



Ramsar Information Sheet

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Update version, previously published on : 25 July 2005

New Zealand

Manawatū River mouth and estuary



Designation date	25 July 2005
Site number	1491
Coordinates	40°28'50"S 175°13'58"E
Area	600,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

Manawatū Estuary is one of the largest estuaries in the lower North Island of New Zealand. Much of the Site remains in a highly natural state and it is one of the largest remaining natural areas in the region. There are variety of wetland habitats represented in the Site, including coastal saltmarsh dominated by ribbonwood (*Plagianthus divaricatus*) and jointed wire-rush (*Apodasmia similis*), tidal flat herb fields, a tidal river channel and extensive mudflats/sandflats.

The Site is nationally important for migratory shorebirds, with at least 95 species recorded here. A significant proportion of the wrybill (*Anarhynchus frontalis*) population stopover at the estuary when migrating to and from their breeding grounds, and a small number over-winter in the estuary. It is also used as a wintering site by the critically endangered black-billed gull. Significant populations of critically endangered Australasian bitterns (*Botaurus poiciloptilus*) and fernbirds (*Megalurus punctatus*) also occur at the site.

Manawatū Estuary also supports diverse native fish populations, with 15 freshwater fish species and 10 estuarine species resident in the catchment and using the estuary for at least some part of their life cycles. Extensive inanga (*Galaxias maculatus*) spawning sites also occur at this Site.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Department of Conservation
Postal address	Private Bag 11010 Palmerston North 4442 New Zealand

National Ramsar Administrative Authority

Institution/agency	Department of Conservation
Postal address	PO Box 10420 Wellington 6140 New Zealand

2.1.2 - Period of collection of data and information used to compile the RIS

From year	<input type="text" value="2005"/>
To year	<input type="text" value="2018"/>

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Manawatū River mouth and estuary
Unofficial name (optional)	Manawatu estuary

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes <input checked="" type="radio"/> No <input type="radio"/>
(Update) The boundary has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The boundary has been extended	<input checked="" type="checkbox"/>
(Update) The boundary has been restricted	<input type="checkbox"/>
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	<input checked="" type="checkbox"/>
(Update) The Site has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The Site area has increased because of a boundary extension	<input type="checkbox"/>
(Update) The Site area has decreased because of a boundary restriction	<input type="checkbox"/>
(Update) For secretariat only: This update is an extension	<input type="checkbox"/>

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Yes (actual)
(Update) Are the changes	Positive <input type="radio"/> Negative <input type="radio"/> Positive & Negative <input checked="" type="radio"/>
(Update) Positive %	<input type="text" value="10"/>
(Update) Negative %	<input type="text" value="10"/>
(Update) No information available	<input type="checkbox"/>

(Update) Optional text box to provide further information

Please note: No detailed mapping of the extent (% change) of positive and negative changes has occurred at the Site. The 10% change reported is indicative only.

(Update) Changes resulting from causes operating within the existing boundaries?	<input checked="" type="checkbox"/>
(Update) Changes resulting from causes operating beyond the site's boundaries?	<input checked="" type="checkbox"/>
(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?	<input type="checkbox"/>

(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?

(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.

Positive changes (actual)
 - Reduced abundance and extent of the invasive plant *Spartina anglica*. Conservation management has significantly reduced its extent and it is now only present as isolated plants.

Negative changes (actual)
 - the international migrant shorebird numbers have declined over the past decade. Red Knot is declining nationally and internationally. The estuary currently holds about 120 knots in summer, down from >400 in the late 1980s

Negative changes (potential)
 - Water quality monitoring indicates deteriorating trends for some nutrients (e.g. phosphorus), water clarity (turbidity) and faecal contamination (*E.coli*) in the Manawatū River over the last 5 years. However, these short-term trends can be influenced by rainfall patterns. Water quality trends over a longer period (10-15 years) indicate that water quality has improved for several parameters. Refer to <https://www.lawa.org.nz/explore-data/manawatū-whanganui-region/river-quality/manawatū/manawatu-at-whirokino/>.

- This distribution and abundance of some invasive plants such as sharp rush *Juncus acutus* appear to be increasing.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
 <2 file(s) uploaded>

Former maps

Boundaries description

The Manawatū River enters the Tasman Sea south of Foxton Beach township, on the west coast of the lower North Island. The estuary it forms extends inland from the coast to the Whirikino Cut near Foxton township, a distance of approximately 4km. The Ramsar site includes areas of beach, sand dune, salt marsh, mudflat, and river channel. The total site covers an area of approximately 600 ha. No one organisation or individual has sole actual or vested ownership of the Ramsar site. The bulk of the site is unallocated riverbed or foreshore ("seabed" under the Foreshore and Seabed Act 2004), with the remainder a mixture of Crown, district council and private land. The status of some smaller land parcels adjoining the Estuary is uncertain. Cadastral information can be unreliable in such environments due to the fluctuating position of the shoreline and river and review of the Ramsar site boundary in the future may be required.

2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	199: Central New Zealand
Freshwater Ecoregions of the World (FEOW)	New Zealand

Other biogeographic regionalisation scheme

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other reasons

The Manawatu River Estuary is a moderate-sized estuary retaining a high degree of naturalness and diversity. It is nationally important as a feeding ground for both national and international migratory birds as it is the largest estuary in the southern half of the North Island of New Zealand.

The coastal wetland complex is of high value for the diversity of wetland types and habitats it contains and the diverse range of bird species the site supports. Wetland types that occur at the site include coastal saltmarsh, intertidal mud and sand flats, tidal river channel, and sand shores/dunes. It is considered a representative site of near-natural wetland ecosystem in New Zealand.

The coastal marsh herbfields and ribbonwood (*Plagianthus divaricatus*) ecological community is the most extensive in the region, which supports the largest population of fernbirds in the ecological district.

The Manawatū estuary is noted as being one of the largest remaining natural areas and most natural and diverse estuarine wetland within the region.

Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information

The Manawatū estuary supports several nationally threatened and rare species of birds, fish and plants under the New Zealand Threat Classification System (Townsend et al. 2007).

The Ramsar site supports eight (8) freshwater fish, two (2) plant species and at least ten (10) bird species that are either 'threatened' or 'at-risk' of extinction.

Estuarine wetlands are mapped as naturally uncommon (rare) ecological communities within New Zealand (Williams et al. 2007). Tidal flat herbfields and coastal marsh are present at the site.

Refer to section 3.2, section 3.3 and section 3.4 for further information.

Criterion 3 : Biological diversity

The Manawatū Estuary supports the largest saltmarsh in the Manawatū region. The estuary and associated habitats supports a range of indigenous wetland plants and animals, and maintain the biological diversity of the lower North Island of New Zealand. Elsewhere, much of the native vegetation in the region has been lost or seriously impacted by conversion to agriculture.

The upper reaches of the Manawatū Estuary are comprised of the river channel and large areas of saltmarsh with some open ponds and channels. As human access to this area is difficult, it has little disturbance and supports large numbers of Fernbirds, Australasian Bittern and Marsh Crane. The Fernbird population is the southernmost large population of the North Island subspecies *Bowdleria punctata vealeae*.

Justification Manawatū Estuary is the most important site for migratory shorebirds in the lower North Island of New Zealand, south of the Waikato and Bay of Plenty harbours. Within the region, the Manawatū estuary is the only site that provides a significant area of non-breeding and stopover habitat to wading birds and as such contributes significantly to biodiversity values. At least 95 species recorded of migratory shorebirds have been recorded at the site.

Wintering migratory birds at the Manawatū estuary include Bar-tailed Godwit *Limosa lapponica* (200), Red Knot *Calidris canutus* (120), Banded Dotterel (c. 100), Wrybill *Anarhynchus frontalis* (25–30 in winter and additional birds occur on passage), Royal Spoonbill *Platalea regia* (>50). Substantial waterfowl populations also use the estuary. Gulls and terns also use the estuary during late summer and winter, with substantial numbers of White-fronted Terns *Sterna striata* (500–1000), Red-billed Gulls *Larus novaehollandiae* (>900) and Caspian Terns *Hydroprogne caspia* (up to 60).

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

The Site provides an important stopover for wrybills on migration between South Island breeding sites and upper North Island wintering sites. Over 100 wrybill may occur at the estuary during migration, which also functions as a drop-in site during adverse conditions. Small numbers of wrybills (25-30) also overwinter at the estuary.

The site is used by waterfowl (e.g. Shoveler *Anas rhynchos variegata*) to escape hunting pressure, and is a fuelling site for Arctic migrants (e.g. Bar-tailed Godwit *Limosa lapponica*, Red Knot *Calidris canutus*) preparing for flights of 4000–10000 km.

Criterion 6 : >1% waterbird population

Optional text box to provide further information

Manawatū estuary supports >1% of the total population of wrybill (*Anarhynchus frontalis*) during their migratory period (the 1% criterion equates to 45-50 birds). Over 100 birds have been recorded at the estuary on northward migration. The wrybill population is currently estimated at 5000-5500 (NZ Birds online 2018) and 4500-5000 (WPE database).

Criterion 7 : Significant and representative fish

Justification

The Manawatū River catchment has a high diversity of indigenous freshwater fish, with a total of 17 recorded species (NZ Freshwater Fish Database (NZFFD)). A large proportion (13 species) migrate to and from the ocean to the river catchment, through the estuary, and the estuary provides an important migratory pathway for them. A further 10 estuarine fish species have been recorded from the lower river and estuary (NZFFD; Hicks & Bell 2003; Todd et al. 2016), and a variety of other estuarine crustaceans and shellfish, and coastal fishes are likely to be present in the lower estuary.

Criterion 8 : Fish spawning grounds, etc.

Justification

Manawatu estuary supports important spawning habitat for 'whitebait' (migratory Galaxias species) spawning. Within New Zealand local communities go 'whitebaiting' to catch upstream migrating juveniles of the five indigenous Galaxias species. The Manawatū estuary, particularly two small streams that enter the estuary (Whitebait Creek and an unnamed creek), is a popular site for this recreational fishery. Inanga (*Galaxias maculatus*), one of the species that makes up the whitebait catch, spawn near the estuary, in the lower reaches of the river and tributaries. The estuary is also likely to provide spawning habitat for several other species.

3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA / LILIOPSIDA	<i>Apodasmia similis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Endemic species (NZ)
TRACHEOPHYTA / LILIOPSIDA	<i>Carex litorosa</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ)
TRACHEOPHYTA / LILIOPSIDA	<i>Ficinia spiralis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ)
TRACHEOPHYTA / LILIOPSIDA	<i>Phormium tenax</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Endemic species (NZ)
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Plagianthus divaricatus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Endemic species (NZ)
TRACHEOPHYTA / MAGNOLIOPSIDA	<i>Selliera rotundifolia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ)

Threatened species status (other status) for qualification under Criterion 2 is based on the New Zealand Threat Classification System administered by the NZ Department of Conservation. This classification system defines the Threatened (Nationally Critical, Nationally Endangered and Nationally Vulnerable) species in New Zealand that qualify under Criterion 2. The classification system also defines the At Risk (Declining, Naturally Uncommon, Relict) species that are near-threatened. For details on the classification system refer to: Townsend et al (2008): New Zealand Threat Classification System Manual. Department of Conservation, Wellington. 35 p.

Endemic species status for qualification under Criterion 3 is based on the New Zealand Plant Conservation Network database.

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	<i>Anguilla dieffenbachii</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				EN	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ). Manawatu estuary is important migratory pathway for this species.
CHORDATA / ACTINOPTERYGII	<i>Cheimarrichthys fosteri</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ).
CHORDATA / ACTINOPTERYGII	<i>Galaxias argenteus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ). Manawatu estuary is important migratory pathway for this species.

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification			
		2	4	6	9	3	5	7	8											
CHORDATA/ ACTINOPTERYGII	<i>Galaxias brevipinnis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			LC	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Manawatu estuary is important migratory pathway for this species.			
CHORDATA/ ACTINOPTERYGII	<i>Galaxias maculatus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		LC	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Manawatu estuary is important migratory pathway for this species. Important nursery grounds			
CHORDATA/ ACTINOPTERYGII	<i>Galaxias postvectis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		EN	<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	Endemic species (NZ). Manawatu estuary is important migratory pathway for this species.			
CHORDATA/ CEPHALASPIDOMORPHI	<i>Geotria australis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	Manawatu estuary is important migratory pathway for this species.			
CHORDATA/ ACTINOPTERYGII	<i>Gobiomorphus huttoni</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		NT	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ)			
CHORDATA/ ACTINOPTERYGII	<i>Leptoscopus macropygus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		Indigenous fish species. Important nursery grounds			
CHORDATA/ ACTINOPTERYGII	<i>Mugil cephalus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		LC	<input type="checkbox"/>	<input type="checkbox"/>		Indigenous fish species. Important nursery grounds			
CHORDATA/ ACTINOPTERYGII	<i>Neochanna apoda</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		EN	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ)			
CHORDATA/ ACTINOPTERYGII	<i>Rhombosolea retiaria</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		Indigenous fish species. Important nursery grounds			
Birds																				
CHORDATA/ AVES	<i>Anarhynchus frontalis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100	2015		2.22	VU	<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	Endemic species (NZ). Important wintering site. During migration numbers exceeding 2% occur (100+ birds). The over-wintering population is 25–30. 1% threshold (WPE) is 45 birds.
CHORDATA/ AVES	<i>Anas gracilis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					LC	<input type="checkbox"/>	<input type="checkbox"/>		Resident native taxa that have large, table populations at the site. Flocks of 200-300 of New Zealand Grey Teal have been observed sheltering in the estuary.
CHORDATA/ AVES	<i>Anas rhynchos</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>		Resident native taxa that have large, table populations at the site. Flocks of 200-300 of New Zealand Shoveler have been observed sheltering in the estuary
CHORDATA/ AVES	<i>Botaurus poiciloptilus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					EN	<input type="checkbox"/>	<input type="checkbox"/>	Nationally critical	Wetland dependent species, resident in the "Fernbird Flat" region of the site.
CHORDATA/ AVES	<i>Calidris canutus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	120	2016			NT	<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	Migrant. Important site during life-cycle of migratory species. The species is declining nationally and internationally. The estuary currently holds about 120 knots in summer, down from >400 in the late 1980s.
CHORDATA/ AVES	<i>Charadrius bicinctus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	80				VU	<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	Endemic species (NZ). Important site for migratory species. While no birds breed at the site, up to 100 birds use the lower parts of the estuary in autumn.
CHORDATA/ AVES	<i>Chlidonias albostratus</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					EN	<input type="checkbox"/>	<input type="checkbox"/>	Nationally endangered	A regular visitor through autumn and winter, but usually just individuals.
CHORDATA/ AVES	<i>Haematopus finschi</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	75	2018				<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ). Non-breeding population uses the lower estuary and adjacent beaches.
CHORDATA/ AVES	<i>Hydroprogne caspia</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60	2017			LC	<input type="checkbox"/>	<input type="checkbox"/>	Nationally vulnerable	A regular non-breeding visitor with 30-60 birds during autumn and winter. Adults with attendant young are often present.

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	<i>Larus bulleri</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50	2017		EN	<input type="checkbox"/>	<input type="checkbox"/>	Nationally critical	Endemic species (NZ). Present the non-breeding season in the lower estuary (up to 50 birds).
CHORDATA / AVES	<i>Larus novaehollandiae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	950	2014		LC	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ). Up to 950 birds present in winter. They may feed on wet grasslands inland and use the estuary for roosting.
CHORDATA / AVES	<i>Limosa lapponica</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	200	2017		NT	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Important site for migratory species. Currently approx. 200 godwits occur during summer, down from >500 in the early 1990s.
CHORDATA / AVES	<i>Megalurus punctatus</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Endemic species (NZ). Present in large numbers on "Fernbird Flat", a large wetland area upriver. This is arguably the largest and most important population in the southwest North Island.
CHORDATA / AVES	<i>Pluvialis fulva</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	2017		LC	<input type="checkbox"/>	<input type="checkbox"/>		Migrant species. Formerly common (maximum 48 birds in the 1980s) the species is on the way out at the site, with recent counts as low as 2 birds (2016-2017). This probably reflects the national trend.
CHORDATA / AVES	<i>Sterna striata</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	At Risk (Declining)	Present in large numbers (500-1000) in the non-breeding season, mostly roosting and bathing in the estuary but feeding out to sea.

1) Percentage of the total biogeographic population at the site

Threatened species status (other status) for qualification under Criterion 2 is based on the New Zealand Threat Classification System administered by the NZ Department of Conservation. This classification system defines the Threatened (Nationally Critical, Nationally Endangered and Nationally Vulnerable) species in New Zealand that qualify under Criterion 2. The classification system also defines the At Risk (Declining, Naturally Uncommon, Relict) species that are near-threatened. For details on the classification system refer to: Townsend et al (2008): New Zealand Threat Classification System Manual. Department of Conservation, Wellington. 35 p

Additional information:

Wrybill -- During migration numbers exceeding 2% occur (100+ birds). The over-wintering population is 25–30. There is a historical (1980s) record of 800 birds using the estuary on southward migration, presumably avoiding bad weather. Most of the national population of wrybills migrates from the South Island to the Auckland region and the estuary provides one of the few potential drop-out sites along the lower North Island coast.

Bar-tailed Godwit -- Currently approximately 200 godwits occur at the site during summer, down from >500 in the early 1990s. This decrease is proportionately greater than the national population's, suggesting that local factors may be involved. As adult survival is generally high, low settlement rates of young birds may be part of the decrease.

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Tidal flat herbfields	<input checked="" type="checkbox"/>	Herbfield supporting rare wetland plant associations, including half star and bachelor's button	Estuarine association, which is a Nationally rare (uncommon) ecosystem type (Williams et al 2007).
Coastal marsh	<input checked="" type="checkbox"/>	Coastal marsh vegetation on tidal flat dominated by ribbonwood, jointed wire-rush, flax, Typha and associated coastal marsh species	Estuarine association, which is a Nationally rare (uncommon) ecosystem type (Williams et al 2007).

[Optional text box to provide further information](#)

Wetland vegetation dominated by salt-tolerant associations occupy only about 3% of the total New Zealand wetland area (Cromarty and Scott, 1995). The Manawatū estuary contains the largest amount of coastal salt-marsh ribbonwood in the Manawatū region, an important component of fernbird habitat.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The Site includes areas of beach, sand dune, salt marsh, mudflat, and river channel. The total site covers an area of approximately 600 ha, comprising a main river channel and wetlands that are tidally flooded. There are four key ecological units within the estuary, saltmarsh ribbonwood/jointed wire-rush/sea rush on tidal flat; flax-raupo/sharp rush/jointed wire-rush rushland on tidal flat; half star herbfield on tidal flat and bachelor's button herbfield on tidal flat. The upper reaches of the Manawatū Estuary are comprised of the river channel and large areas of saltmarsh with some open ponds and channels. As human access to this area is difficult, it has little disturbance and supports large numbers of critically endangered Australasian bitterns, as well as Fernbirds and Marsh Crake.

The estuary comprises a natural estuarine system with muds, silts and clays. The main freshwater inflow is from the Manawatu River, which drains a large catchment area that includes dairy farming, cropping and forestry. The average rainfall is 850mm, and the prevailing winds are westerlies. The water regime of the estuary is directly influenced by tidal processes.

The wetland has a role in flood control and sediment trapping, although water quality (nutrient, sediment, bacteria (E.coli)) is poor compared to other sites in New Zealand.

Manawatū Estuary is the most important site for migratory shorebirds in the lower North Island of New Zealand, south of the Waikato and Bay of Plenty harbours. Shorebirds use a sandspit in the lower estuary to roost over high tide and feed across the mudflats on low-mid tides. At least 95 bird species have been recorded here. Wintering waterbirds at the Manawatū Estuary include Bar-tailed Godwit (*Limosa lapponica*) [200], Red Knot (*Calidris canutus*) [120], Banded Dotterel (*Charadrius bicinctus*) [c. 100], Wrybill (*Anarhynchus frontalis*) [25–30 in winter and additional birds occur on passage], Royal Spoonbill (*Platalea regia*) [>50]. Substantial waterfowl populations also use the estuary, particularly during the duck-shooting season in May and June. Gulls and terns also use the estuary during late summer and winter, with substantial numbers of White-fronted Terns (*Sterna striata*) [500–1000], Red-billed Gulls (*Larus novaehollandiae*) [>900] and Caspian Terns (*Hydroprogne caspia*) [up to 60]. The critically endangered Black-billed Gull (*Larus bulleri*) winters at the estuary [up to 50 birds].

The site contains a high diversity of indigenous freshwater fish [17 species recorded] and estuarine fish [10 species recorded]. Extensive inanga (native migratory freshwater galaxiid) spawning sites have been found within the site.

4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
E: Sand, shingle or pebble shores		4		Representative
F: Estuarine waters		2		Representative
G: Intertidal mud, sand or salt flats		1		Representative
H: Intertidal marshes		3		Rare

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Coastal sand dunes	

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Phylum	Scientific name	Impacts	Changes at RIS update
TRACHEOPHYTA/LILIOPSIDA	<i>Ammophila arenaria</i>	Actual (minor impacts)	No change
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Homalanthus populifolius</i>	- Please select a value -	unknown
TRACHEOPHYTA/LILIOPSIDA	<i>Juncus acutus</i>	Actual (major impacts)	unknown
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Lonicera japonica</i>	Potential	unknown
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Lycium ferocissimum</i>	Potential	unknown
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Pittosporum crassifolium</i>	Potential	unknown
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Populus alba</i>	Potential	unknown
TRACHEOPHYTA/LILIOPSIDA	<i>Spartina anglica</i>	Potential	decrease
TRACHEOPHYTA/MAGNOLIOPSIDA	<i>Vinca major</i>	Potential	unknown

Optional text box to provide further information

Department of Conservation carry out weed control annually at the estuary. Main focus is *Spartina anglica* eradication, but high priority weeds near sandspit shorebird roost site are also targeted. Management effort has resulted in a significantly reduced abundance of *Spartina anglica* that is now only present as isolated plants.

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/ACTINOPTERYGII	<i>Aldrichetta forsteri</i>				
CHORDATA/ACTINOPTERYGII	<i>Anguilla australis</i>				
CHORDATA/ACTINOPTERYGII	<i>Arripis trutta</i>				
CHORDATA/ACTINOPTERYGII	<i>Galaxias fasciatus</i>				
CHORDATA/ACTINOPTERYGII	<i>Gobiomorphus breviceps</i>				
CHORDATA/ACTINOPTERYGII	<i>Gobiomorphus cotidianus</i>				
CHORDATA/ACTINOPTERYGII	<i>Gobiomorphus gobioides</i>				
CHORDATA/ACTINOPTERYGII	<i>Retropinna retropinna</i>				
CHORDATA/ACTINOPTERYGII	<i>Rhombosolea leporina</i>				
CHORDATA/ACTINOPTERYGII	<i>Rhombosolea plebeia</i>				
CHORDATA/ACTINOPTERYGII	<i>Sprattus muelleri</i>				
CHORDATA/ELASMOBRANCHII	<i>Zearaja nasuta</i>				

Invasive alien animal species

Phylum	Scientific name	Impacts	Changes at RIS update
CHORDATA/MAMMALIA	<i>Bos taurus primigenius</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Canis lupus familiaris</i>	Actual (minor impacts)	No change
CHORDATA/ACTINOPTERYGII	<i>Carassius auratus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Cervus elaphus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Erinaceus europaeus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Felis catus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Mustela erminea</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Mustela nivalis nivalis</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Mustela putorius furo</i>	Actual (minor impacts)	No change
CHORDATA/ACTINOPTERYGII	<i>Oncorhynchus mykiss</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Oryctolagus cuniculus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Rattus norvegicus</i>	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	<i>Rattus rattus</i>	Actual (minor impacts)	No change
CHORDATA/ACTINOPTERYGII	<i>Salmo trutta</i>	Actual (minor impacts)	No change

Optional text box to provide further information

Horizons Regional Council lead animal pest control work at the site. The main focus has been on mustelid trapping during the wetland bird breeding season around the Fernbird Flat area.

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfc: Marine west coast (Mild with no dry season, cool summer)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Manawatū River, Tasman Sea

4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change Increase Decrease Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from precipitation	<input type="checkbox"/>	No change
Marine water	<input checked="" type="checkbox"/>	No change
Water inputs from surface water	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site

(Update) Changes at RIS update No change Increase Decrease Unknown

Significant transportation of sediments occurs on or through the site

(Update) Changes at RIS update No change Increase Decrease Unknown

Sediment regime is highly variable, either seasonally or inter-annually

(Update) Changes at RIS update No change Increase Decrease Unknown

Sediment regime unknown

4.4.6 - Water pH

Alkaline (pH>7.4)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

4.4.7 - Water salinity

Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

Water quality monitoring by regional council indicates deteriorating trends for nutrients (nitrogen, phosphorus, water clarity (turbidity) and faecal contamination (E.coli) in the Manawatu River over the last 5 years.
Refer to: <https://www.lawa.org.nz/explore-data/manawatū-whanganui-region/river-quality/manawatū/manawatū-at-whirokino/>

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar ii) significantly different site itself:

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The Manawatu Estuary Ramsar site is directly adjacent to a small coastal settlement (Foxton Beach township). This site is also adjacent to land that is used for agriculture and plantation forestry.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium
Biochemical products	Extraction of material from biota	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	Medium
Erosion protection	Soil, sediment and nutrient retention	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	Low
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Recreational hunting and fishing	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Educational activities and opportunities	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	Medium

Within the site: 1000s

Outside the site: 1000s

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public ownership	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

The agencies and groups with management responsibility for the site are the Department of Conservation (Manawatū District); Horizons Regional Council and Horowhenua District Council.

Treaty Partners (Rangitaane o Manawatu, Muaupoko and Ngati Raukawa) also have responsibility for the site. Rangitaane o Manawatu have a Deed of Settlement for Manawatu Estuary within their statutory acknowledgement and their conservation protocol areas.

Provide the name and/or title of the person or people with responsibility for the wetland:

Moana Smith-Dunlop, Operations Manager (Manawatu District), Department of Conservation

Postal address:

Department of Conservation
Te Papaioea/Palmerston North Office
Private Bag 11010
Palmerston North 4442
New Zealand

E-mail address:

manawatu@doc.govt.nz

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Housing and urban areas	Low impact		<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Tourism and recreation areas	Low impact	Medium impact	<input checked="" type="checkbox"/>	increase	<input checked="" type="checkbox"/>	increase

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Canalisation and river regulation	Medium impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Dredging		Medium impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Annual and perennial non-timber crops	unknown impact	unknown impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Livestock farming and ranching	unknown impact	unknown impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fishing and harvesting aquatic resources	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact	Medium impact	<input checked="" type="checkbox"/>	increase	<input checked="" type="checkbox"/>	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Vegetation clearance/land conversion	Low impact	High impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	High impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Problematic native species	Low impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Agricultural and forestry effluents	Medium impact		<input checked="" type="checkbox"/>	increase	<input checked="" type="checkbox"/>	unknown
Household sewage, urban waste water		unknown impact	<input type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Earthquakes/tsunamis		unknown impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Habitat shifting and alteration		unknown impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Storms and flooding		unknown impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Conservation Area	Foxton Conservation Area		partly

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Partially implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Partially implemented
Improvement of water quality	Partially implemented
Re-vegetation	Partially implemented

Species

Measures	Status
Control of invasive alien plants	Partially implemented
Control of invasive alien animals	Partially implemented

Human Activities

Measures	Status
Fisheries management/regulation	Implemented
Regulation/management of recreational activities	Partially implemented
Communication, education, and participation and awareness activities	Partially implemented
Regulation/management of wastes	Implemented
Livestock management/exclusion (excluding fisheries)	Partially implemented

Other:

A Management Plan for the site has been prepared. Refer to <https://www.doc.govt.nz/Documents/parks-and-recreation/places-to-visit/wellington/manawatu-estuary-mgt-plan-2015-2025.pdf>

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

N/a

URL of site-related webpage (if relevant): <https://www.doc.govt.nz/parks-and-recreation/places-to-go/manawatu-whanganui/places/manawatu-estuary/>

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Implemented
Birds	Implemented
Water regime monitoring	Implemented
Plant species	Implemented
Animal species (please specify)	Implemented
Soil quality	Implemented

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Goodman, J.M.; Dunn, N.R.; Ravenscroft, P.J.; Allibone, R.M.; Boubée, J.A.T.; David, B.O.; Griffiths, M.; Ling, N.; Hitchmough, R.A.; Rolfe, J.R. 2014: Conservation status of New Zealand freshwater fish, 2013. New Zealand Threat Classification Series 7. Department of Conservation, Wellington. 12 p.

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Manawatu Estuary Management Team (2015). Manawatu Estuary Management Plan 2015-2025 <https://www.doc.govt.nz/Documents/parks-and-recreation/places-to-visit/wellington/manawatu-estuary-mgt-plan-2015-2025.pdf>

NIWA (National Institute of Water and Atmospheric Research). n.d.: Information from the NIWA website at <http://www.niwa.co.nz> (viewed 18 January 2018).

Ravine, D. 1992. Foxton Ecological District. Survey report for the protected natural areas programme. Department of Conservation, Whanganui, New Zealand.

Robertson, H.A. et al. 2017. Conservation status of New Zealand birds, 2016. New Zealand Threat Classification Series 19. Department of Conservation, Wellington, New Zealand.

Todd, M.; Kettles, H.; Graeme, C.; Sawyer, J.; McEwan, A.; Adams, L. 2016: Estuarine systems in the lower North Island/Te Ika-a-Māui: ranking of significance, current status and future management options. Department of Conservation, Wellington, New Zealand. 400 p.

Townsend, A.J.; de Lange, P.J.; Duffy, C.A.J.; Miskelly, C.M.; Molloy, J.; Norton, D.A. 2007: New Zealand Threat Classification System manual. Department of Conservation, Wellington. 35 p.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<1 file(s) uploaded>

vi. other published literature

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Looking north west, towards Foxton Beach township and the main high tide shorebird roost from Fernbird Flat (*Horizons Regional Council, 06-06-2018*)



Looking south east, up the Manawatū River from Fernbird Flat (*Horizons Regional Council, 06-06-2018*)



Looking south west, across Fernbird Flat and Manawatū Estuary (*Horizons Regional Council, 06-06-2018*)



Shorebirds (bar-tailed godwits, South Island pied oystercatchers and pied stilts) roosting on Manawatū Estuary sandspit at high tide (*Phil F Battley, 01-02-2018*)

6.1.4 - Designation letter and related data

Designation letter

<no file available>

Date of Designation