

New Zealand

Manawatū River mouth and estuary

Offline RIS Word form

[Copy of online form submitted through RSIS portal on 2 February 2022.]

All fields marked with an asterisk (\*) are required.

 For more information on how to use this form, please refer to the document
 [How to use the offline RIS Word form.](http://www.ramsar.org/document/how-to-use-the-offline-ris-word-form)

Created by RSIS v1.7 on 27 January 2022 at 00:45
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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.

Summary

1.1 Summary description

Please provide a short descriptive text summarising the key characteristics and internationally important aspects of the site. You may prefer to complete the four following sections before returning to draft this summary.

Summary (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | 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 herbfields, 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 part of their life cycles. Extensive inanga (Galaxias maculatus) spawning sites also occur at this site  |

Data & location

2.1 Formal data

2.1.1 Name and address of the compiler of this RIS

Responsible compiler

Name

|  |  |
| --- | --- |
|  | Sue Moore |

Institution/agency

|  |  |
| --- | --- |
|  | Department of Conservation |

Postal address (This field is limited to 254 characters)

|  |  |
| --- | --- |
|  | Private Bag 11010 Palmerston North 4442 New Zealand |

E-mail (The online RIS only accepts valid e-mail addresses, e.g. example@mail.com )

|  |  |
| --- | --- |
|  | manawatu@doc.govt.nz |

Phone (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 )

|  |  |
| --- | --- |
|  | +64 6 350 9700 |

Fax (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 )

|  |  |
| --- | --- |
|  |  |

National Ramsar Administrative Authority

Name

|  |  |
| --- | --- |
|  | Phil Battley |

Institution/agency

|  |  |
| --- | --- |
|  | Massey University  |

Postal address (This field is limited to 254 characters)

|  |  |
| --- | --- |
|  | Ecology Group Massey University Private Bag 11 222 Palmerston North New Zealand |

E-mail (The online RIS only accepts valid e-mail addresses, e.g. example@mail.com )

|  |  |
| --- | --- |
|  |  |

Phone (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 )

|  |  |
| --- | --- |
|  |  |

Fax (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 )

|  |  |
| --- | --- |
|  |  |

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

From year (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 2005 |

 Period when the data and information for the sheet for a newly designated site was compiled For updated RIS: Period when the data and information for revision of an existing sheet was updated

To year (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 2018 |

2.1.3 Name of the Ramsar Site

Official name (in English, French or Spanish)\* (This field is mandatory)

|  |  |
| --- | --- |
|  | 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

A. Changes to Site boundary (Update)

 [x] Yes / [ ] No

.

 [x] The boundary has been delineated more accurately

 [ ] The boundary has been extended

 [ ] The boundary has been restricted

B. Changes to Site area (Update)

|  |  |
| --- | --- |
|  | the area has increased[[1]](#footnote-1) |

 [ ] The Site area has been calculated more accurately

 [x] The Site has been delineated more accurately

 [ ] The Site area has increased because of a boundary extension

 [ ] The Site area has decreased because of a boundary restriction

Important note: If the boundary of the designated site is being restricted/reduced, before submitting this updated RIS to the Secretariat the Contracting Party should have followed: - the requirements in Article 2.5 of the Convention; or - the procedures established by the Conference of the Parties in the annex to Resolution VIII.20 (2002); or - where appropriate instead, the procedures in the annex to Resolution IX.6 (2005). Contracting Parties should also have provided to the Secretariat a report on changes prior to the submission of an updated RIS.

 [ ] For secretariat only: This update is an extension

2.1.5 Changes to the ecological character of the Site

6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS? (Update)

|  |  |
| --- | --- |
|  | Yes -actual-[[2]](#footnote-2) |

Are the changes (Update)

 [ ] Positive / [ ] Negative / [x] Positive & Negative

.

.

What extent of the Ramsar site is affected (%)

Positive % (Update)

|  |  |
| --- | --- |
|  | 1 |

Negative % (Update)

|  |  |
| --- | --- |
|  | 1 |

Optional text box to provide further information (Update)

|  |  |
| --- | --- |
|  |  |

 [ ] No information available

Are changes the result of (tick each category which applies):

 [x] Changes resulting from causes operating within the existing boundaries?

 [x] Changes resulting from causes operating beyond the site’s boundaries?

 [ ] Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?

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

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. (Update)

|  |  |
| --- | --- |
|  | 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. |

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

 [ ] Yes / [x] No

.

Has an Article 3.2 report been submitted to the Secretariat? (Update)

 [ ] Yes / [x] No

.

2.2 Site location

2.2.1 Defining the Site boundaries

The site boundaries must be clearly delineated on both: a) a GIS shapefile and b) a digital map/image:

-> To define the site boundaries please complete field 2.2.1 a1), 2.2.1 a2) and 2.2.1 b) via the online form.

-UPLOAD via online form-

Boundaries description (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | 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?

|  |  |
| --- | --- |
|  | Manawatū, North Island, New Zealand |

b) What is the nearest town or population centre?

|  |  |
| --- | --- |
|  | Foxton |

2.2.3 For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries?

 [ ] Yes / [x] No

.

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

 [ ] Yes / [x] No

.

c) Is the site part of a formal transboundary designation with another Contracting Party?

 [ ] Yes / [x] No

.

d) Transboundary Ramsar Site name:

|  |  |
| --- | --- |
|  |  |

Sites part of transboundary designation

2.2.4 Area of the Site

If you have not established an official area by other means, you can copy the area calculated from the GIS boundaries into the 'official area' box.

Official area, in hectares (ha): (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 600 |

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

|  |  |
| --- | --- |
|  | 606.346 |

2.2.5 Biogeography

Please provide the biogeographic region(s) encompassing the site and the biogeographic regionalization scheme applied:

Biogeographic regions

|  |  |
| --- | --- |
| **Regionalisation scheme(s)**[[3]](#footnote-3) | **Biogeographic region**  |
| Marine Ecoregions of the World (MEOW) | 199: Central New Zealand |
| Freshwater Ecoregions of the World (FEOW) | New Zealand |
|  |  |

Other biogeographic regionalisation scheme (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | Foxton Ecological District, New Zealand |

Why is the Site important?

3.1 Ramsar Criteria and their justification

Tick the box against each criterion applied to the designation of the Ramsar Site. All criteria which apply should be ticked. Please explain why you selected a criterion by filling in the relevant fields on this page, on the three other pages of this section 'Criteria & justification' and on the 'Wetland types' page of the section 'What is the site like?'.

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

 To justify this Criterion, please select at least one wetland type as representative, rare or unique in the section What is the site like? > Wetland types and provide further details in at least one of the three boxes below.

Hydrological services provided (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

Other ecosystem services provided (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

Other reasons (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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.  |

 [x] Criterion 2 : Rare species and threatened ecological communities

 To justify this Criterion, please give details below on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

 - relevant ecological communities in the section Criteria & justification> Ecological communities (3.4)

Optional text box to provide further information (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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.  |

 [x] Criterion 3 : Biological diversity

 To justify this Criterion, please give details in the box below. If you want to name any specific species, please give details on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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 Crake. The Fernbird population is the southernmost large population of the North Island subspecies Bowdleria punctata vealeae.  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 Platelea 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).  |

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

 To justify this Criterion, please give details below on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

 and explain the life cycle stage or nature of adverse conditions in the accompanying 'justification' box.

Optional text box to provide further information (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | The Ramsar 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 it used by waterfowl (e.g. Shoveler Anas rhynchotis 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 5 : >20,000 waterbirds

 To justify this Criterion, please give details below on:- the total number of waterbirds and the period of data collection - relevant waterbird species, and if possible their population size, in the section Criteria & justification> Animal species (3.3)

Overall waterbird numbers\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

Start year\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

End year\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

Source of data:

|  |  |
| --- | --- |
|  |  |

Optional text box to provide further information (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

 [x] Criterion 6 : >1% waterbird population

 To justify this Criterion, please give details on relevant waterbird species and their population size in the section Criteria & justification> Animal species (3.3)

Optional text box to provide further information (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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). |

 [x] Criterion 7 : Significant and representative fish

 To justify this Criterion, please give information in the box below and details of relevant fish species in the section Criteria & justification> Animal species (3.3)

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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.  |

 [x] Criterion 8 : Fish spawning grounds, etc.

 To justify this Criterion, please give information in the box below. Completion of details on relevant fish species in the section Criteria & justification> Animal species (3.3) is optional.

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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.  |

 [ ] Criterion 9 : >1% non-avian animal population

 To justify this Criterion, please give details on relevant non-avian species and their population size in the section Criteria & justification> Animal species (3.3)

Optional text box to provide further information (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

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**[[4]](#footnote-4) | **CITES Appendix I** | **Other status** | **Justification** |
| Birds |
| Tracheophyta / Liliopsida | Apodasmia similis |  [ ]  |  [x]  |  [ ]  |  |  [ ]  |  | Endemic species (NZ) |
| Tracheophyta / Liliopsida | Carex litorosa |  [ ]  |  [x]  |  [ ]  |  |  [ ]  | At Risk (Declining) | Endemic species (NZ) |
| Tracheophyta / Liliopsida | Ficinia spiralis |  [ ]  |  [x]  |  [ ]  |  |  [ ]  | At Risk (Declining) | Endemic species (NZ) |
| Tracheophyta / Liliopsida | Phormium tenax |  [ ]  |  [x]  |  [ ]  |  |  [ ]  |  | Endemic species (NZ) |
| Tracheophyta / Magnoliopsida | Plagianthus divaricatus |  [ ]  |  [x]  |  [ ]  |  |  [ ]  |  | Endemic species (NZ) |
| Tracheophyta / Magnoliopsida | Selliera rotundifolia |  [ ]  |  [x]  |  [ ]  |  |  [ ]  | At Risk (Declining) | Endemic species (NZ) |
|  |  |  [ ]  |  [ ]  |  [ ]  |  |  [ ]  |  |  |

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information on plant species of international importance:

 (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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

Animals are listed in the following order: birds; fish, mollusc and curstaceen; other animals

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Phylum** | **Scientific name**\* | **Species qualifies under criterion** | **Species contributes under criterion** | **Pop. Size**[[5]](#footnote-5) | **Period of pop. Est.**5 | **% occurrence**5 | **IUCN Red List**[[6]](#footnote-6) | **CITES Appendix I** | **CMS Appendix I** | **Other Status** | **Justification** |
| **2** | **4** | **6** | **9** | **3** | **5** | **7** | **8** |
| Fish, Mollusc and Crustacea |
| Chordata / Actinopterygii | Anguilla dieffenbachii |  [x]  |  [x]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [x]  |  [ ]  |   |  |   | EN  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ). Manawatu estuary is important migratory pathway for this species. |
| Chordata / Actinopterygii | Cheimarrichthys fosteri |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [x]  |  [ ]  |   |  |   | VU  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ).  |
| Chordata / Actinopterygii | Galaxias argenteus |  [x]  |  [x]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [x]  |  [ ]  |   |  |   | VU  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ). Manawatu estuary is important migratory pathway for this species. |
| Chordata / Actinopterygii | Galaxias brevipinnis |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |   |  |   | LC  |  [ ]  |  [ ]  | At Risk (Declining) | Manawatu estuary is important migratory pathway for this species. |
| Chordata / Actinopterygii | Galaxias maculatus |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [x]  |   |  |   | LC  |  [ ]  |  [ ]  | At Risk (Declining) | Manawatu estuary is important migratory pathway for this species. Important nursery grounds |
| Chordata / Actinopterygii | Galaxias postvectis |  [x]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |   |  |   | EN  |  [ ]  |  [ ]  | Nationally vulnerable | Endemic species (NZ). Manawatu estuary is important migratory pathway for this species. |
| Chordata / Cephalaspidomorphi | Geotria australis |  [x]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |   |  |   |  |  [ ]  |  [ ]  | Nationally vulnerable | Manawatu estuary is important migratory pathway for this species. |
| Chordata / Actinopterygii | Gobiomorphus huttoni |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [x]  |  [ ]  |   |  |   | NT  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ) |
| Chordata / Actinopterygii | Leptoscopus macropygus |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [x]  |   |  |   |  |  [ ]  |  [ ]  |  | Indigenous fish species. Important nursery grounds |
| Chordata / Actinopterygii | Mugil cephalus |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [x]  |   |  |   | LC  |  [ ]  |  [ ]  |  | Indigenous fish species. Important nursery grounds |
| Chordata / Actinopterygii | Neochanna apoda |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [x]  |  [ ]  |   |  |   | EN  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ) |
| Chordata / Actinopterygii | Rhombosolea retiaria |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [x]  |   |  |   |  |  [ ]  |  [ ]  |  | Indigenous fish species. Important nursery grounds |
| Birds |
| Chordata / Aves | Anarhynchus frontalis |  [x]  |  [x]  |  [x]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 100 | 2015 | 2 | VU  |  [ ]  |  [ ]  | 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 | Anas gracilis |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |   |  |   | LC  |  [ ]  |  [ ]  |  | 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 | Anas rhynchotis |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |   |  |   |  |  [ ]  |  [ ]  |  | 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 | Botaurus poiciloptilus |  [x]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |   |  |   | EN  |  [ ]  |  [ ]  | Nationally critical | Wetland dependent species, resident in the "Fernbird Flat" region of the site. |
| Chordata / Aves | Calidris canutus |  [x]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  | 120 | 2016 |   | NT  |  [ ]  |  [ ]  | 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 | Charadrius bicinctus |  [x]  |  [x]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 80 |  |   | VU  |  [ ]  |  [ ]  | 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 | Chlidonias albostriatus |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |   |  |   | EN  |  [ ]  |  [ ]  | Nationally endangered | A regular visitor through autumn and winter, but usually just individuals. |
| Chordata / Aves | Haematopus finschi |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 75 | 2018 |   |  |  [ ]  |  [ ]  | At Risk (Declining) | Endemic species (NZ). Non-breeding population uses the lower estuary and adjacent beaches. |
| Chordata / Aves | Hydroprogne caspia |  [x]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  | 60 | 2017 |   | LC  |  [ ]  |  [ ]  | Nationally vulnerable | A regular non-breeding visitor with 30-60 birds during autumn and winter. Adults with attendant young are often present. |
| Chordata / Aves | Larus bulleri |  [x]  |  [x]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 50 | 2017 |   | EN  |  [ ]  |  [ ]  | Nationally critical | Endemic species (NZ). Present the non-breeding season in the lower estuary (up to 50 birds). |
| Chordata / Aves | Larus novaehollandiae |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 950 | 2014 |   | LC  |  [ ]  |  [ ]  | 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 | Limosa lapponica |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  | 200 | 2017 |   | NT  |  [ ]  |  [ ]  | At Risk (Declining) | Important site for migratory species. Currently approx. 200 godwits occur during summer, down from >500 in the early 1990s. |
| Chordata / Aves | Megalurus punctatus |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |   |  |   | VU  |  [ ]  |  [ ]  | 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 | Pluvialis fulva |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  | 4 | 2017 |   | LC  |  [ ]  |  [ ]  |  | 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 | Sterna striata |  [ ]  |  [x]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |   |  |   | LC  |  [ ]  |  [ ]  | 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. |
|  |  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [ ]  |  [ ]  |  |  |

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information on animal species of international importance:

 (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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 |  [x]  | 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 |  [x]  | 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 (This field is limited to 4000 characters)

|  |  |
| --- | --- |
|  | 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. |

What is the Site like?

4.1 Ecological character

Please summarize the ecological components, processes and services which are critical to determining the ecological character of the site. Please also summarize any natural variability in the ecological character of the site, and any known past or current change

 (This field is limited to 4000 characters)

|  |  |
| --- | --- |
|  | 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, 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 (Platelea 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?

Please list all wetland types which occur on the site, and for each of them: - rank the four most abundant types by area from 1 (greatest extent) to 4 (least extent) in the third column, - if the information exists, provide the area (in ha) in the fourth column - if this wetland type is used for justifying the application of Criterion 1, indicate if it is representative, rare or unique in the last column - you can give the local name of the wetland type if different from the Ramsar classification system in the second column

Marine or coastal wetlands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wetland types (code and name)**[[7]](#footnote-7) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** | **Justification of Criterion 1**[[8]](#footnote-8) |
| 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 |
|  |  |  |  |  |

Inland wetlands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wetland types (code and name)**[[9]](#footnote-9) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** | **Justification of Criterion 1**8 |
|  |  |  |  |  |

Human-made wetlands

|  |  |  |  |
| --- | --- | --- | --- |
| **Wetland types (code and name)**[[10]](#footnote-10) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** |
|  |  |  |  |

What non-wetland habitats are within the site?

Other non-wetland habitat

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

Habitat connectivity (ECD)

|  |  |
| --- | --- |
|  |  |

4.3 Biological components

4.3.1 Plant species

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Other noteworthy plant species

|  |  |  |
| --- | --- | --- |
| **Phylum** | **Scientific name** | **Position in range / endemism / other** (optional) |
|  |  |  |

Invasive alien plant species

|  |  |  |  |
| --- | --- | --- | --- |
| **Phylum** | **Scientific name** | **Impacts**[[11]](#footnote-11) | **Changes at RIS update**[[12]](#footnote-12) |
| Tracheophyta / Liliopsida | Ammophila arenaria | Actual (minor impacts) | No change |
| Tracheophyta / Magnoliopsida | Homalanthus populifolius | - Please select a value - | unknown |
| Tracheophyta / Liliopsida | Juncus acutus | Actual (major impacts) | unknown |
| Tracheophyta / Magnoliopsida | Lonicera japonica | Potential | unknown |
| Tracheophyta / Magnoliopsida | Lycium ferocissimum | Potential | unknown |
| Tracheophyta / Magnoliopsida | Pittosporum crassifolium | Potential | unknown |
| Tracheophyta / Magnoliopsida | Populus alba | Potential | unknown |
| Tracheophyta / Liliopsida | Spartina anglica | Potential | decrease |
| Tracheophyta / Magnoliopsida | Vinca major | Potential | unknown |
|  |  |  |  |

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | 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** (optional) | **Period of pop. est.** (optional) | **% occurrence** (optional) | **Position in range /endemism/other** (optional) |
| Chordata / Actinopterygii | Aldrichetta forsteri |  |  |  |  |
| Chordata / Actinopterygii | Anguilla australis |  |  |  |  |
| Chordata / Actinopterygii | Arripis trutta |  |  |  |  |
| Chordata / Actinopterygii | Galaxias fasciatus |  |  |  |  |
| Chordata / Actinopterygii | Gobiomorphus breviceps |  |  |  |  |
| Chordata / Actinopterygii | Gobiomorphus cotidianus |  |  |  |  |
| Chordata / Actinopterygii | Gobiomorphus gobioides |  |  |  |  |
| Chordata / Actinopterygii | Retropinna retropinna |  |  |  |  |
| Chordata / Actinopterygii | Rhombosolea leporina |  |  |  |  |
| Chordata / Actinopterygii | Rhombosolea plebeia |  |  |  |  |
| Chordata / Actinopterygii | Sprattus muelleri |  |  |  |  |
| Chordata / Elasmobranchii | Zearaja nasuta |  |  |  |  |
|  |  |  |  |  |  |

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Invasive alien animal species

|  |  |  |  |
| --- | --- | --- | --- |
| **Phylum** | **Scientific name** | **Impacts** | **Changes at RIS update**11 |
| Chordata / Mammalia | Bos taurus primigenius | Actual (minor impacts) | No change |
| Chordata / Mammalia | Canis lupus familiaris | Actual (minor impacts) | No change |
| Chordata / Actinopterygii | Carassius auratus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Cervus elaphus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Erinaceus europaeus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Felis catus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Mustela erminea | Actual (minor impacts) | No change |
| Chordata / Mammalia | Mustela nivalis nivalis | Actual (minor impacts) | No change |
| Chordata / Mammalia | Mustela putorius furo | Actual (minor impacts) | No change |
| Chordata / Actinopterygii | Oncorhynchus mykiss | Actual (minor impacts) | No change |
| Chordata / Mammalia | Oryctolagus cuniculus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Rattus norvegicus | Actual (minor impacts) | No change |
| Chordata / Mammalia | Rattus rattus | Actual (minor impacts) | No change |
| Chordata / Actinopterygii | Salmo trutta | Actual (minor impacts) | No change |
|  |  |  |  |

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset https://doi.org/10.15468/39omei accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | 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

Please indicate the prevailing climate type(s) by selecting below the climatic region(s) and subregion(s), using the Köppen-Gieger Climate Classification System.

|  |  |
| --- | --- |
| **Climatic region**[[13]](#footnote-13) | **Subregion**[[14]](#footnote-14) |
| C: Moist Mid-Latitude climate with mild winters | Cfc: Marine west coast (Mild with no dry season, cool summer) |
|  |  |

If changing climatic conditions are affecting the site, please indicate the nature of these changes:

 (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

4.4.2 Geomorphic setting

a) Minimum elevation above sea level (in metres) (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | -2 |

a) Maximum elevation above sea level (in metres) (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 3 |

b) Position in landscape/river basin:

 [ ] Entire river basin

 [ ] Upper part of river basin

 [ ] Middle part of river basin

 [x] Lower part of river basin

 [ ] More than one river basin

 [ ] Not in river basin

 [x] 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. (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Manawatū River, Tasman Sea |

4.4.3 Soil

 [x] Mineral

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Organic

Changes at RIS update (Update)

 [x] 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 / [x] No

.

Please provide further information on the soil (optional) (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

4.4.4 Water regime

Water permanence

|  |  |
| --- | --- |
| **Presence?**[[15]](#footnote-15) | **Changes at RIS update**12 |
| Usually permanent water present | No change |
|  |  |

Source of water that maintains character of the site

|  |  |  |
| --- | --- | --- |
| **Presence?**[[16]](#footnote-16) | **Predominant water source** | **Changes at RIS update**12 |
| Water inputs from precipitation |  [ ]  | No change |
| Marine water |  [x]  | No change |
| Water inputs from surface water |  [x]  | No change |
|  |  [ ]  |  |

Water destination

|  |  |
| --- | --- |
| **Presence?**[[17]](#footnote-17) | **Changes at RIS update**12 |
| Marine | No change |
|  |  |

Stability of water regime

|  |  |
| --- | --- |
| **Presence?**[[18]](#footnote-18) | **Changes at RIS update**12 |
| Water levels fluctuating (including tidal) | No change |
|  |  |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology: (This field is limited to 2000 characters)

|  |  |
| --- | --- |
|  |  |

Connectivity of surface waters and of groundwater (ECD)

|  |  |
| --- | --- |
|  |  |

Stratification and mixing regime (ECD)

|  |  |
| --- | --- |
|  |  |

4.4.5 Sediment regime

 [ ] Significant erosion of sediments occurs on the site

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [x] Significant accretion or deposition of sediments occurs on the site

Changes at RIS update (Update)

 [ ] No change / [ ] Increase / [ ] Decrease / [x] Unknown

.

.

.

 [x] Significant transportation of sediments occurs on or through the site

Changes at RIS update (Update)

 [ ] No change / [ ] Increase / [ ] Decrease / [x] Unknown

.

.

.

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

Changes at RIS update (Update)

 [ ] No change / [ ] Increase / [ ] Decrease / [x] Unknown

.

.

.

 [ ] Sediment regime unknown

Please provide further information on sediment (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

Water turbidity and colour (ECD)

|  |  |
| --- | --- |
|  |  |

Light - reaching wetland (ECD)

|  |  |
| --- | --- |
|  |  |

Water temperature (ECD)

|  |  |
| --- | --- |
|  |  |

4.4.6 Water pH

 [ ] Acid (pH<5.5)

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Circumneutral (pH: 5.5-7.4 )

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [x] Alkaline (pH>7.4)

Changes at RIS update (Update)

 [ ] No change / [ ] Increase / [ ] Decrease / [x] Unknown

.

.

.

 [ ] Unknown

Please provide further information on pH (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

4.4.7 Water salinity

 [ ] Fresh (<0.5 g/l)

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [x] Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Euhaline/Eusaline (30-40 g/l)

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Hyperhaline/Hypersaline (>40 g/l)

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Unknown

Please provide further information on salinity (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

Dissolved gases in water (ECD)

|  |  |
| --- | --- |
|  |  |

4.4.8 Dissolved or suspended nutrients in water

 [x] Eutrophic

Changes at RIS update (Update)

 [ ] No change / [x] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Mesotrophic

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Oligotrophic

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Dystrophic

Changes at RIS update (Update)

 [x] No change / [ ] Increase / [ ] Decrease / [ ] Unknown

.

.

.

 [ ] Unknown

Please provide further information on dissolved or suspended nutrients (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Water quality monitoring by regional council indicates deteriorating trends for nutrients (nitrogren, 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/manawatu-at-whirokino/ |

Dissolved organic carbon (ECD)

|  |  |
| --- | --- |
|  |  |

Redox potential of water and sediments (ECD)

|  |  |
| --- | --- |
|  |  |

Water conductivity (ECD)

|  |  |
| --- | --- |
|  |  |

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 site itself:

 [ ] i) broadly similar / [x] ii) significantly different

.

If the surrounding area differs from the Ramsar Site, please indicate how: (Please tick all categories that apply)

 [x] Surrounding area has greater urbanisation or development

 [x] Surrounding area has higher human population density

 [x] Surrounding area has more intensive agricultural use

 [x] Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different: (This field is limited to 2000 characters)

|  |  |
| --- | --- |
|  | 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

Please select below all relevant ecosystem services/benefits currently provided by the site and indicate their relative importance in the right-hand column.

Provisioning Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[19]](#footnote-19) | **Examples**[[20]](#footnote-20) | **Importance/Extent/Significance**[[21]](#footnote-21) |
| Food for humans | Sustenance for humans (e.g., fish, molluscs, grains) | Medium |
| Biochemical products | Extraction of material from biota | Low |
|  |  |  |

Regulating Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[22]](#footnote-22) | **Examples**[[23]](#footnote-23) | **Importance/Extent/Significance**21 |
| 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**[[24]](#footnote-24) | **Examples**[[25]](#footnote-25) | **Importance/Extent/Significance**21 |
| 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**[[26]](#footnote-26) | **Examples**[[27]](#footnote-27) | **Importance/Extent/Significance**21 |
| Biodiversity | Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part | High |
| Nutrient cycling | Storage, recycling, processing and acquisition of nutrients | Medium |
|  |  |  |

Optional text box to provide further information (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

Other ecosystem service(s) not included above: (This field is limited to 2000 characters)

|  |  |
| --- | --- |
|  |  |

Please make a rough estimate of the approximate number of people (distinguish between residents and visitors if possible) who directly benefit from the ecological services provided by this site (estimate at least in orders of magnitude: 10s, 100s, 1000s, 10 000s etc.):

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 / [x] No / [ ] Unknown

.

.

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature): (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

4.5.2 Social and cultural values

Is the site considered internationally important for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? If so, please describe this importance under one or more of the four following categories. You should not list here any values derived from non-sustainable exploitation or which result in detrimental ecological changes.

 [ ] 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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

 [ ] 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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

4.6 Ecological processes

This section is not intended for completion as part of a standard RIS, but is included for completeness as part of the agreed format of a ‘full’ Ecological Character Description (ECD) outlined by Resolution X.15

Primary production (ECD)

|  |  |
| --- | --- |
|  |  |

Nutrient cycling (ECD)

|  |  |
| --- | --- |
|  |  |

Carbon cycling (ECD)

|  |  |
| --- | --- |
|  |  |

Animal reproductive productivity (ECD)

|  |  |
| --- | --- |
|  |  |

Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc. (ECD)

|  |  |
| --- | --- |
|  |  |

Notable species interactions, including grazing, predation, competition, diseases and pathogens (ECD)

|  |  |
| --- | --- |
|  |  |

Notable aspects concerning animal and plant dispersal (ECD)

|  |  |
| --- | --- |
|  |  |

Notable aspects concerning migration (ECD)

|  |  |
| --- | --- |
|  |  |

Pressures and trends concerning any of the above, and/or concerning ecosystem integrity (ECD)

|  |  |
| --- | --- |
|  |  |

How is the Site managed?

5.1 Land tenure and responsibilities (Managers)

5.1.1 Land tenure/ownership

Please specify if this category applies to the Ramsar Site, to the surrounding area or to both, by ticking the relevant option(s).

Public ownership

|  |  |  |
| --- | --- | --- |
| **Category**[[28]](#footnote-28) | **Within the Ramsar Site** | **In the surrounding area** |
| Local authority, municipality, (sub)district, etc. |  [ ]  |  [x]  |
| National/Federal government |  [x]  |  [ ]  |
| Other public ownership |  [x]  |  [ ]  |
|  |  [ ]  |  [ ]  |

Private ownership

|  |  |  |
| --- | --- | --- |
| **Category**[[29]](#footnote-29) | **Within the Ramsar Site** | **In the surrounding area** |
| Other types of private/individual owner(s) |  [ ]  |  [x]  |
|  |  [ ]  |  [ ]  |

Other

|  |  |  |
| --- | --- | --- |
| **Category**[[30]](#footnote-30) | **Within the Ramsar Site** | **In the surrounding area** |
|  |  [ ]  |  [ ]  |

Provide further information on the land tenure / ownership regime (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

5.1.2 Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | 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:

|  |  |
| --- | --- |
|  | Operations Manager (Manawatu District), Department of Conservation |

Postal address: (This field is limited to 1000 characters)

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

E-mail address: (The online RIS only accepts valid e-mail addresses, e.g. example@mail.com )

|  |  |
| --- | --- |
|  | 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

Please specify if this category applies to the Ramsar Site, to the surrounding area or to both, by ticking the relevant option(s).

Human settlements (non agricultural)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[31]](#footnote-31) | **Actual threat**[[32]](#footnote-32) | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Housing and urban areas | Low impact |  |  [ ]  | No change |  [x]  | No change |
| Tourism and recreation areas | Low impact | Medium impact |  [x]  | increase |  [x]  | increase |
|  |  |  |  [ ]  |  |  [ ]  |  |

Water regulation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[33]](#footnote-33) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Canalisation and river regulation | Medium impact |  |  [x]  | No change |  [x]  | No change |
| Dredging |  | Medium impact |  [x]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Agriculture and aquaculture

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[34]](#footnote-34) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Annual and perennial non-timber crops | unknown impact | unknown impact |  [ ]  | No change |  [x]  | No change |
| Livestock farming and ranching | unknown impact | unknown impact |  [ ]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Energy production and mining

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[35]](#footnote-35) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
|  |  |  |  [ ]  |  |  [ ]  |  |

Transportation and service corridors

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[36]](#footnote-36) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
|  |  |  |  [ ]  |  |  [ ]  |  |

Biological resource use

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[37]](#footnote-37) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Fishing and harvesting aquatic resources | Low impact | Low impact |  [x]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Human intrusions and disturbance

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[38]](#footnote-38) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Recreational and tourism activities | Low impact | Medium impact |  [x]  | increase |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Natural system modifications

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[39]](#footnote-39) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Vegetation clearance/ land conversion | Low impact | High impact |  [ ]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Invasive and other problematic species and genes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[40]](#footnote-40) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Invasive non-native/ alien species | High impact |  |  [x]  | No change |  [x]  | No change |
| Problematic native species | Low impact |  |  [x]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Pollution

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[41]](#footnote-41) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Agricultural and forestry effluents | Medium impact |  |  [x]  | increase |  [x]  | unknown |
| Household sewage, urban waste water |  | unknown impact |  [ ]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Geological events

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[42]](#footnote-42) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Earthquakes/tsunamis |  | unknown impact |  [x]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Climate change and severe weather

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[43]](#footnote-43) | **Actual threat**32 | **Potential threat**32 | **Within the site** | **Changes**12 | **In the surrounding area** |  **Changes**12 |
| Habitat shifting and alteration |  | unknown impact |  [x]  | No change |  [x]  | No change |
| Storms and flooding |  | unknown impact |  [x]  | No change |  [x]  | No change |
|  |  |  |  [ ]  |  |  [ ]  |  |

Please describe any other threats (optional): (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

5.2.2 Legal conservation status

Please list any other relevant conservation status, at global, regional or national level and specify the boundary relationships with the Ramsar Site:

Global legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[44]](#footnote-44) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**[[45]](#footnote-45) |
|  |  |  |  |

Regional (international) legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[46]](#footnote-46) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**45 |
|  |  |  |  |

National legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type** | **Name of area** | **Online information url** | **Overlap with Ramsar Site**45 |
| Conservation Area | Foxton Conservation Area |  | partly |
|  |  |  |  |

Non-statutory designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[47]](#footnote-47) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**45 |
|  |  |  |  |

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

 [x] 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**[[48]](#footnote-48) | **Status**[[49]](#footnote-49) |
| Legal protection | Partially implemented |
|  |  |

Habitat

|  |  |
| --- | --- |
| **Measures**[[50]](#footnote-50) | **Status**49 |
| Catchment management initiatives/controls | Partially implemented |
| Improvement of water quality | Partially implemented |
| Re-vegetation | Partially implemented |
|  |  |

Species

|  |  |
| --- | --- |
| **Measures**[[51]](#footnote-51) | **Status**49 |
| Control of invasive alien plants | Partially implemented |
| Control of invasive alien animals | Partially implemented |
|  |  |

Human Activities

|  |  |
| --- | --- |
| **Measures**[[52]](#footnote-52) | **Status**49 |
| 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: (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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[[53]](#footnote-53) |

Is the management plan/planning implemented?

 [x] Yes / [ ] No

.

The management plan covers

|  |  |
| --- | --- |
|  | All of Ramsar Site[[54]](#footnote-54) |

Is the management plan currently subject to review and update?

 [ ] Yes / [x] No

.

Has a management effectiveness assessment been undertaken for the site?

 [ ] Yes / [x] No

.

Please give link to site-specific plan or other relevant management plan if this is available via the Internet or upload it in section 'Additional material': (This field is limited to 500 characters)

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

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 / [x] No

.

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | 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[[55]](#footnote-55) |

Has the plan been implemented?

 [x] Yes / [ ] No

.

The restoration plan covers:

|  |  |
| --- | --- |
|  | All of Ramsar Site[[56]](#footnote-56) |

Is the plan currently being reviewed and updated?

 [ ] Yes / [x] No

.

Where the restoration is being undertaken to mitigate or respond to a threat or threats identified in this RIS, please indicate it / them: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Department of Conservation carry out weed control at this site, primary focus is on Spartina eradication and control of weeds around shorebird roost on the sandspit. Horizons Regional Council carry out animal pest control at the site, primary focus is on mustelid trapping around the Fernbird Flat during the waterbird breeding season. Department of Conservation also carry out compliance work to ensure whitebait fishing regulations are adhered to. Local community groups are also actively contributing to the management and restoration of the Manawatu Estuary Ramsar site, including contributing to species monitoring and observation, public awareness and habitat enhancement. |

Further information (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

5.2.7 Monitoring implemented or proposed

|  |  |
| --- | --- |
| **Monitoring**[[57]](#footnote-57) | **Status**[[58]](#footnote-58) |
| Water quality | Implemented |
| Birds | Implemented |
| Water regime monitoring | Implemented |
| Plant species | Implemented |
| Animal species (please specify) | Implemented |
| Soil quality | Implemented |
|  |  |

Please indicate other monitoring activities:

 (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

Additional material

6.1 Additional reports and documents

6.1.1 Bibliographical references

 (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | 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. Hicks, B.J; Bell, D. 2003: Electrofishing survey of the Manawatu, Whanganui, and Mokau rivers and Lake Rotorangi, Patea River. Client report prepared for the Department of Conservation, Wanganui Conservancy by the Centre for Biodiversity and Ecology Research, University of Waikato, Hamilton. 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)

-UPLOAD via online form-

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

-UPLOAD via online form-

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

-UPLOAD via online form-

iv. relevant Article 3.2 reports

-UPLOAD via online form-

v. site management plan

-UPLOAD via online form-

vi. other published literature

-UPLOAD via online form-

Please note that any documents uploaded here will be made publicly available.

6.1.3 Photograph(s) of the Site

Please provide at least one photograph of the site:

|  |  |  |  |
| --- | --- | --- | --- |
| **File** | **Copyright holder** | **Date on which the picture was taken** | **Caption** |
| files/2966181/pictures/DJI\_0135.JPG | Horizons Regional Council | 06-06-2018 | Looking north west, towards Foxton Beach township and the main high tide shorebird roost from Fernbird Flat |
| files/2966181/pictures/DJI\_0051.JPG | Horizons Regional Council | 06-06-2018 | Looking south east, up the Manawatū River from Fernbird Flat |
| files/2966181/pictures/DJI\_0106.JPG | Horizons Regional Council | 06-06-2018 | Looking south west, across Fernbird Flat and Manawatū Estuary |
| files/2966181/pictures/\_MG\_0945.JPG | Phil F Battley | 01-02-2018 | Shorebirds (bar-tailed godwits, South Island pied oystercatchers and pied stilts) roosting on Manawatū Estuary sandspit at high tide |
|  |  |  |  |

 [x] I certify that I am the photographer, the valid holder of rights over the photograph(s), or an authorized representative of the organization which is the valid holder of rights over the photograph(s), and I hereby assign an irrevocable, perpetual and royalty-free right to use, reproduce, edit, display, transmit, prepare derivative works of, modify, publish, affix logos to, and otherwise make use of the submitted photograph(s) in any way, to the Ramsar Convention Secretariat, its affiliates and partners, for non-commercial purposes in conjunction with the mission of the Ramsar Convention. This use includes, but is not limited to, internal and external publication and materials, presentation on the websites of the Ramsar Convention or any affiliated body, and any and all other communication channels with copyright attributed to the holder in all published forms. The full accuracy of all data submitted rests with the submitter, or organization submitting the photograph(s). In submitting, I hereby agree to the aforementioned terms, personally or on behalf of the organization of which I am an authorized official, certifying that the Ramsar Convention Secretariat, its affiliates and partners are explicitly held harmless for any and all costs, expenses, or damages arising from use of the submitted photograph(s) and any additional information provided.

6.1.4 Designation letter and related data

Designation letter\*

-UPLOAD via online form-

Please upload a letter of designation from the Ramsar Administrative Authority. This letter must clearly state that the wetland is being designated for inclusion in the Ramsar List and specify the formal date of designation wished. The letter can be uploaded in two formats: Word document (doc); pdf Strategic Framework: 408. The RIS for a newly designated Site (or an update to the RIS for a previously designated site) must be officially transmitted to the Secretariat by the Ramsar Administrative Authority (AA) of the Contracting Party concerned, with a letter clearly stating that the wetland is being designated for inclusion in the Ramsar List and specifying the formal date of designation if wished. 413. The date of designation of a Ramsar Site is that indicated or requested by the Ramsar Administrative Authority (AA). The designation date required should be indicated in the designation letter from the AA to the Secretariat that accompanies the RIS. 414. If no designation date is indicated to the Secretariat, the Secretariat assigns the date of the designation letter from the Administrative Authority as the designation date of the site. 415. If, following the receipt and review of the RIS by the Secretariat (see below), a significant time-period elapses before any problems with the RIS content are resolved with the Administrative Authority, the Secretariat may propose that, with the agreement of the AA, the date of designation is that on which the RIS is finalised.

Transboundary Designation letter

-UPLOAD via online form-

Date of Designation

|  |  |
| --- | --- |
|  | 2005-07-25 |

Number of certificates wished (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 0 |

1. No change to area | the area has increased | the area has decreased [↑](#footnote-ref-1)
2. Not evaluated | No | Uncertain | Yes -likely- | Yes -actual- [↑](#footnote-ref-2)
3. Marine Ecoregions of the World (MEOW) | Udvardy's Biogeographical Provinces | Bailey's Ecoregions | WWF Terrestrial Ecoregions | EU biogeographic regionalization | Freshwater Ecoregions of the World (FEOW) | Other scheme (provide name below) [↑](#footnote-ref-3)
4. [↑](#footnote-ref-4)
5. Percentage of the total biogeographic population at the site. These fields are only compulsory to justify criteria 6 & 9 [↑](#footnote-ref-5)
6. [↑](#footnote-ref-6)
7. A: Permanent shallow marine waters | B: Marine subtidal aquatic beds (Underwater vegetation) | C: Coral reefs | D: Rocky marine shores | E: Sand, shingle or pebble shores | G: Intertidal mud, sand or salt flats | Ga: Bivalve (shell-fish) reefs | H: Intertidal marshes | I: Intertidal forested wetlands | J: Coastal brackish / saline lagoons | F: Estuarine waters | Zk(a): Karst and other subterranean hydrological systems | K: Coastal freshwater lagoons [↑](#footnote-ref-7)
8. | Representative | Rare | Unique [↑](#footnote-ref-8)
9. M: Permanent rivers/ streams/ creeks | L: Permanent inland deltas | Y: Permanent Freshwater springs; oases | N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks | O: Permanent freshwater lakes | Tp: Permanent freshwater marshes/ pools | P: Seasonal/ intermittent freshwater lakes | Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils | Tp: Permanent freshwater marshes/ pools | W: Shrub-dominated wetlands | Xf: Freshwater, tree-dominated wetlands | Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils | U: Permanent Non-forested peatlands | Xp: Permanent Forested peatlands | Va: Montane wetlands | Vt: Tundra wetlands | Q: Permanent saline/ brackish/ alkaline lakes | R: Seasonal/ intermittent saline/ brackish/ alkaline lakes and flats | Sp: Permanent saline/ brackish/ alkaline marshes/ pools | Ss: Seasonal/ intermittent saline/ brackish/ alkaline marshes/ pools | Zg: Geothermal wetlands | Zk(b): Karst and other subterranean hydrological systems [↑](#footnote-ref-9)
10. 1: Aquaculture ponds | 2: Ponds | 3: Irrigated land | 4: Seasonally flooded agricultural land | 5: Salt exploitation sites | 6: Water storage areas/Reservoirs | 7: Excavations | 8: Wastewater treatment areas | 9: Canals and drainage channels or ditches | Zk(c): Man-made subterranean hydrological systems [↑](#footnote-ref-10)
11. Potential | Actual (minor impacts) | Actual (major impacts) [↑](#footnote-ref-11)
12. No change | increase | decrease | unknown [↑](#footnote-ref-12)
13. A. Tropical humid climate | B. Dry climate | C. Moist Mid-Latitude climate with mild winters | D. Moist Mid-Latitude climate with cold winters | E. Polar climate with extremely cold winters and summers | H. Highland [↑](#footnote-ref-13)
14. Af: Tropical wet (No dry season) | Am: Tropical monsoonal (Short dry season; heavy monsoonal rains in other months) | Aw: Tropical savanna (Winter dry season) | BWh: Subtropical desert (Low-latitude desert) | BSh: Subtropical steppe (Low-latitude dry) | BWk: Mid-latitude desert (Mid-latitude desert) | BSk: Mid-latitude steppe (Mid-latitude dry) | Csa: Mediterranean (Mild with dry, hot summer) | Csb: Mediterranean (Mild with dry, warm summer) | Cfa: Humid subtropical (Mild with no dry season, hot summer) | Cwa: Humid subtropical (Mild with dry winter, hot summer) | Cfb: Marine west coast (Mild with no dry season, warm summer) | Cfc: Marine west coast (Mild with no dry season, cool summer) | Dfa: Humid continental (Humid with severe winter, no dry season, hot summer) | Dfb: Humid continental (Humid with severe winter, no dry season, warm summer) | Dwa: Humid continental (Humid with severe, dry winter, hot summer) | Dwb: Humid continental (Humid with severe, dry winter, warm summer) | Dfc: Subarctic (Severe winter, no dry season, cool summer) | Dfd: Subarctic (Severe, very cold winter, no dry season, cool summer) | Dwc: Subarctic (Severe, dry winter, cool summer) | Dwd: Subarctic (Severe, very cold and dry winter, cool summer) | ET: Tundra (Polar tundra, no true summer) | EF: Ice Cap (Perennial ice) | H: Highland (-) [↑](#footnote-ref-14)
15. Usually permanent water present | Usually seasonal, ephemeral or intermittent water present | Unknown [↑](#footnote-ref-15)
16. Water inputs from precipitation | Water inputs from surface water | Water inputs from groundwater | Marine water | Unknown [↑](#footnote-ref-16)
17. Feeds groundwater | To downstream catchment | Marine | Unknown [↑](#footnote-ref-17)
18. Water levels largely stable | Water levels fluctuating (including tidal) | Unknown [↑](#footnote-ref-18)
19. Food for humans | Fresh water | Wetland non-food products | Biochemical products | Genetic materials [↑](#footnote-ref-19)
20. Sustenance for humans (e.g., fish, molluscs, grains) | Drinking water for humans and/or livestock | Water for irrigated agriculture | Water for industry | Water for energy production (hydro-electricity) | Timber | Fuel wood/fibre | Peat | Livestock fodder | Reeds and fibre | Other | Extraction of material from biota | Medicinal products | Genes for tolerance to certain conditions (e.g., salinity) | Genes for resistance to plant pathogens | Ornamental species (live and dead) [↑](#footnote-ref-20)
21. not relevant for site | Low | Medium | High [↑](#footnote-ref-21)
22. Maintenance of hydrological regimes | Erosion protection | Pollution control and detoxification | Climate regulation | Biological control of pests and disease | Hazard reduction [↑](#footnote-ref-22)
23. Groundwater recharge and discharge | Storage and delivery of water as part of water supply systems for agriculture and industry | Soil, sediment and nutrient retention | Water purification/waste treatment or dilution | Local climate regulation/buffering of change | Regulation of greenhouse gases, temperature, precipitation and other climactic processes | Support of predators of agricultural pests (e.g., birds feeding on locusts) | Flood control, flood storage | Coastal shoreline and river bank stabilization and storm protection [↑](#footnote-ref-23)
24. Recreation and tourism | Spiritual and inspirational | Scientific and educational [↑](#footnote-ref-24)
25. Recreational hunting and fishing | Water sports and activities | Picnics, outings, touring | Nature observation and nature-based tourism | Inspiration | Cultural heritage (historical and archaeological) | Contemporary cultural significance, including for arts and creative inspiration, and including existence values | Spiritual and religious values | Aesthetic and sense of place values | Educational activities and opportunities | Important knowledge systems, importance for research (scientific reference area or site) | Long-term monitoring site | Major scientific study site | Type location for a taxon [↑](#footnote-ref-25)
26. Biodiversity | Soil formation | Nutrient cycling | Pollination [↑](#footnote-ref-26)
27. Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part | Sediment retention | Accumulation of organic matter | Storage, recycling, processing and acquisition of nutrients | Carbon storage/sequestration | Support for pollinators [↑](#footnote-ref-27)
28. Public land (unspecified) | National/Federal government | Provincial/region/state government | Local authority, municipality, (sub)district, etc. | Other public ownership [↑](#footnote-ref-28)
29. Cooperative/collective (e.g., farmers cooperative) | Commercial (company) | Foundation/non-governmental organization/trust | Religious body/organization | Other types of private/individual owner(s) [↑](#footnote-ref-29)
30. Unspecified mixed ownership | No information available | Commoners/customary rights [↑](#footnote-ref-30)
31. Housing and urban areas | Commercial and industrial areas | Tourism and recreation areas | Unspecified development [↑](#footnote-ref-31)
32. Low impact | Medium impact | High impact | unknown impact | [↑](#footnote-ref-32)
33. Drainage | Water abstraction | Dredging | Salinisation | Water releases | Canalisation and river regulation [↑](#footnote-ref-33)
34. Annual and perennial non-timber crops | Wood and pulp plantations | Livestock farming and ranching | Marine and freshwater aquaculture | Non specified [↑](#footnote-ref-34)
35. Oil and gas drilling | Mining and quarrying | Renewable energy | Unspecified [↑](#footnote-ref-35)
36. Roads and railroads | Utility and service lines (e.g., pipelines) | Shipping lanes | Aircraft flight paths | Unspecified [↑](#footnote-ref-36)
37. Hunting and collecting terrestrial animals | Gathering terrestrial plants | Logging and wood harvesting | Fishing and harvesting aquatic resources | Unspecified [↑](#footnote-ref-37)
38. Recreational and tourism activities | (Para)military activities | Unspecified/others [↑](#footnote-ref-38)
39. Fire and fire suppression | Dams and water management/use | Vegetation clearance/ land conversion | Unspecified/others [↑](#footnote-ref-39)
40. Invasive non-native/ alien species | Problematic native species | Introduced genetic material | Unspecified [↑](#footnote-ref-40)
41. Household sewage, urban waste water | Industrial and military effluents | Agricultural and forestry effluents | Garbage and solid waste | Air-borne pollutants | Excess heat, sound, light | Unspecified [↑](#footnote-ref-41)
42. Volcanoes | Earthquakes/tsunamis | Avalanches/landslides | Unspecified [↑](#footnote-ref-42)
43. Habitat shifting and alteration | Droughts | Temperature extremes | Storms and flooding | Unspecified [↑](#footnote-ref-43)
44. World Heritage site | UNESCO Biosphere Reserve | Other global designation [↑](#footnote-ref-44)
45. whole | partly [↑](#footnote-ref-45)
46. EU Natura 2000 | Other international designation [↑](#footnote-ref-46)
47. Important Bird Area | Important Plant Area | Other non-statutory designation [↑](#footnote-ref-47)
48. Legal protection [↑](#footnote-ref-48)
49. Proposed | Partially implemented | Implemented [↑](#footnote-ref-49)
50. Catchment management initiatives/controls | Improvement of water quality | Habitat manipulation/enhancement | Hydrology management/restoration | Re-vegetation | Soil management | Land conversion controls | Faunal corridors/passage [↑](#footnote-ref-50)
51. Threatened/rare species management programmes | Reintroductions | Control of invasive alien plants | Control of invasive alien animals [↑](#footnote-ref-51)
52. Management of water abstraction/takes | Regulation/management of wastes | Livestock management/exclusion (excluding fisheries) | Fisheries management/regulation | Harvest controls/poaching enforcement | Regulation/management of recreational activities | Communication, education, and participation and awareness activities | Research [↑](#footnote-ref-52)
53. No | Yes | In preparation [↑](#footnote-ref-53)
54. All of Ramsar Site | Part of Ramsar Site [↑](#footnote-ref-54)
55. No need identified | No; the site has already been restored | No; but restoration is needed | No; but a plan is being prepared | Yes; there is a plan [↑](#footnote-ref-55)
56. All of Ramsar Site | Part of Ramsar Site [↑](#footnote-ref-56)
57. Water regime monitoring | Water quality | Soil quality | Plant community | Plant species | Animal community | Animal species (please specify) | Birds [↑](#footnote-ref-57)
58. Implemented | Proposed [↑](#footnote-ref-58)