage and the impact of surrounding land use meant that by the 1950s, the lake had degraded as a food source.

3. Pā, Kāinga, ara

Lake Whatumā was a traditional area of residence to a permanent population and was utilised by a number of surrounding hapū who travelled to the lake to gather resources on a seasonal basis.

There are numerous remains of middens, tools, bones, pits, chisels and axes indicating there was a high population in the area.

The remains of several fortified pā are still in the area including Te Moanairokia, Ohineiwhatūia, Pukekaihou, Waipukurau, Ruatangaroa, Kaimanaw and Kaitoroa.

4. Archaeology



Figure 1: Archaeological Sites around Lake Whatumā

5. Statutory Acknowledgement Area of Interest



Figure 2: Heretaunga Tamatea Area of Interest

6. Resource Management Plans

The following tables list any relevant resource management plans developed by iwi/hapū, the regional council or territorial authorities. The tables include any specific provisions that apply to Lake Whatumā. They do not include all of the general policies or rules that may apply. Water quality and water quantity provisions have been included as it is recognised that these aspects can significantly impact on cultural values.

Iwi and Hapū Resource Management Plans

Kahungunu ki Uta, Kahungunu ki Tai: Marine & Freshwater Fisheries Strategic Plan

Mana Ake - An Expression of Kaitiakitanga, Te Taiwhenua o Heretaunga

Regional Resource Management Plan

Section 5.9 (Tukituki River Catchment) – various objectives, policies, limits and targets apply to water quantity and water quality

Schedule 6b: Catchments Sensitive to Animal Effluent Discharges (Schedule 6b)

Central Hawke's Bay District Plan

Appendix C – Schedule of sites of cultural significance to tangata whenua – contains archaeological sites

Attachment 2: Photographs - Lake Whatumā

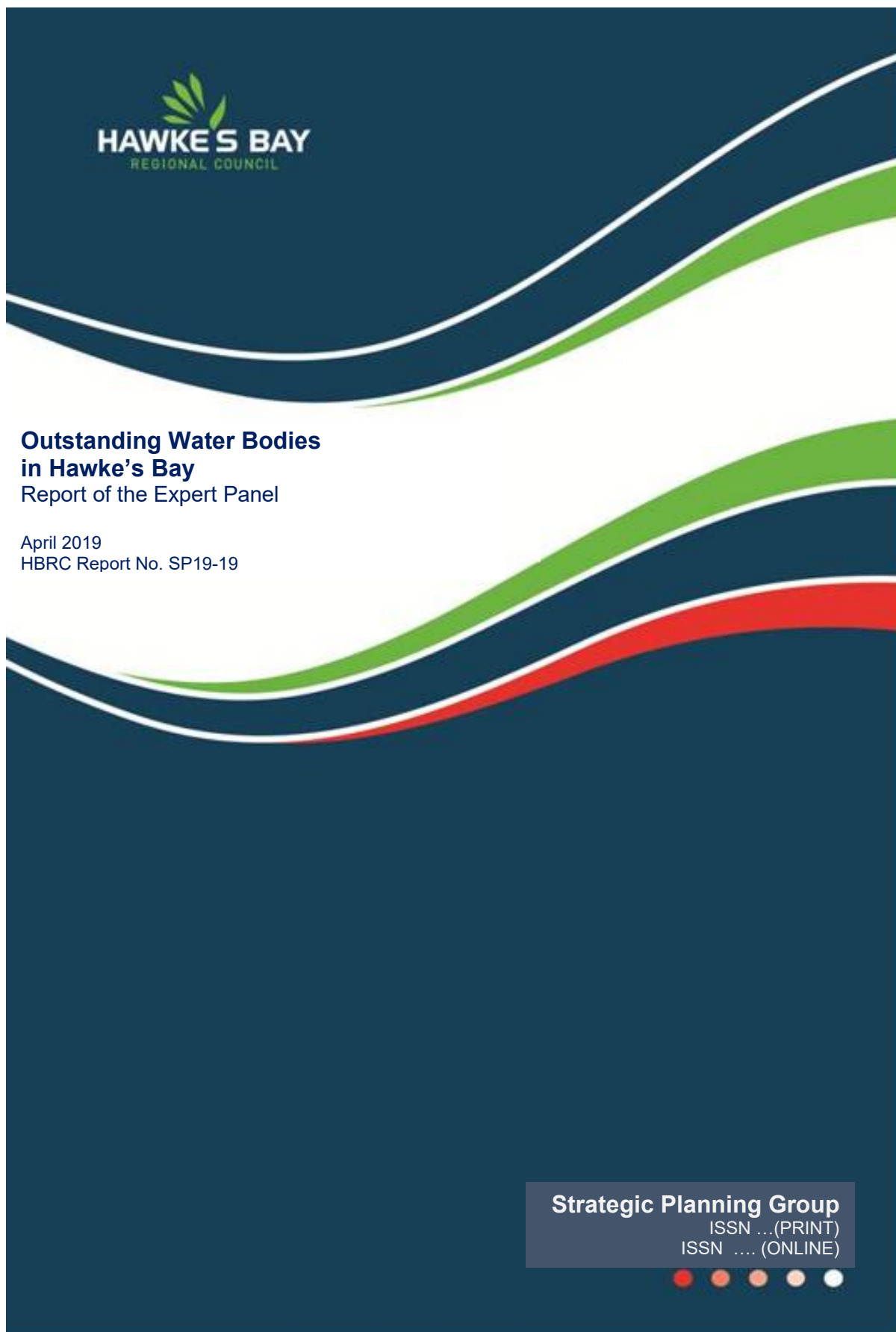




Appendix 3: Expert Panel Findings - Lake Whatumā

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

Outstanding Water Bodies in Hawke's Bay: Report of the Expert Panel





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Outstanding Water Bodies in Hawke's Bay Report of the Expert Panel

April 2019
HBRC Report No. SP19-19



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Outcome 2: OWB Assessment Criteria

The Panel considered the criteria for what makes the selected values regionally ‘Outstanding’. The Gisborne District Council OWB criteria provided a useful framework but needed both simplification and some additional criteria.

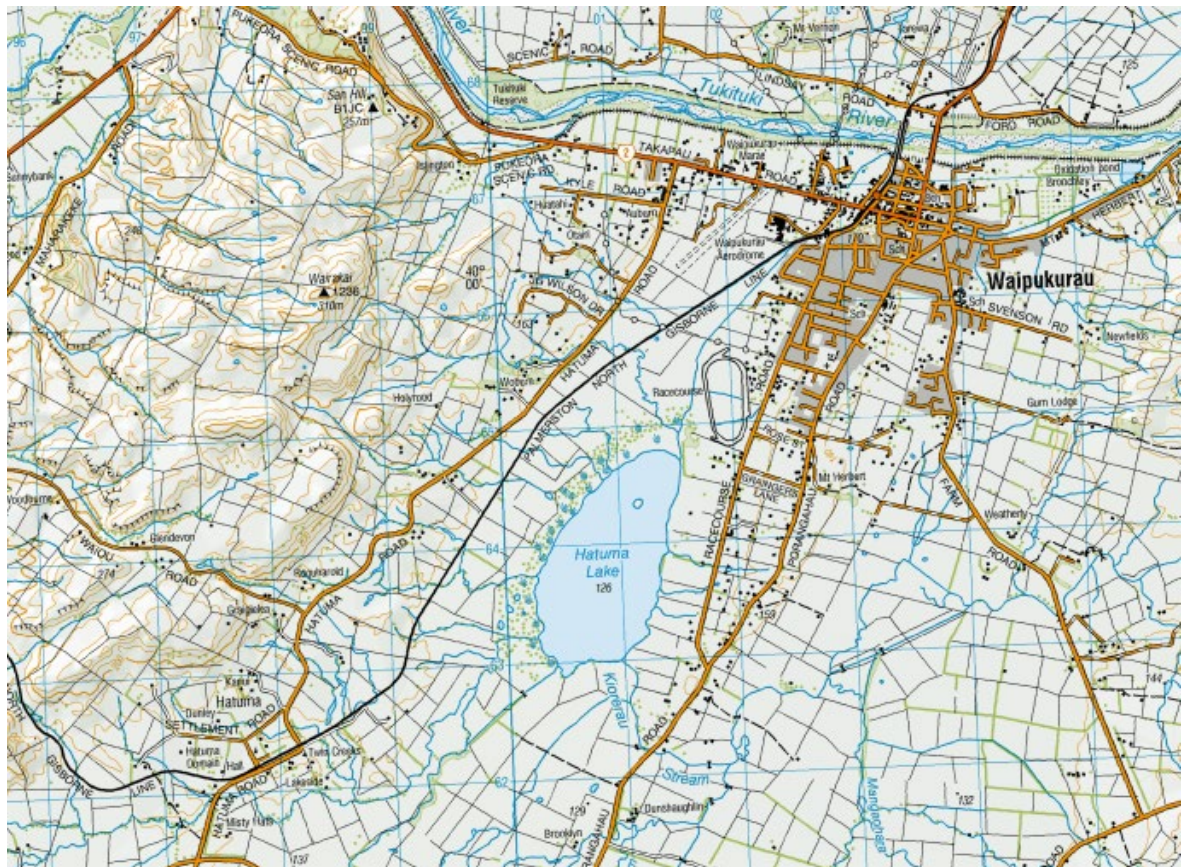
Both quantitative and qualitative (descriptive) measures were selected and are set out below in Table 4. ‘Outstanding’ values could also be variable, for example, customary values can be dependent on the season or time of year.

TABLE 4: CRITERIA FOR ASSESSING ‘OUTSTANDING’ VALUES

‘OUTSTANDING’ VALUE	CRITERIA	INDICATOR
Ecology	Threatened Species	4 or more threatened species
	% of Population	<ul style="list-style-type: none"> • >2% of a national population of a native species • >15% of a regional population of a native species
	Ecological Distinctiveness	Presence of a unique or distinctive characteristic/ habitat or species at the regional level
	Ecological Function	Presence of a critical or outstanding: <ul style="list-style-type: none"> • Breeding site • Ecosystem component • Assemblage • Kohanga ika/ nursery • Fish passage/ fish spawning
Landscape	A water body that contains a unique hydrological, geological or culturally significant feature A water body that is widely recognised at the regional level for its scenic values	
Natural Character	A water body that is highly natural with little or no human modification, including to the flow, bed and riparian margins, water quality, flora and fauna, within a largely indigenous landscape	
Amenity/ Recreation	A recreational experience that is exceptional in or on the water An exceptional location for angling or customary food gathering A unique historical or heritage site	
Cultural & Spiritual	Preliminary and high level comments only are provided using the following framework: For understanding and assessing the outstanding values, attributes and uses of water bodies from a cultural and spiritual perspective, the following concepts have been applied:	

	<p><i>Wairuatanga</i></p> <ul style="list-style-type: none"> Mauri Mana Tapu Taonga tuku iho <p><i>Rangatiratanga</i></p> <ul style="list-style-type: none"> Mana whenua – mana moana Kaitiakitanga Mahinga kai (as a place, action or practice) <p><i>Whakapapa</i></p> <ul style="list-style-type: none"> O te whenua O te wai O te tangata Ki uta ki tai <p><i>Matauranga Maori</i></p> <ul style="list-style-type: none"> Tikanga Maori knowledge systems Traditional uses and values Origins of cultural knowledge <p><i>Cultural Natural Character</i></p> <ul style="list-style-type: none"> Spiritual condition Mana o te wai Connectivity between ground and surface water Cleansing properties as water passes through the whenua Spring / aquifer sources – water recharge systems <p>SPECIAL NOTE:</p> <p>Tangata whenua will provide locally relevant assessments through separate input to the process (Refer to Appendix 4: Maori cultural and spiritual values, and see Diagram 1).</p>
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Lake Whatumā



LAKE WHATUMĀ: DESCRIPTION OF OUTSTANDING VALUES

SUMMARY

TYPE	NAME	OUTSTANDING VALUE				
		ECOLOGY	LANDSCAPE	NATURAL CHARACTER	AMENITY & RECREATION	CULTURAL & SPIRITUAL
Wetland	LAKE WHATUMĀ					

ECOLOGY

Description	Notes	Reference
<p><i>Threatened Species:</i></p> <p>6 bird species – grey duck, white heron, bittern, black-billed gull, banded dotterel, Caspian tern</p>		<p>Bird list in Appendix 2</p> <p>O’Donnell C</p>
<p><i>% of Population:</i></p> <p>Bittern –</p> <p style="padding-left: 40px;">22% of regional population</p> <p style="padding-left: 40px;">2.5% of national population</p> <p>Dabchick –</p> <p style="padding-left: 40px;">26% of regional population</p> <p style="padding-left: 40px;">5-10% of national population</p> <p>Pied stilt – 45% of regional population</p>		<p>Cheyne J 2019</p> <p>O’Donnell C</p>

CULTURAL & SPIRITUAL

Description	Notes	Reference
<p>Significant to the iwi and hapū of Te Rohe o Te Wairoa. Ngāti Kahukura, Ngāti Kirituna and hapū of Te Whakakā Nui-a-Rua have cultural associations with the lake</p>		HBRC 2018
<p><i>Whakapapa:</i></p> <p>o te whenua, o te wai, o te tangata, ki uta ki tai</p> <p><i>Mahinga kai:</i></p>		HTT DoS 2015

Appendix 4: Final Evaluation - Lake Whatumā

Note: Appendix 4 contains extracts only - for further information please refer to the full report.



Outstanding Water Bodies Plan Change Selecting a list of outstanding water bodies in Hawke's Bay

HBRC Report Number: SD19-18
Publication Number: 5400

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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Ecology values

Wildlife

Lake Whatumā is a large, 236 hectare, shallow lake which has been significantly modified. It is currently in a degraded state and suffers from algae blooms during the summer months.

Despite its degraded state, Lake Whatumā supports around 24 species of waterbirds, including the black-billed gull, banded dotterel, Caspian tern, pied stilt, New Zealand dabchick, Spotless Crake and the cattle egret.

Most notably, Lake Whatumā provides a favoured wetland type for the Australasian bittern and holds the best population in Hawke's Bay. The Australasian bittern is a specialist wading bird which is extremely rare. Around 2,000 remain worldwide. It is classified as endangered on the IUCN³ red list and nationally vulnerable on the NZTCS (See Table 6 for descriptions).

The local expert panel found Lake Whatumā to have outstanding wildlife values, specifically noting the threatened species present and the high numbers of Australasian bittern, dabchick and pied stilt (22%, 26% and 45% of the regional population, respectively). The local expert panel's report is attached in Appendix 6.

Native fish

Lake Whatumā is a large shallow lake which supports three species of native fish being the shortfin eel, longfin eel and the common bully. The condition of the lake is poor, and during summer it can suffer from algae blooms and completely dry up.

In 1987, Lake Poukawa and Pekapeka Swamp were assigned a Category C (important) rating by MAFFish, in their publication "wetlands of national importance to fisheries".

The local expert panel did not discuss the native fish values associated with Lake Whatumā. Appendix 6 sets out the full findings of the local expert panel.

Native plants

The nationally threatened swamp nettle is the only known rare plant in the Lake Whatumā wetland. In 2005, the swamp nettle was flourishing and widespread and considered to be one of the best populations in Hawke's Bay, however the current population of swamp nettle is unknown.

In 2017, NIWA found Lake Whatumā to have predominantly native plants extending across the entire lake bottom, with some invasive plant species, indicating a healthy lake structure and function.

The local expert panel's report does not discuss the native plant values associated with Lake Whatumā. Appendix 6 sets out the full findings of the local expert panel.

Natural character

Lake Whatumā has undergone significant modifications and the lake levels are artificially controlled via a weir. Very little of the original vegetation remains around the lake.

The local expert panel's report does not discuss the natural character of the Lake Whatumā. Appendix 6 sets out the full findings of the local expert panel.

³ International Union for Conservation of Nature red list of threatened species.

Cultural and Spiritual values

Lake Whatumā is a source of plentiful kai and a taonga of great significance, lying at the heart of the cultural wellbeing, identity and culture of Heretaunga Tamatea.

The name 'Whatumā' refers to the discoverers of the lake who ate eels they found there until their hunger was satisfied.

It is particularly well known for eels, but also freshwater mussels, birds and raupo pollen, and its surrounds provide toitoi, patete and koareare.

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

- Wāhi Tapu, Wāhi taonga
- Pa, kāinga
- Mahinga kai, Pa tuna.

The local expert panel found that Lake Whatumā contained known outstanding cultural and spiritual values, specifically noting whakapapa and mahinga kai.

At the time of writing, iwi authorities had not provided any comment specific to Lake Whatumā.