Estuarine systems in the lower North Island / Te Ika-a-Māui

Ranking of significance, current status and future management options

This DOC report describes geographic features, values and pressures for 48 estuarine sites in the lower North Island and sets out current and potential conservation activities. To help with management decisions, each site is given various scores and rankings. The report is a practical resource for councils, iwi, environmental groups and interested people.

Local experts and government agencies contributed significantly to the document. Read it online at www.doc.govt.nz/estuarine-systems-lower-north-island.

Each estuary is unique. They are places of constant change as tides come and go, and storms and floods drive rivers to and from the sea in startling new ways.

This constant collision of fresh and salt waters creates rich ecosystems that support abundant wildlife: plants, fish, birds, reptiles, crabs and more. Thousands of migratory birds join New Zealand's natives in these estuaries to feed on shellfish, worms and insect larvae hidden in the mud. People, too, have relied on estuaries for food and have built communities around them since the earliest times.

Species have adapted to these dynamic environments. Seagrass survives dry, scorching heat at low tide and submersion at high tide, and fish must be able to live in fresh and salty water. Microscopic organisms in the mud process organic debris and sediments to recycle nutrients and keep the water clean.

Guardians of Pauatahanui Inlet annual cockle count. *Photo: GOPI*

Restore wairua, mana and mauri of estuaries.

Discover, respect, protect and restore these precious ecosystems.

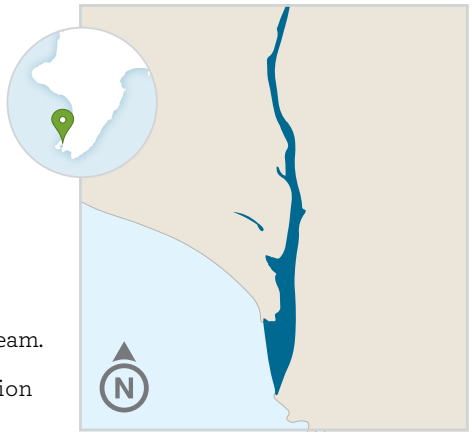
Department of Conservation
Te Papa Atawhai

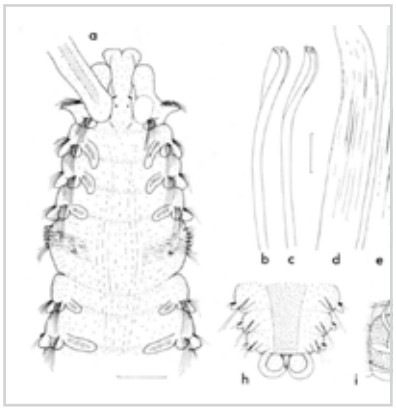
1

Te Awa Kairangi/Hutt River, and Waiwhetū Stream

- One of five places in New Zealand where a rare marine worm (*Boccardiella magniovara*) is found.
- Walkways are popular with walkers and bikers. Birdwatchers see variable oystercatchers, royal spoonbills and reef herons, and fishers on the estuary bridge pull in kahawai travelling upstream.
- Planting and weed control to restore vegetation and provide inanga (whitebait) habitat is underway, after works to realign stretches of the Hutt River and to decontaminate the Waiwhetū Stream.
- Small remnants of saltmarsh are all that remain of the extensive Kahikatea swamp and estuary system that once covered the lower valley floor.

The estuary was a source of watercress, flax and paru (iron-rich mud used to dye flax fibre) for Māori from the Hikoikoi and Waiwhetū pā. The river catchment includes native forest (Tararua ranges), pastoral land (Mangaroa valley) and urban and industrial areas in Upper and Lower Hutt. Salt water reaches Ewen Bridge at high tide.





Head of rare marine worm. *Drawing: Geoff Read*

Strand Park (Ōpahu Stream) restoration. *Photo: Matt Todd*

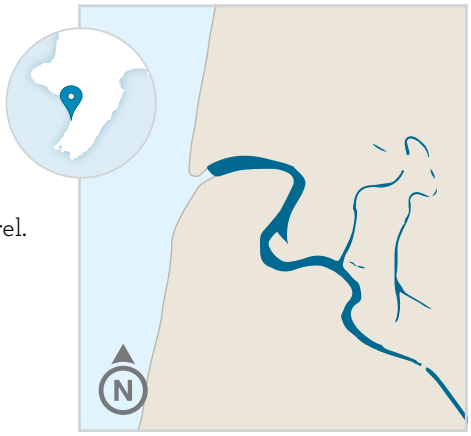
Waiwhetū saltmarsh. *Photo: Wriggle Coastal Management @ GWRC*

2

Manawatū River

- Recognised as a wetland of international importance by the Ramsar Convention.
- Its mudflats teem with hidden life. They attract 95 bird species, including wrybill, bittern, bar-tailed godwits and banded dotterel.
- An 80-hectare bed of bachelor's buttons (low-growing, fleshy coastal plants) is one of the largest areas of these native plants in the North Island.
- A 2011 multi-agency action plan focusses on catchment management to improve water quality. Many other groups and iwi also work to protect habitats and species there.

Once a well-travelled route to the North Island's interior, the local Māori consider this river as tapu: they see it as a physical connection to the spirit world. To reduce flooding the river has been modified with stop banks, gates and the Whirokino Cut.



Manawatū River mouth. *Photo: Don Ravine*

Wrybill. *Photo: Ian Armitage*

Bachelor's button. *Photo: Phil Bendle*

3

Ōhau River

- Ngāti Raukawa owns much of the surrounding land and Te Iwi o Ngāti Tukorehe Trust has led conservation efforts in the area.
- Native musk, a threatened salt-tolerant plant, is found here. It is a special species found only in New Zealand, and has few close relatives here.
- The 'Ōhau Loop', a large oxbow wetland area, was isolated during flood protection work in the 1970s. Plans to restore the natural water flow to this area are underway.
- A cross-cultural programme, Manaaki Taha Moana, is researching the estuary by collecting oral histories, and carrying out shellfish and water-quality monitoring and spatial modelling.

Once part of a large coastal flax swamp, the Ōhau River's longfin eel and flounder provided food for Māori. Ngāti Raukawa regards the estuary and Kuku Beach as tapu due to nearby burial sites.

Native musk. *Photo: Jesse Bythell*

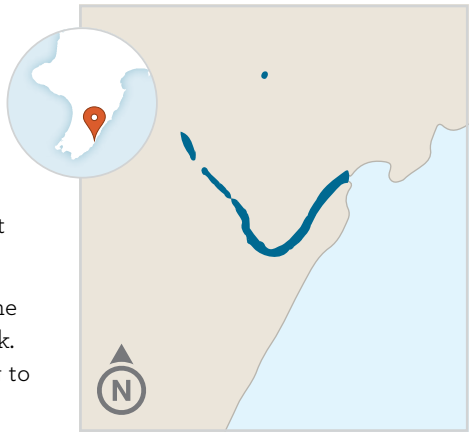
Glasswort herbfields. *Photo: Matt Todd*

4

Motuwaireka Stream, Riversdale Beach

- Riversdale is a popular whitebaiting spot. Eight native fish species travel through the estuary during their lifecycle, including at-risk species like longfin eel, inanga and giant kōkopu.
- The owners of Orui Station, which borders the estuary, have fenced the area to exclude stock. The Riversdale Beach Care Group is working to restore the dune area.
- Katipō spiders can be found in the sand dunes that link the estuarine habitat with the ocean.

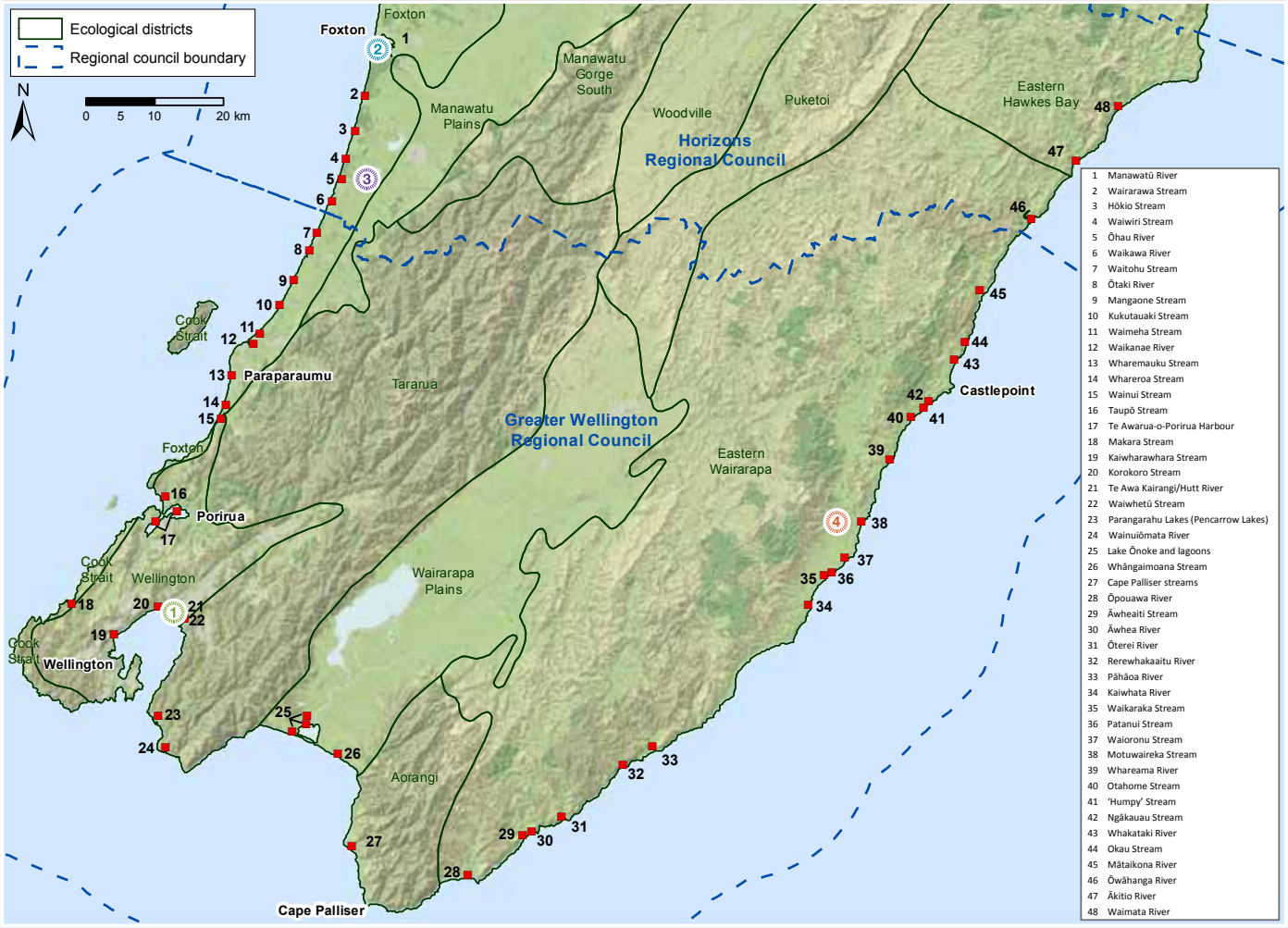
The Motuwaireka Stream is considered a taonga by local hapū. Ancient human bones found near the site are evidence of long use by Māori. Riversdale Beach township was developed in the 1950s. The stream catchment is steep coastal hill country – approximately 60% is farmed for sheep and beef cattle, with the remainder either native vegetation or exotic forest.



Katipō spider. *Photo: Tom White*

Motuwaireka salt marsh wetland. *Photo: Matt Todd*

Estuaries in the lower North Island included in the report



Threats to our vulnerable estuaries

Few estuaries remain in their original form. Many have been modified to make way for new roads and coastal development.

Estuaries' ecosystems can be degraded directly (eg by invasive plants) or indirectly, such as from erosion in a tributary contributing sediment.

The most significant threats to estuaries in the report are sedimentation and climate change. Sediment from land development and farming clogs up and covers the plants and animals that live in estuarine mud. Climate change, and associated acidification, temperature increases and sea level rises, will affect every estuary.

Restoration projects – community commitments to estuary health

Large and small, 17 of the 48 featured estuaries have some form of care or restoration from local community groups, regional and district councils, and DOC. They tackle problem weeds, plant suitable natives, fence off sensitive areas, and educate locals about the value of an estuary with walkways and interpretative signs.

"With the power of people who care about estuaries, care groups, landowners who make the effort to keep stock away from waterways, and the committed people who work for management agencies, estuaries will have a brighter future. I hope this report becomes a key tool to inform and track the progress we are making together on estuary health."

Helen Kettles
Estuaries report lead, DOC

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Cover image: Ōtaki Lagoon coastal restoration area. *Photo: Helen Kettles;* **This page:** Spartina, or cordgrass, was introduced to New Zealand in the early 1900s to help 'reclaim' estuarine land. Unfortunately, it traps sediment, leading to the loss of saltmarsh and mudflat habitat. It is now considered a noxious weed. *Photo: Tony Silbery*