

Threatened and At Risk species in the Tāmaki Estuary / Wai O Taiki catchment

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Overview

The purpose of this report is to provide a comprehensive list of threatened and at-risk species in the Tāmaki Estuary / Wai O Taiki catchment to support informed decision-making and prioritisation for conservation efforts. No classifications or risk assessments were applied; the report solely compiles existing species records. Species were included if they were Regional or Nationally At Risk or Threatened.

The catchment hosts a diverse range of Threatened and At Risk species, providing critical habitats for their survival. The Tāmaki Estuary was designated as an Area of Significant

Conservation Value (ASCV) by the Department of Conservation prior to 2008. This designation is still reflected in the Auckland Unitary Plan today.

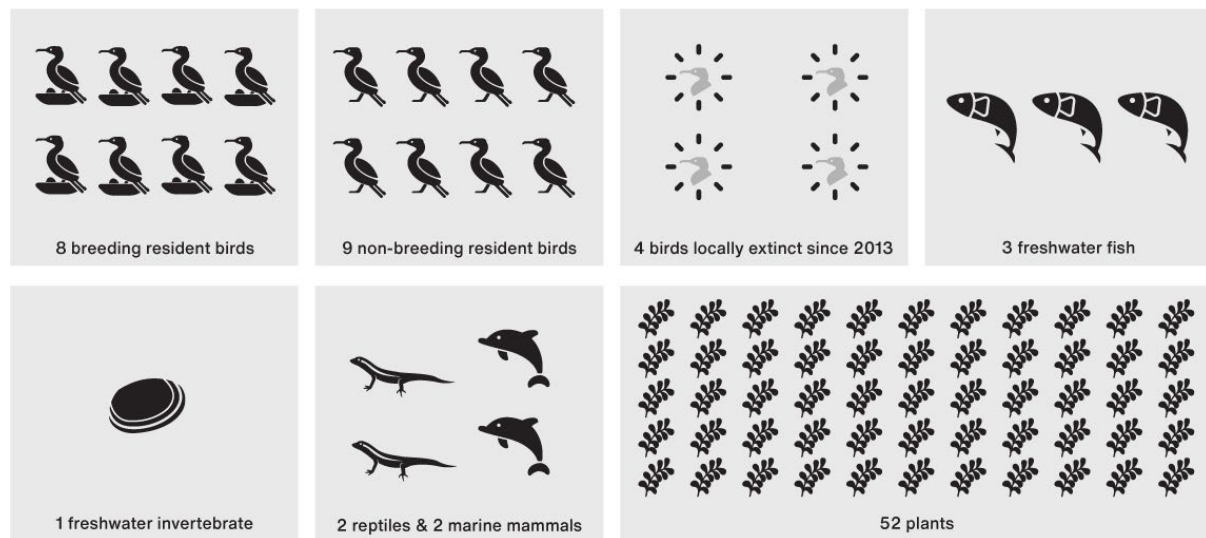


Figure 1. Graphical summary of the Threatened and At Risk species in the catchment

This report documents eight breeding resident and nine non-breeding resident bird species in these categories, with four bird species having gone locally extinct since 2013. Additionally, three Threatened and At Risk freshwater fish species, one freshwater invertebrate and two reptile and two marine mammal species are recorded in the catchment. However, plants dominate the list, with 52 plant species classified as Threatened or At Risk. Altogether, 78 species are documented across the taxa investigated in this report.

Data

Birds. Shorebird population data was sourced from the Birds New Zealand Wader Survey, with thanks to the dedicated volunteer counters: Kay Anand-Sobti, Basil Avery, Julie Chambers, David Doleman, Gillian Eller, Mark Eller, Beth Evans, Claire Hotchin, Noel Knight, Kathryn Legrove, Shaun Lee, Helen Momota, Sue Noble, Jeannie Preddey, Matt Rayner, Bruce Kendall, Rowena West, and Marty Yates.

Reptiles. Records are drawn from the *Department of Conservation Bioweb Herpetofauna database and Auckland Council's herpetofauna database* up to 2022, with specific locations kept private to protect species from poachers.

Invertebrates. Data from seven WilderLab eDNA samples were searched for 166 species of Nationally At Risk or Threatened freshwater invertebrates. Marine invertebrates have not been assessed by the department. The waicare.org.nz records for each local board area in the catchment were downloaded and searched for Nationally At Risk or Threatened freshwater invertebrates. As the records are not identified to a species level none were added to the list, however there is one record of a freshwater mussel at Macleans Stream, adjacent to flat grass area downs.

Plants. Records include wild plants only, excluding cultivated and eDNA-derived records. These come from various sources, including herbarium specimens (mainly AK), publications (primarily Auckland Botanical Society Journal articles), and unpublished records by Ben Goodwin. Other threatened plant species may exist within the catchment, but no comprehensive survey has been conducted.

Location

The study area has been defined by the catchment including the waters of the Estuary. We have restricted the Northern limit to a line between Glover Park in the west and Music Point in the east.

Motukorea / Browns Island was excluded because it is overseen by the Waiheke Local Board which is not in the Tāmaki Estuary Environmental Forum (TEEF). The motu is however managed by the Southern Regional Park | Parks & Community Facilities at Auckland Council and this decision could be reconsidered in future.

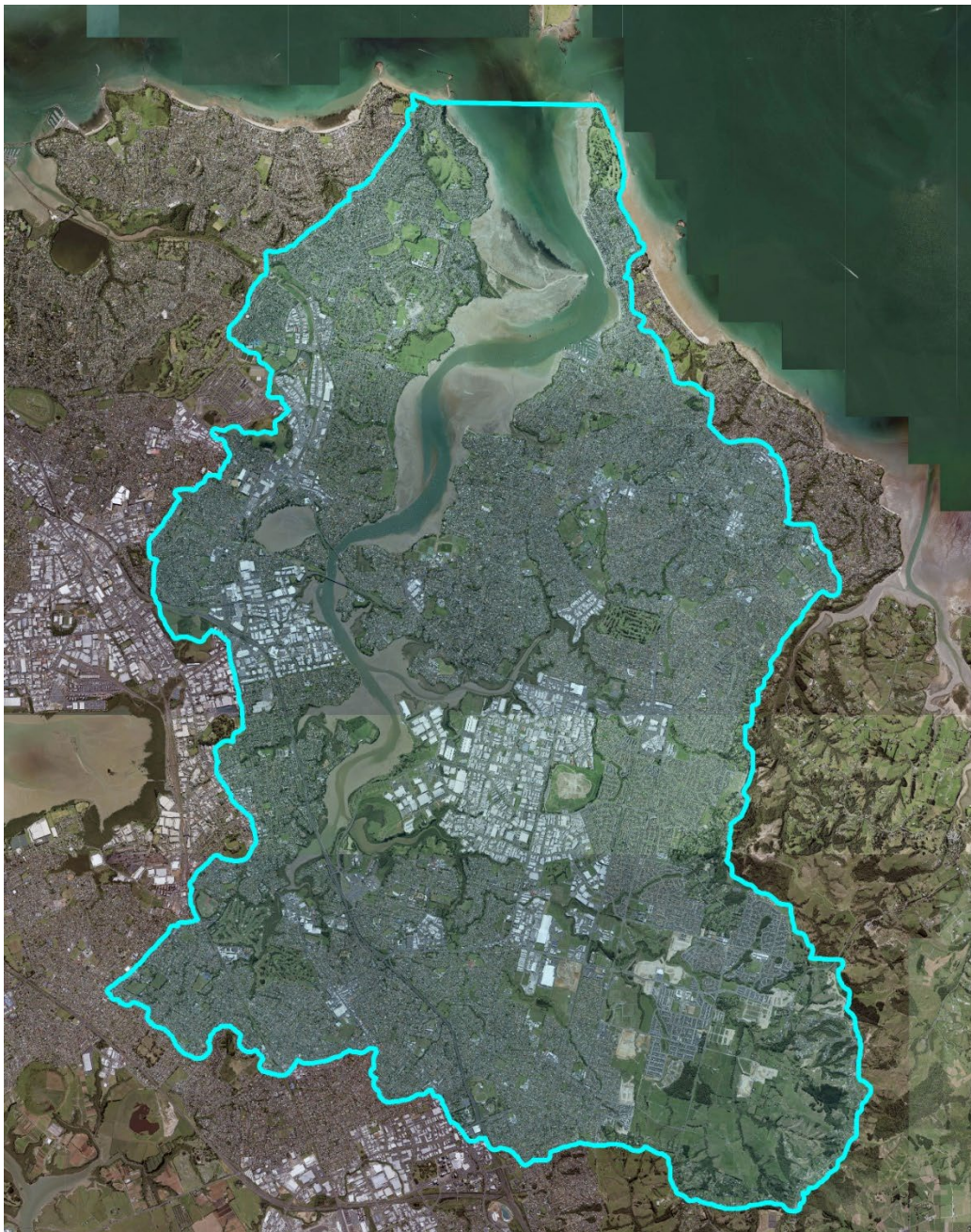


Figure 2. Map of the study area © Geomaps / Auckland Council

Keys

Qualifiers

These qualifiers are for reference only. They were applied by the conservation biologists who made the national or regional threat assessments. They were not applied by the authors of this document.

CD	Conservation Dependent
CI	Climate Impact
DE	Designated
DPR	Data Poor: Recognition
DPS	Data Poor: Size (Data-Poor Taxa Evaluation Framework)
DPT	Data Poor: Trend
EF	Extreme Fluctuations
FR	Former Resident
INC	Increasing
NO	Naturalised Overseas
NStr	National Stronghold
PD	Partial Decline
PF	Population Fragmentation
RF	Recruitment Failure
RN	Restored Native
RR	Range Restricted
S?O	Secure? Overseas
SO	Secure Overseas
Sp	Sparse
TL	Type Locality
TO	Threatened Overseas

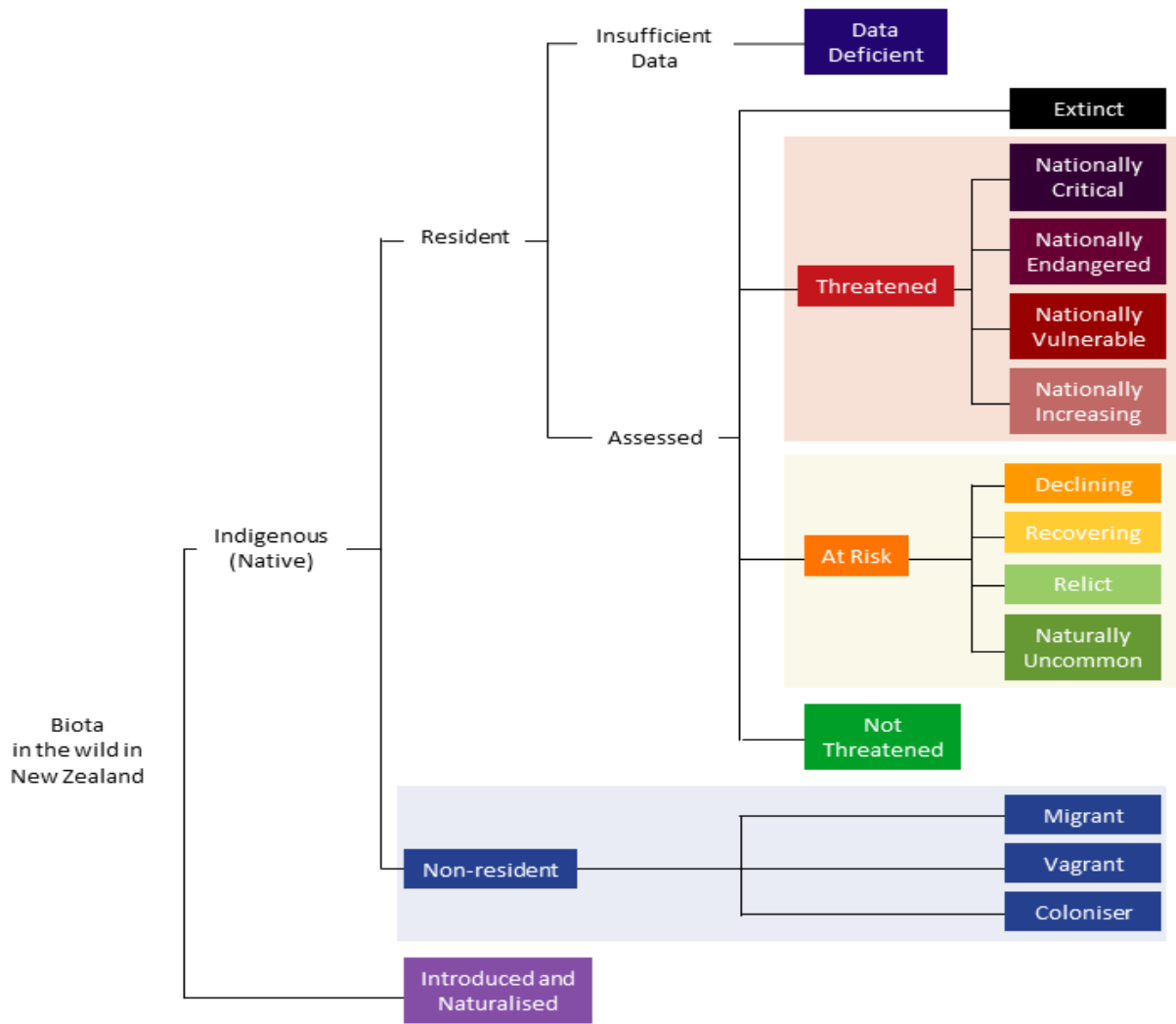


Figure 3. New Zealand Threat Classification System

This colour indicates the species is dependent on a marine or freshwater habitat

Fauna: Breeding resident birds

Common Name	Māori Name	Scientific name	Regional Cons. Status (2023)	National Cons. Status (2021)	Catchment Population Size (estimate)	Notes
New Zealand dabchick	Weweia	<i>Poliiocephalus rufopectus</i>	Regionally Critical	Threatened – Nationally Increasing	4	DPS, DPT, Sp. A few pairs recently breeding at Stonefields (border of catchment)
Little shag	Kawaupaka	<i>Microcarbo melanoleucos brevirostris</i>	Regionally Endangered	At Risk – Relict	15-22 pairs nesting in colony above stormwater pond at Point England	CI, DPR, DPS, DPT.
Banded rail	Moho pererū	<i>Gallirallus philippensis assimilis</i>	Regionally Vulnerable	At Risk – Declining	6	CI, CR, DPS, DPT, NStr. Likely two pairs breeding at Tahuna Torea. Sightings in Pakuranga Creek.
Red-billed gull	Tarāpunga	<i>Chroicocephalus novaehollandiae scopulinus</i>	Regionally Vulnerable	At Risk – Declining	900 birds, most breeding at old Wynyard wharf.	CI, CR, DPT. 50+ Pairs breeding under Panmure Bridge a few more on nearby boats / structures.
Variable oystercatcher	Tōrea pango	<i>Haematopus unicolor</i>	Regionally Vulnerable	At Risk – Recovering	50. Mostly breeding on Motukorea	CD, CI, DE, DPS. First pair breed at Tahuna Torea on restored roost in 2023-4
White-fronted tern	Tara	<i>Sterna striata</i>	Regionally Vulnerable	At Risk – Declining	4	CD, CI, CR. Breeding on poles and boats near

						Panmure Basin.
Northern New Zealand dotterel	Tūturiwhatu	<i>Charadrius obscurus aquilonius</i>	Regionally Increasing	Threatened – Nationally Increasing	4 breeding pairs	CD, CI, INC, NStr. Some have moved from Point England to Saint Kentigerns likely due to changes in grass management.
Pied shag	Kāruhiruhi	<i>Phalacrocorax varius varius</i>	Regionally Recovering	At Risk – Recovering	40	CR, DE, DPS, DPT. Steep decline in nests at Panmure Basin

Fauna: Non-breeding resident birds

Common Name	Māori Name	Scientific name	Regional Cons. Status (2023)	National Cons. Status (2021)	Catchment Population Size (estimate)	Notes
South Island pied oystercatcher	Tōrea	<i>Haematopus finschi</i>	Regionally Declining	At Risk – Declining	350	CI, NStr. Large declines since the 1970s
Bar-tailed godwit	Kuaka	<i>Limosa lapponica</i>	Regionally Not Threatened	At Risk – Declining	200	CI, NStr, TO. Large declines since the 1970s
Banded Dotterel	Pohowera	<i>Anarhynchus bicinctus</i>	Regionally Endangered	At Risk – Declining	30	CD, CI, NStr. Small flocks sometimes associated with Wrybill.
Wrybill	Ngutu pare	<i>Anarhynchus frontalis</i>	Regionally Increasing	Threatened – Nationally Increasing	50-150	CD, NStr, RR, TL. Few counts
Shore	Tuturuatu	<i>Thinornis</i>	N/A	Threatened	1	CD, RN.

plover		<i>novaeseelandiae</i>		– Nationally Critical		Regular visitor from 2013-2020 until a stoat decimated the breeding population on Motutapu.
Caspian tern	Taranui	<i>Hydroprogne caspia</i>	Regionally Critical	Threatened – Nationally Vulnerable	2-6	CI, DPS, DPT, SO, Sp. Regularly seen foraging in the estuary and roosting at Tahuna Torea.
Reef heron	Matuku moana	<i>Egretta sacra sacra</i>	Regionally Critical	Threatened – Nationally Endangered	1	CI, DPS, DPT, NStr, Sp, SO. Three recent records ¹ regular in the 1970s ²
Royal spoonbill	Kōtuku ngutupapa	<i>Platalea regia</i>	Regionally Naturally Uncommon	At Risk – Naturally Uncommon	17	INC, NStr, SO
Spotless crane	Pūweto	<i>Zapornia tabuensis tabuensis</i>	Regionally Vulnerable	At Risk – Declining	1-2	DPS, DPT, PF, SO. Cryptic, regularly heard at Tahuna Torea but more abundant at Waiatarua Reserve.

Recently extinct birds

Three bird species recorded in the Auckland Unitary Plan (notified 30 September 2013) as frequenting the Tahuna Torea Nature Reserve no longer forage in the area.

“Birds which frequent the area include the South Island pied oystercatcher, variable oystercatcher, Caspian tern, grey teal, pied stilt, godwit, knot, turnstone, golden plover, banded dotterel, New Zealand dotterel, wrybill, black-backed gulls, red-billed gulls, caspian

¹ https://inaturalist.nz/observations?nelat=-36.855717871412594&nelng=174.92791446438167&subview=map&swlat=-36.97512291116758&swlng=174.81272968044613&taxon_id=4947

² https://www.birdsnz.org.nz/wp-content/uploads/2021/12/Notornis_25_1.pdf

terns, pied shags and little shags; white-faced heron and blue reef heron also feed on the tidal flats.” — 49c Tahuna Torea SEA M1. The Proposed Auckland Unitary Plan

Australasian bittern were recorded in Chris Barfoots book about Tahuna Torea³ but have not been recorded in the reserve since 2016⁴.

A total of four species of Threatened or At Risk bird species could now be considered locally extinct:

Red knot *Calidris canutus* (Large declines since the 1970s last seen 2019)

Ruddy turnstone *Arenaria interpres*

Golden plover *Pluvialis fulva*

Australasian bittern *Botaurus poiciloptilus*

Fauna: Fish

Common Name	Māori Name	Scientific name	Regional Conservation Status (2023)	National Cons. Status (2017)	Catchment Population Size (estimate)	Notes
Longfin eel	Tuna	<i>Anguilla dieffenbachii</i>	At Risk – Regionally Declining	At Risk – Declining	Recorded in Glendowie Stream, Point England Pond ⁵ Pakuranga Creek ⁶ Angelo Stream ⁷	CI, CD, DPS, DPT. Decline associated with fish passage barriers and degradation of habitat.
Īnanga	Īnanga, Matamata	<i>Galaxias maculatus</i>	At Risk – Regionally Declining	At Risk – Declining	Common in many streams in the catchment.	CI, CD, DPS, DPT, SO. Decline associated with fish passage barriers and loss of spawning habitat.

³ Tahuna Torea: From tip-site to nature reserve by Chris Barfoot

⁴ <https://ebird.org/checklist/S29233309>

⁵ <https://s3.ap-southeast-2.amazonaws.com/wilderlab.openwaters/reports/712204b51e5b7ba0.html>

⁶ <https://s3.ap-southeast-2.amazonaws.com/wilderlab.openwaters/reports/2293f1cbada47b54.html>

⁷ <https://s3.ap-southeast-2.amazonaws.com/wilderlab.openwaters/reports/30e744fe1a64a2ac.html>

Redfin bully	Kōkopu, urutira, where	<i>Gobiomorphus huttoni</i>	At Risk – Regionally Declining	Not Threatened	Common in many streams in the catchment.	CI, DPS, DPT
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Fauna: Marine mammals

Common Name	Māori Name	Scientific name	Cons. Status	Catchment Population Size (estimate)	Notes
Orca / Killer whale	Maki	<i>Orcinus orca</i>	Nationally Critical (National 2019)	Pods of 3-6 animals visiting several times a year.	DP, S?O, DP, Sp. National population 150–200
Bottlenose dolphins	Terehu	<i>Tursiops truncatus</i>	Nationally Endangered (National 2019)	Occasional pod of 10 or so	De, PF, SO, Sp. Visiting North Island coastal sub-population of 450.

Fauna: Reptiles

Common Name	Māori Name	Scientific name	Cons. Status	Catchment Population Size (estimate)	Notes
Copper skink	Mokomoko	<i>Oligosoma aeneum</i>	At Risk – Declining (National 2021) Regionally Declining (2022)	Four individuals recorded from two locations in the last decade. Two older records at different locations.	PD. All located on the western side of the catchment.
Forest gecko	Moko pirirākau	<i>Mokopirirakau granulatus</i>	At Risk – Declining (National 2021) Regionally Declining (2022)	One 2013 record (dead)	CD, PD

There has been one unconfirmed report of a Green turtle (*Chelonia mydas*) north of the sand spit at Tahuna Torea Nature Reserve and another off Eastern Beach. The IUCN lists green turtles as Endangered (population decreasing).

Fauna: Freshwater invertebrates

Common Name	Māori Name	Scientific name	Cons. Status	Catchment Population Size (estimate)	Notes
Freshwater mussel	Kākahi	<i>Echyridella menziesii</i>	At Risk – Declining (National 2018)	One eDNA sample in just one location	eDNA Sample 540996 Murphys Bush - downstream

Flora

This colour indicates the species is dependent on a marine or freshwater habitat

Common Name	Māori Name	Scientific name	Regional Cons. Status (2022)	National Cons. Status (2023)	Notes
Ferns					
Jersey fern	-	<i>Anogramma leptophylla</i>	Threatened – Critical	Nationally Vulnerable	DPR, DPT, SO, Sp. Small patches on Maungarei / Mount Wellington. c.87% decline since 2020 (B L Goodwin unpub. data).
Pacific / red azolla	Returetu	<i>Azolla rubra</i>	At risk – Relict	Not threatened	SO
Mokimoki	Mokimoki	<i>Doodia mollis</i> (syn. <i>Blechnum molle</i>)	Threatened – Endangered	At Risk – Naturally Uncommon	
Rasp fern	-	<i>Doodia squarrosa</i> (syn. <i>Blechnum zeelandicum</i>)	Threatened – Vulnerable	At risk – Naturally Uncommon	

Woolly rock fern	-	<i>Cheilanthes distans</i>	At risk – Declining	Not threatened	SO
Rock fern	-	<i>Cheilanthes sieberi</i>	At risk – declining	Not threatened	SO
Soft fern	Pai'i'iha	<i>Christella dentata</i>	Not assessed	At Risk – Naturally Uncommon	PD, SO
Scrambling Ground-fern	-	<i>Hiya distans</i>	At risk – Declining	Not threatened	TO
Giant hypolepis	-	<i>Hypolepis dicksonioides</i>	At risk – Naturally Uncommon	At Risk – Naturally	EF, SO, Sp
		<i>Pellaea aff. falcata (b)</i>	Threatened – Endangered	Threatened – Critical	DPR, DPS, DPT
Hot rock fern	-	<i>Pellaea calidirupium</i>	At risk – Declining	At Risk – Naturally Uncommon	DPS, DPT, SO, Sp
King fern	Para, Mouku	<i>Ptisana salicina</i>	At risk – Declining	At Risk – Declining	SO
Gymnosperms					
New Zealand Cedar	Kawaka	<i>Libocedrus plumosa</i>	At risk – Declining	Not threatened	DPS, DPT, Sp
Dicotyledons					
Clematis	-	<i>Clematis foetida</i>	Data Deficient	Not threatened	Historic. (1922, Mt. Wellington lava field*)
Sand coprosma	Tātarakeke	<i>Coprosma acerosa</i>	Threatened – Vulnerable	At Risk – Declining	CI, PD Historic. (1863-1873 'Tamaki sandspit')
Mingimingi	Mikimiki	<i>Coprosma crassifolia</i>	Threatened – Vulnerable	Not threatened	
-	-	<i>Crassula colligata subsp. colligata</i>	At risk – Declining	Not threatened	EF, SO

New Zealand Carrot	-	<i>Daucus glochidiatus</i>	At risk – Declining	Threatened – Vulnerable	DPR, DPT, EF, SO, Sp. Historic. (1920's, Mt. Wellington lava field.)
Whau	Whau	<i>Entelea arborescens</i>	At risk – Declining	Not threatened	
Tree fuchsia	Kōtukutuku	<i>Fuchsia excorticata</i>	At risk – Declining	Not threatened	
New Zealand geranium	Matua-kūmara	<i>Geranium retrorsum</i>	At risk – Declining	Threatened - Vulnerable	DPR, DPS, DPT, SO
Swamp hypericum	-	<i>Hypericum pusillum</i>	At risk – Declining	Not threatened	SO Recorded from Murphy's Bush in 1980. Unknown if still present
Kānuka	Kānuka	<i>Kunzea robusta</i>	At risk – Declining	Not threatened	
Ramarama	Ramarama	<i>Lophomyrtus bullata</i>	Threatened - Vulnerable	Threatened - Critical	RF
Poataniwha	Poataniwha	<i>Melicope simplex</i>	Threatened - Endangered	Not threatened	
Wharangi	Wharangi	<i>Melicope ternata</i>	Threatened - Vulnerable	Not threatened	Historic. (1911, Mt. Wellington lava field.)
Crimson rātā	Akakura	<i>Metrosideros carminea</i>	At risk – Declining	At Risk – Declining	Historic. (1930, Mt. Wellington lava field.)
Pōhutukawa	Pōhutukawa	<i>Metrosideros excelsa</i>	At risk – Declining	Not threatened	NO
White rātā	Akatea	<i>Metrosideros perforata</i>	At risk - Declining	Not threatened	
Wire vine	-	<i>Muehlenbeckia complexa var. grandifolia</i>	Threatened - Vulnerable	Threatened - Vulnerable	SO
Ngaio	Ngaio	<i>Myoporum laetum</i>	At risk – Declining	Not threatened	
Thompson's oxalis	-	<i>Oxalis thompsoniae</i>	Threatened - Endangered	At Risk – Naturally Uncommon	DPS, DPT, SO, Sp

New Zealand pellitory	-	<i>Parietaria debilis</i>	At risk – Declining	Not threatened	SO
Kōpata	Kōpata	<i>Pelargonium inodorum</i>	Threatened - Endangered	At Risk – Naturally Uncommon	DPS, DPT, EF, SO, Sp
Kaikōmako	Kaikōmako	<i>Pennantia corymbosa</i>	Threatened - Endangered	Not threatened	
Cutleaf burnweed	Pukatea	<i>Senecio glomeratus</i>	At risk – Declining	Not threatened	SO
New Zealand fireweed	-	<i>Senecio scaberulus</i>	Threatened - Critical	Threatened - Critical	DPR, DPS, DPT, EF. Historic (1902, 'Ellerslie')
Poroporo	Poroporo	<i>Solanum aviculare var. aviculare</i>	Threatened - Critical	Threatened - Endangered	PF, SO Historic. (1986, East Tamaki lava fields.)
Sea blite	-	<i>Suaeda novae-zelandiae</i>	At risk – Declining	Not threatened	
New Zealand spinach	Kōkihi	<i>Tetragonia tetragonioides</i>	Threatened - Endangered	At Risk – Naturally Uncommon	EF, RR, SO, Sp
Coastal harebell	-	<i>Wahlenbergia vernicosa</i>	At risk – Declining	Not threatened	
Violet harebell	Rimuroa	<i>Wahlenbergia violacea</i>	At risk – Declining	Not threatened	
Monocotyledons					
Purua grass	-	<i>Bolboschoenus caldwellii</i>	Threatened - Critical	Not threatened	SO. Recorded from Otara Creek in 2001. Unknown if still present
Grassland sedge	-	<i>Carex breviculmis</i>	At risk – Declining	Not threatened	SO
Forest sedge	-	<i>Carex ochrosaccus</i>	At risk – Declining	Not threatened	Recorded from Murphy's Bush in 1976. Unknown if still present.
Coastal sedge	-	<i>Carex spinirostris</i>	At risk - Relict	Not threatened	

Swamp club-rush	-	<i>Isolepis inundata</i>	Threatened - Vulnerable	Not threatened	SO
Branching rush	-	<i>Juncus prismatocarpus</i>	Threatened - Vulnerable	Not threatened	SO
Common duckweed	Kārearea	<i>Lemna minor</i>	Data deficient	Not threatened	SO. Recorded from Tahuna Torea in 1985, unknown if still present.
Twig rush	-	<i>Machaerina tenax</i>	At risk – Declining	Not threatened	Recorded from Murphy's Bush in 1977. Unknown if still present.
Weak poa	-	<i>Poa imbecilla</i>	At risk – Declining	Not threatened	Historic. (1922, Mt. Wellington lava field)
Seagrass	Karepō	<i>Zostera muelleri</i>		At Risk – Declining	EF, SO. c60 hectares of expanding meadows at the mouth of the estuary including subtidal patches.

Recommendations

Include fungi in future updates, if in the future marine invertebrates are assessed then they should also be added. Also consider adding Motukorea / Browns Island to the study area.

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