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Te ākau, te takutai me te moana Coast

Te ao Māori

The coastlines of Marlborough form part of the sunken prow of the waka of Māui, Te Tauihu o te Waka-a-Māui. Arapaoa is the place where he stood whilst pulling in his fishing line and catching Te Ika-a-Māui, the North Island. The coastline has been shaped by Hinemoana, the ocean maiden. It is said she is to be forever battering the tinana of her tipuna, Papatūānuku; the many bays, coves and inlets of Marlborough are the result of te ngauanga o Hinemoana, the gnawing of Hinemoana eating away at the whenua.

The Marlborough Sounds are rich in cultural tapu, with many pathways and stories of its tangata whenua and tangata moana relationship with its places.

The domain of Tangaroa and Hinemoana, the moana, has always been deeply connected in a reciprocal relationship with tangata whenua. For example, the first fish was always returned to Tangaroa, from whom they descend. This relationship places tangata whenua in the role of kaitiaki, with the understanding that the coast and moana have their own mana and are living taonga, revered for their ecological value and for sustaining whakapapa connections and cultural practices.

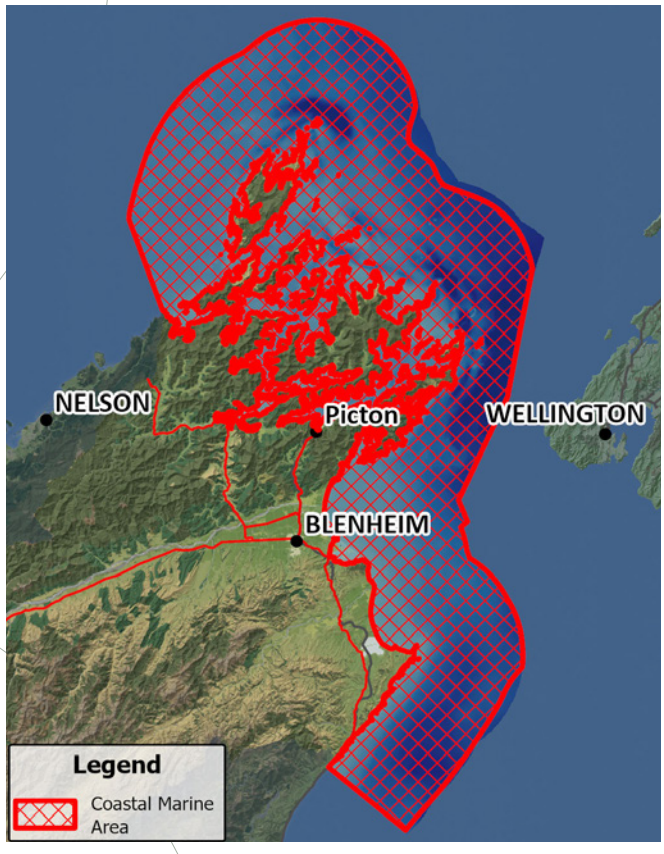


Figure 1. Map showing the extent of Marlborough's Coastal Marine Area

Maritime environment

From the sheltered bays of the Marlborough Sounds to the deep water of Cook Strait, the Coastal Marine Area (CMA) of Marlborough is unique and ecologically diverse. This network of drowned river valleys, sheltered inlets and open shorelines supports a range of marine habitats and species encompassing over 1,800 km of coastline and over 725,000 ha of marine waters.

The Marlborough Sounds is a busy waterway used by a wide range of vessels for both recreation and industry. Small recreational boats, large international yachts and lone kayaks are common, especially in summer, as people enjoy fishing, sailing and exploring sheltered bays. Commercial activity is also significant, with ferries providing a vital link between Picton and Wellington.

These ferries carry passengers, vehicles and freight, making Picton's port one of New Zealand's most important transport hubs.

Large cruise ships visit the Sounds regularly, bringing thousands of visitors to Picton. This tourism supports local businesses but also adds pressure on port facilities and the surrounding environment. Picton's marina caters mainly to recreational craft, while Waikawa Marina is one of the largest in the country, offering berths for private boats and services for visiting yachts. Havelock Marina serves as the base for mussel farming operations and other aquaculture activities, which are a key part of Marlborough's economy.

The waterways of the Marlborough Sounds are narrow and winding, with strong tidal currents and limited visibility in some areas.

Tory Channel / Kura Te Au, the main route for ferries, is particularly difficult to navigate because of its fast-moving tides and confined space. These conditions require skill, careful risk management and planning to ensure safety f or all users.

Balancing competing interests in this large, interconnected area while supporting biodiversity, recreation and communities that depend on industries such as aquaculture and tourism is no easy task. Council manages these interests and associated pressures through a range of tools, primarily under the Resource Management Act (RMA) and the Maritime Transport Act (MTA). The New Zealand Coastal Policy Statement (NZCPS) and Marlborough Environment Plan (MEP) set out objectives and policies to guide the use of the coastal environment. Estuaries, delicate ecosystems where freshwater and coastal waters meet, add further complexity to policy, responsibility and management.

Balancing the environmental and safety risks of a place that's both ecologically unique and busy with human activity can be exceptionally challenging. Heavy vessel traffic, including ferries and cruise ships, can disturb marine habitats and potentially contribute to pollution from fuel and oil spills. Wake from large ships can erode shorelines and affect intertidal ecosystems. There are also biosecurity risks associated with hull fouling, which can introduce invasive species into the region. This can harm ecosystems, displace native species and affect commercial activities. Marlborough's coastal waters are special, and this attraction brings a hub of human activity alongside environmental pressures that must be managed today – for future generations.

Ngā meka matua
Key facts

Ports of Marlborough

Council, through Port Marlborough New Zealand Ltd, owns and operates ports and marinas throughout the Marlborough Sounds, providing vital infrastructure links for recreational boaties, commercial aquaculture, ferries and shipping.

In Picton, Port Marlborough operates New Zealand's deepest export shipping berth at Shakespeare Bay, enabling logging exports as well as cruise vessels. Additionally, Waitohi Wharf in Picton Harbour is a multipurpose berth servicing Cook Strait ferries and other large ships. Port Marlborough also operates commercial facilities in Havelock, an important link for the aquaculture industry. The marina facilities in Picton, Waikawa and Havelock are the largest marina operation in the country outside of Auckland, providing recreational facilities for locals and visitors alike.

Port Marlborough is involved in and committed to a range of projects and targets including active restoration, carbon emissions improvement, emissions reduction and waste minimisation. Together, these environmental values underpin daily operations and help to consider the environmental, economic, community and cultural impacts of port decisions throughout the region.

Port Marlborough and StraitNZ Bluebridge Cook Strait Ferries recently signed a new 39-year commercial agreement that secures the future of StraitNZ's Cook Strait ferry services through Picton to 2064. Wider port redevelopment intends to provide certainty for passengers and businesses and build resilience in future port operations in the area, including infrastructure to accommodate two new Interislander ferries.

Te kounga o te wai tai
Coastal water quality

Good water quality is essential to a healthy ocean, underpinning all critical functions and processes in coastal ecosystems. Clean, clear water supports the growth of plants, algae and microorganisms that form the base of the food web, sustaining fish, shellfish, birds and marine mammals.



Mahau Sound

Good water quality comprises adequate oxygen levels, light penetration and nutrient balance, which are essential for biodiversity and ecosystem resilience.

Conversely, poor water quality including oxygen depletion, turbidity and excess nutrients can disrupt ecological processes and reduce ecosystems' capacity to recover from stress. Maintaining good water quality is therefore critical not only for environmental health but also for the cultural, recreational and economic values that depend on it.

The coastal waters of Marlborough support thriving aquaculture, tourism and recreational fishing industries, and there is a delicate balance to maintain with respect to good water quality.

Pressure

Coastal water quality is subject to a range of pressures that can interact and amplify each other, causing cumulative effects.

It is susceptible to cumulative impacts and vulnerable to nutrient accumulation, elevated sediment loads and climate change-related stressors. These pressures can cause an imbalance in marine ecosystems and impact the ability to use and enjoy the resources the Marlborough Sounds provides sustainably. They can also impact on species' primary productivity, the rate at which photosynthetic organisms convert sunlight into organic matter, forming the foundation of the marine food web that extends from plankton to shellfish, fish and mammals. High productivity supports abundant marine life, while low productivity limits biodiversity and ecosystem function.

Pressures include:

- Suspended sediment: Land-based activities continue to contribute to erosion and introduce the delivery of fine sediment to the CMA. This sediment reduces water clarity and light penetration, limiting photosynthesis and disrupting the marine food web. It can also smother seafloor habitats, impair visibility for marine species and interfere with filter-feeding organisms. Storm events such as the July 2021 and August 2022 storms can trigger landslides and cause erosion that results in sediment entering waterways (Figure 1).
- Climate change: New Zealand's ocean waters are warming at a rate 34% faster than the global average. Rising temperatures can alter species distribution, abundance and behaviour, and can be linked with increased suspended sediment.
- Ocean acidification: Ocean acidification occurs when the ocean absorbs excess carbon dioxide (CO_2), forming carbonic acid that releases hydrogen ions and lowers water pH. This increased acidity reduces carbonate ion availability, which are the essential building blocks for shellfish and reef-building species. As a result, these organisms may experience slower growth, weaker shells and higher mortality rates.



Figure 1: Storms in 2021 and 2022 triggered approximately over 7,000 landslides resulting in sediment entering the Marlborough Sounds. Source: Ben Knight, Cawthron Institute

Response

Monitoring the state of the district's coastal waters, and how they are changing over time, is critical for sound environmental management.

Continual collection of data on key water quality parameters provides essential information to support decision-making for resource consents, environmental protection initiatives and long-term regional planning. By tracking trends and identifying changes in coastal water quality, Council can respond proactively to environmental pressures, support sustainable use of marine resources, and safeguard the health and resilience of the Marlborough Sounds for future generations.

Since 2011, monthly water-quality monitoring has occurred in Queen Charlotte Sound / Tōtaranui and Tory Channel / Kura Te Au. From July 2012, this was extended to include Pelorus Sound / Te Hoiere. There are 22 sampling locations (Figure 2) across the CMA.

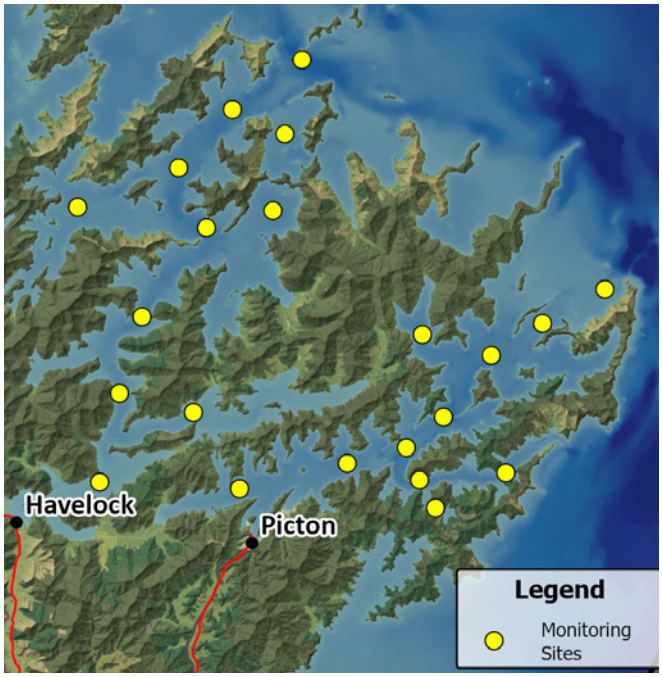


Figure 2: Map of water quality sampling locations

A range of parameters are collected at each location to assess the health of the marine environment: temperature, pH, dissolved oxygen, salinity, phytoplankton, chlorophyll-a, turbidity, suspended solids and various nutrients.

By monitoring these parameters, Council can build an overall picture of how environmental conditions and pressures interact to influence the health, productivity and long-term sustainability of marine ecosystems.

In 2025, Council joined the New Zealand Ocean Acidification Network (NZOA-ON), collecting monthly water samples to analyse and monitor long-term changes to ocean pH.

Current state

Marlborough's coastal waters remain generally healthy but increasingly vulnerable, exacerbated by climate change, with both Sounds under increasing pressure from rising sea surface temperatures (SST).

Specifically, reporting from 2016 to 2023 highlights the following:

- Algal growth follows natural seasonal cycles with limited eutrophication detected.
- Hydrodynamic flushing (especially via Tory Channel / Kura Te Au) supports good oxygenation levels in Queen Charlotte Sound / Tōtaranui.
- Inner Pelorus Sound showed reduced water clarity and stronger freshwater influence from the Te Hoiere / Pelorus River.
- Sheltered bays with limited water circulation are more vulnerable to eutrophication and climate-related changes.
- Significant increase in annual water temperatures for both Queen Charlotte Sound / Tōtaranui and Pelorus Sound / Te Hoiere over the last seven years, with record-breaking high SST in 2022.
- Pelorus Sound / Te Hoiere's water temperatures have been influenced by a prolonged heat wave in the Cook Strait, with average temperatures approximately 15.7°C.
- Queen Charlotte Sound / Tōtaranui water temperatures are compensated by strong tidal currents, with average temperatures reaching approximately 14.7°C.

For all reports and associated water quality data, go to Council's website.

Future response

Council will continue monitoring and reporting to identify water quality changes early, track trends and inform management actions.

Council's coastal water quality monitoring effort will spatially increase. This will improve the validity of data and ensure water quality is monitored across all parts of the region. A comprehensive review of Council's water quality monitoring programme has recently been commissioned to evaluate its design, effectiveness and opportunities for improvement.

CHANGES SINCE 2015

- In 2025, Council joined the New Zealand Ocean Acidification Network (NZOA-ON), monitoring long-term changes to ocean acidity (pH).
- Council has worked with Fisheries New Zealand, The New Zealand King Salmon Co. Limited and others to develop a best management practice for water quality that defines monitoring design and thresholds for finfish farming in the Sounds.



Coastal water quality monitoring

Ngā meka matua
Key facts

Algae blooms

Phytoplankton (microscopic marine plants) are known as primary producers and are the main source of the oxygen we breathe.

Phytoplankton are always present in the waters of Marlborough, however, during ideal conditions they can reach very high densities, causing algal blooms that can discolour the water. Algal blooms occur when nutrients such as nitrogen and phosphorus become elevated, often after heavy rainfall, when runoff from land and wastewater discharges bring excess nutrients to the coastal environment. These algal blooms are sometimes visible in small areas of the inner Sounds during spring and summer.

While algal blooms are a natural part of the ecosystem, some can become harmful. These harmful algal blooms release toxins that can affect filter-feeding species, human health and the aquaculture industry. The Ministry for Primary Industries (MPI) monitors the impact of any toxic algae and may impose temporary restrictions or closures on the collection of shellfish.



Bloom of non-toxic phytoplankton in Waikawa, 2021

Te kounga o te wai rēhia - ā-tai
Recreational water quality - coast

A day at the beach is a part of a typical Kiwi summer, and Marlborough has many beautiful beaches. The coastal area of the Marlborough Sounds, particularly Tōtaranui / Queen Charlotte Sound, is popular with locals and visitors to the district.



Ngākuta Bay, Tōtaranui / Queen Charlotte Sound

While water quality is generally suitable for swimming, occasionally there will be an increased risk to swimmers from waterborne diseases, especially after heavy rainfall.

Pressure

Most coastal beaches have small catchments with a large proportion of native vegetation. However, small residential areas are common in many bays and individual on-site wastewater management systems can pose a risk of contaminating the coastal waters when not well-maintained or at the end of their serviceable life.

Some popular swimming beaches are also located in urban areas, such as Picton, where sewage overflows due to storms can cause an increased risk to swimmers. For some beaches, rural land use can also be a potential source of faecal contamination.

Between 2016 and 2025 there have been 36 reported incidents of unintended sewage and greywater (31) and liquid waste (5) discharge to sea. This often happens in smaller bays that are not regularly monitored and are identified through complaints, which are followed up through compliance monitoring.

Response

To assess the risk to water users, Council collects weekly water samples from the most popular beaches during the warmer months, from November until March.

The samples are analysed for the concentration of enterococci, a type of bacterium that indicates the risk of waterborne diseases.

Unsafe bacteria concentrations are generally associated with rainfall, when rainfall runoff carries contaminants into the sea. When high levels of enterococci are not caused by rainfall, Council erects warning signs in the affected area, investigates the source and initiates mitigation measures to reduce bacteria concentrations to safe levels, for example, by undertaking more intensive monitoring to identify the likely source and then working with responsible parties to remedy the issue.

Current state

The condition of swimming sites is assessed using the Suitability for Contact Recreation Grades based on national guidelines released by the Ministry for the Environment and the Ministry of Health in 2003.

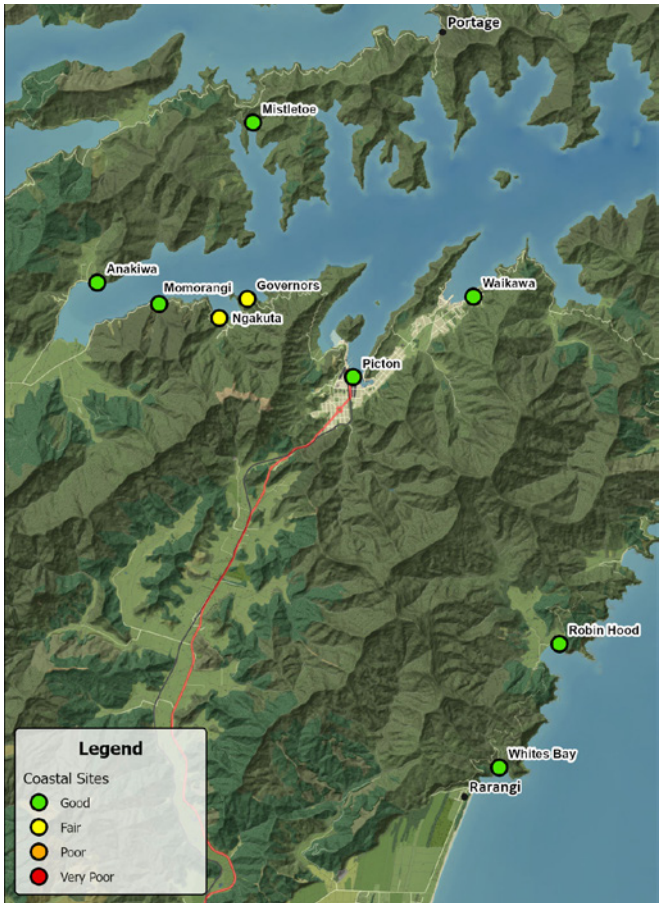


Figure 1: 2025 Suitability for Contact Recreation Grades for the coastal beaches currently monitored

The grades range from Very Good to Very Poor. All coastal beaches monitored are graded either Good or Fair, which represent acceptable water quality for swimming.

Trends

Trend analysis shows no change in recreational water quality for most sites since the last report in 2015. However, for two sites, statistically significant changes were detected. Ngākuta Bay showed an increase in bacteria concentrations, while recreational water quality in neighbouring Momorangi Bay improved. The cause of the improvement in Momorangi Bay was a result of upgrades to the bay's community sewerage infrastructure.

Recreational water quality trends (coast) 2015 - 2025

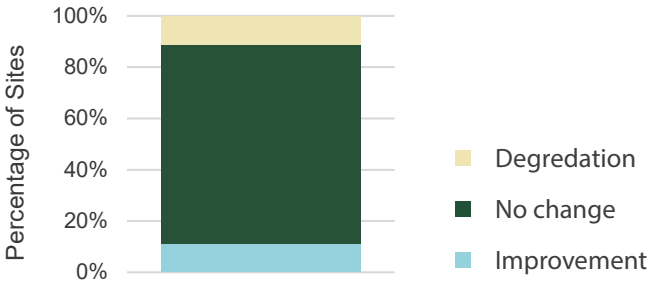


Figure 2: Changes in recreational water quality at monitored coastal beaches over the last 10 years

Future response

Regular monitoring of swimming sites will continue to ensure that users are informed about changes in water quality and any health risk to swimmers. It also allows Council to react to changes in water quality.

Because bacterial concentrations at all sites are strongly linked to rainfall, models based on rainfall data have been developed and provide more up-to-date information than the weekly sampling results. The model outputs will be made available to the public in the near future. The models will be reviewed annually by comparing model outputs to the data collected each season.

Investigations into the causes of increased bacteria concentrations in Ngākuta Bay are ongoing. This will likely be combined with a wider project investigating the potential impacts of private sewage treatment systems on the district's bodies of water.

Ngā whakarukenga ā-tai
Coastal discharges

Council is responsible for regulating wastewater and other point-source discharges, discharges from a single source such as treated wastewater, to the sea to maintain coastal water quality. Resource consent is generally required for all point-source discharges to the sea.



The MEP prohibits discharges of untreated sewage from ships within 750 m of the shore or 1 km of a marine farm. Credit: Jim Tannock Photography

As of 1 July 2025, consented discharges include treated human sewage, factory processing water, stormwater and feed for finfish farms (refer to the Aquaculture section on page 162).

Contaminated coastal water can harm public health, coastal ecosystems, iwi values, and industries such as tourism and aquaculture that depend on good water quality. Marlborough's tangata whenua iwi consider the discharge of human waste into fresh or coastal water to be profoundly offensive and significantly diminishes the mauri of the receiving waters.

This section focuses on wastewater discharged from Council wastewater schemes in Blenheim, Picton and Havelock, as well as tourist resorts and community schemes in the Marlborough Sounds.

Pressure

Even wastewater treated to high standards may have adverse effects in certain coastal environments, which is why discharge to land is preferred. Practices and elements that defile the mauri and mana of the coastal environment are considered abhorrent to iwi. The discharge of contaminants into the sea such as human sewage is an obvious example.

Faecal coliforms (bacteria) from wastewater can make it unsafe to swim in the sea or eat shellfish. Wastewater also introduces nutrients such as nitrates and phosphorus into coastal waters, which can lead to algal blooms. Some types of algal blooms can produce toxins that also make it unsafe to swim in the sea or to eat shellfish.

Response

The MEP now prohibits all new discharges of human sewage from land-based activities into the sea, except from regionally significant infrastructure. The MEP also now prohibits all discharges of untreated sewage from ships within 750 m of the shore or 1 km of a marine farm.

As of 1 July 2025, there were only six remaining wastewater discharges directly to sea from land-based activities: four of treated sewage, one of factory processing water and one of treated greywater. All these discharges are monitored at least annually by Council. Wastewater discharges to land from tourist resorts and community schemes in the Marlborough Sounds are also monitored by Council.

The Blenheim Sewage Treatment Plant has undergone an ongoing programme of upgrades including the addition of several wetlands which convey the domestic and industrial treated flows before discharging. Approximately 160 ha of Council land around the plant are also available and used increasingly for irrigation of treated effluent during suitable seasons, improving nutrient recovery and reducing estuary discharge.

A number of upgrades have been made to reduce sewage overflows in Picton Harbour since 2015, following the construction of a new outfall which replaced an under-capacity, aboveground pipeline and short outfall that was located at the harbour entrance (Kaipupu Point), including three new pump stations and replacement of almost all of the old, main-trunk sewer pipeline and some lateral lines.

Current state

Council discharges treated wastewater at Havelock, Picton and the Wairau River mouth. Water quality and seabed monitoring shows these discharges are generally within their consent conditions, with isolated exceedances over the past 10 years for the Wairau discharge.

Monitoring of discharges to land from tourist resorts and community schemes in the Marlborough Sounds has shown long-term improvement in wastewater quality. However, it also indicates that wastewater treatment systems sometimes struggle to cope with the temporary spike in loading during the peak summer holiday season.

***E Coli* levels in resort wastewater**

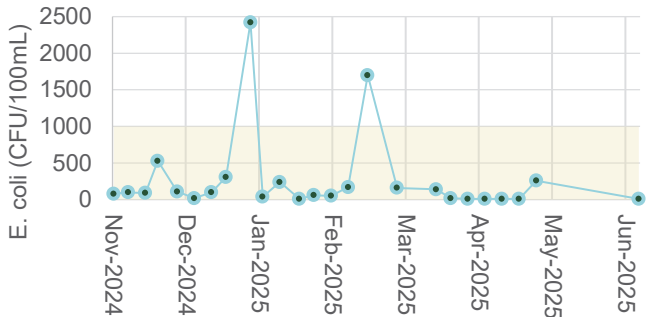


Figure 1: E. Coli levels in resort wastewater showing temporary spike in loading during the peak summer holiday season. The shaded band indicates the 'safe zone'.

Future reponse

Council will continue to carry out at least annual monitoring of the consent conditions attached to the six remaining discharges of wastewater to the sea. As those consents periodically come up for replacement, Council will assess the ongoing appropriateness of each discharge against the relevant national and regional regulations.

Council has committed to constructing an advanced sewage treatment system to serve the Havelock community and to reduce potential environmental and public health risk in Havelock and the Kaituna River. A new site has been secured alongside State Highway 6 (SH6), and preliminary designs have been completed. The new treatment plant is expected to be operational by the end of 2028.



Blenheim Sewage Treatment Plant has undergone upgrades

Motuweka / Havelock estuary discharges

The Motuweka / Havelock Estuary is the largest in the Marlborough Sounds. At the interface between land and sea, estuaries are often impacted by activities on land in the adjacent catchment and urban and industrial activities directly adjacent to the estuary.

Unfortunately, the Motuweka / Havelock Estuary is no different in this respect. There are two large river systems, and multiple stormwater, industrial and municipal discharges into the estuary.

In 2022, Council commissioned the Cawthron Institute to review consent data for discharges and visit the estuary to identify the location of consented and non-consented discharges. Prior to this, Council lacked a clear understanding of the magnitude and impact of these discharges on the estuary.

The investigation found 17 consent owners held a total of 40 consents. A field survey of the shoreline of the estuary in late 2022 identified 35 visible direct discharges to the estuary (Figure 1), of which only 12 could be easily attributed to a specific consent. Discharges were assessed for their potential environmental impact using a suite of key contaminants. The load and concentrations of these contaminants were estimated to allow for a relative comparison of the effect of individual discharges.

The contaminants assessed were:

- Nutrients, biological oxygen demand and total organic carbon as indicators of excessive nutrient concentrations which can lead to algae blooms.
- Suspended sediment as an indicator of smothering impacts on organisms.
- Bacteria as an indicator of human health effects.
- Metals and metalloids as an indicator of biological toxicity.

The key findings of the study were that:

- Discharges may be contributing to ecological or human-related health pressures in the estuary.
- Many discharges are at concentrations higher than typical or guideline values for receiving waters.
- The nutrient load from rivers was generally very high compared to other discharges.

This preliminary assessment of contaminant-related adverse effects from inputs, whilst limited in scope and quality of data, provides a useful springboard for assessing cumulative effects in the estuary.

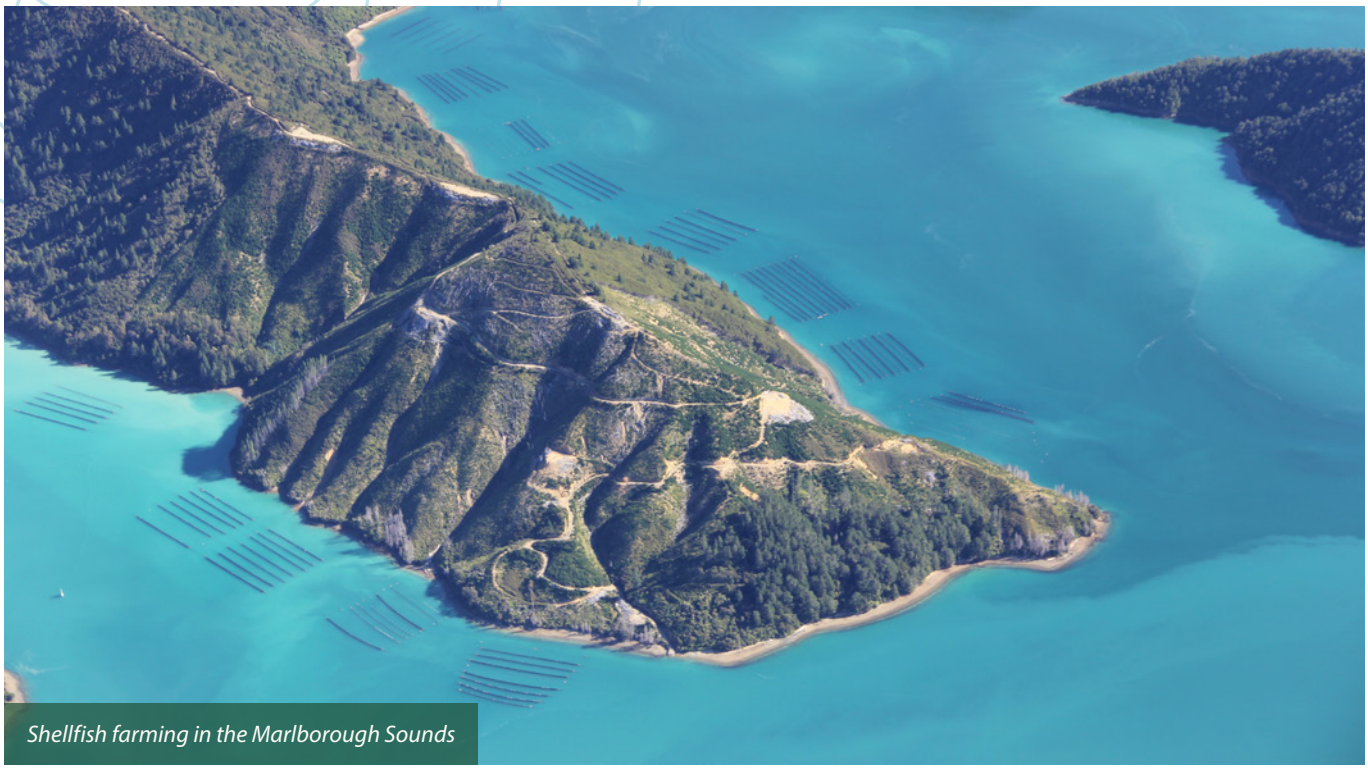
This information has been used to inform aspects of the development of a restoration plan for the Motuweka / Havelock Estuary under the Te Hoiere Project (refer to the case study on page 103).



Figure 1: Location of discharges into the Motuweka / Havelock Estuary

Te ahumoana Aquaculture

Marlborough is a popular environment for marine farming (aquaculture), which currently produces around 64% of New Zealand's green-lipped mussels, 52% of its King salmon and 5% of its oysters.



Shellfish farming in the Marlborough Sounds

Under the NZCPS, Council is required to provide space and good water quality for aquaculture.

This sits alongside the Council's responsibility to manage marine ecosystems sustainably. Coastal water quality is monitored each month and impacts on the seabed from finfish farms are monitored and checked each year against resource consent conditions.

Pressure

Marine farming can have a variety of impacts on marine ecosystems, and these effects differ depending on whether shellfish or finfish are being farmed.

The key difference lies in their feeding methods: farmed finfish are fed manufactured pellets, while shellfish feed naturally by filtering plankton and other microscopic organisms from the surrounding water. This fundamental difference influences the ecological footprint of each farming type.

Shellfish farming

Shellfish consume plankton from the surrounding water and drop biodeposits onto the seabed below. This causes a localised depletion of plankton within the farm area and modifies the seabed habitats beneath the farm. These effects are generally minimal so long as there are not too many shellfish farms in the same bay and they are located over a muddy seabed.

Finfish farming

Finfish farming discharges thousands of tonnes of pelleted feed each year, which are eaten by the fish and excreted as waste. This waste stream can alter the quality of surrounding waters and the seabed beneath and surrounding the farm. These effects are suitably managed so long as the farm is of a size and in a place where the wastes can be assimilated into the surrounding environment. This means the best sites for commercial-scale finfish farming have strong tidal flows.

Environmental pressures

Warmer inshore waters have placed pressure on marine farming. The finfish industry has experienced impacts on fish health and mass mortality driven by elevated temperatures and low oxygen levels, prompting it to seek cooler offshore solutions.

Declines in wild spat settlement for Greenshell™ mussel farming have been reported in the Marlborough Sounds over the last decades, impacting the industry's ability to grow, and are potentially caused by deteriorating water quality, compounded by climate change effects such as marine heatwaves, water acidity changes, and high sedimentation load from freshwater inputs.

Biosecurity threats

Invasive species such as Mediterranean fanworm also need to be managed. Mediterranean fanworm poses significant ecological and economic threats, particularly to Marlborough's aquaculture industry as it can rapidly colonise in suitable environments.

Response

Since the RMA came into force in 1991, Council has been responsible for managing the location of new marine farms throughout Marlborough. The MEP has refined the areas where shellfish farms can be located and expanded the areas where shellfish farming is prohibited.

Variation 1 to the MEP, Marine Farming (excluding finfish farming), is a comprehensive spatial planning initiative to identify where marine farming is appropriate in Marlborough's coastal marine area and where it is not. By doing so, Variation 1 aims to provide long-term certainty for the marine farming industry while giving the wider community confidence that coastal resources are managed responsibly.

This framework is the result of extensive collaboration between industry representatives, environmental and community groups, and the Crown.

Together, these stakeholders have shaped an approach that secures the future of marine farming through a clear and settled allocation system.

In broad terms, the areas identified within the MEP as suitable for shellfish farming are generally located within a band between 100 m and 300 m from shore, and away from sensitive seabed habitats such as Ecologically Significant Marine Sites and reefs.

New finfish farms continue to be regulated under the Marlborough Sounds Resource Management Plan and Wairau Awatere Resource Management Plan. At least annually, Council monitors the consent conditions applicable to finfish farms to ensure they operate within the limits established by the consent.

Collaboration between the community, industry, MPI and Council has resulted in a review of best practice guidelines for monitoring and managing seabed effects from salmon farming, and new guidelines for monitoring and managing effects on water quality from salmon farming have been established. Those guidelines have largely been implemented across five high-flow salmon farms in the Marlborough Sounds.

Current state

Through Variation 1 to the MEP, 3,075 ha of space in the sheltered waters of the Marlborough Sounds have been identified for the continuation of existing marine farming (excluding finfish farming).

Between 2015 and 2025, Council granted resource consents for new aquaculture space covering about 450 hectares. Most of this space, 382 hectares in total, was allocated to The New Zealand King Salmon Co. Limited for its first open-ocean salmon farm (known as 'Blue Endeavour'), located over 5 km to the north of Cape Lambert. The remaining 70 ha of new space generally involved the extension of existing farms.

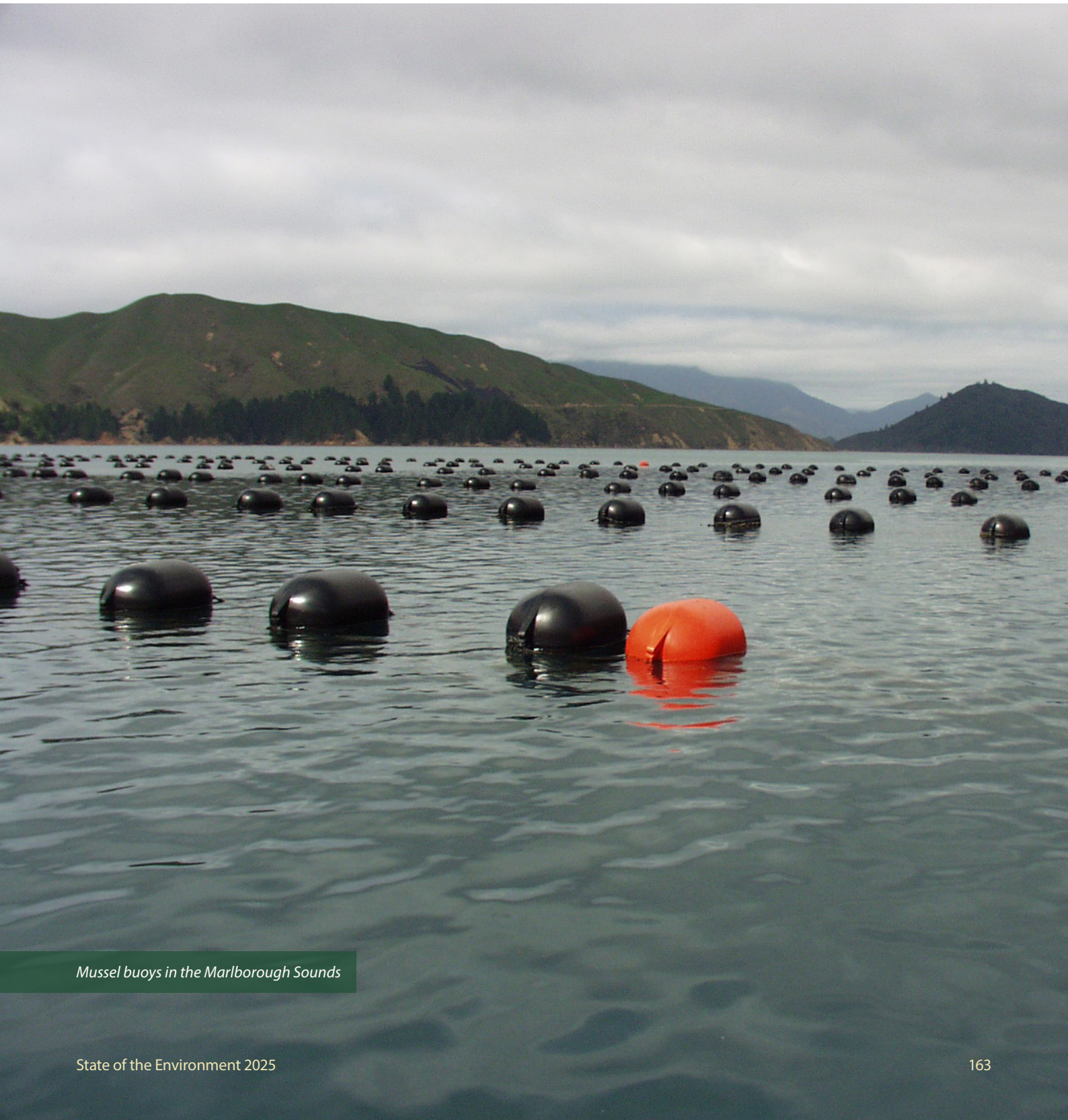
Annual monitoring of consent conditions for finfish farms shows that, in general, the farms are operating in accordance with their conditions. Water quality and reef monitoring show that there are no changes that are attributable to finfish farming.

Future response

Council will continue to monitor compliance with consent conditions for all marine farms.

CHANGES SINCE 2015

- In consultation with the community and industry, Council has developed, notified and is close to finalising a management framework ('Variation 1') applying to shellfish farming and seaweed farming in Marlborough.
- Best-practice guidelines for monitoring and managing seabed effects from salmon farming are being reviewed, and new guidelines for monitoring and managing effects on water quality from salmon farming are being established.
- Resource consents for new aquaculture space covering about 450 ha have been granted.



Mussel buoys in the Marlborough Sounds

Marine biosecurity in Marlborough

Marlborough's coastal waters are vital for aquaculture, recreation, biodiversity and tourism.

Since 2015, the district has faced growing pressure from increased vessel traffic, larger vessels and climate change, which increases the survival chances of invasive species. Non-indigenous species, such as Mediterranean fanworm (fanworm), can harm ecosystems, displace native species and affect commercial activities.

Fanworm is currently Marlborough's most significant marine pest threat. It forms dense colonies that compete with native species and can harm aquaculture. Since 2015, about 80 detections have occurred in Marlborough, mostly on vessel hulls linked to the upper North Island or Lyttelton. Recreational vessels remain the highest-risk pathway.

Council uses two complementary approaches to manage marine biosecurity:

- Regulatory approach: The Regional Pest Management Plan (RPMP), prepared under the Biosecurity Act, sets enforceable rules for managing specified pests such as fanworm. These rules aim to prevent the pest species from establishing in Marlborough and reduce economic, environmental and social impacts.
- Non-regulatory approach: Council also invests in education, awareness campaigns and voluntary compliance. This includes community engagement, partnerships with marinas and aquaculture operators, and collaboration through the Top of the South Marine Biosecurity Partnership. Non-regulatory measures focus on influencing behaviour, promoting best practices and supporting vessel owners to reduce risk.

Together, these approaches strengthen Marlborough's marine biosecurity system. The Top of the South Marine Biosecurity Partnership, formed by Marlborough, Tasman, Nelson, and Greater Wellington Councils together with Biosecurity New Zealand, coordinates surveillance, awareness campaigns and summer monitoring. Marlborough marinas also enforce hull-cleaning rules (the '6 or 1' rule, requiring that vessels have been antifouled in the last six months or lifted and washed within a month of leaving an area infected by marine pests) and work closely with Council to manage risks. Since 2014, more than 15,000 vessel checks have been completed, with divers conducting regular surveillance in high-risk areas such as Waikawa, Picton and Queen Charlotte Sound / Tōtaranui.

As of 2025, Marlborough remains free of several high-risk marine pests. The fanworm has been found in very low numbers on the seafloor at Waikawa Marina; however, there is no sign of a self-sustaining population. Nine fanworms have been removed during this particular response over the last two years. It is believed to be linked to a localised spawning event from a vessel hull.

Incursions are now smaller and less frequent, thanks to improved awareness and vessel cleaning. In the early stages of the programme, some vessels contained hundreds of fanworms up to 250 mm long, whereas now many vessels have only immature fanworms 50 mm long, and in small numbers, often fewer than five.

Ongoing vigilance is essential. Future priorities include expanding surveillance to mooring fields, strengthening partnerships with iwi and industry, and aligning regional rules nationally. Despite progress, fanworm continues to arrive occasionally on recreational vessels, and there are other species that remain a threat, including exotic caulerpa seaweed, the Australian droplet tunicate sea squirt and Asian paddle crab, highlighting the need for consistent messaging, monitoring and pathway management.



Fanworm on yacht in Waikawa, May 2019



Fanworm, March 2024

Te urupare haumaru moana
Maritime response

Marlborough's coastal marine area (CMA), particularly the Marlborough Sounds, attracts many people and activities, including recreation, tourism, fishing, aquaculture and interisland shipping. Picton is one of the busiest ports in the country, with the second-highest number of annual shipping movements of any port in New Zealand.



Harbour master boats

A wide range of craft use the marine area from small recreational boats, yachts and kayaks to large ferries carrying passengers and freight, as well as cruise ships.

The environmental pressures of this activity need to be managed as well as navigational safety to ensure the safe and enjoyable use of the water space. Council has statutory obligations to maintain a safe and navigable waterway for all users.

Council manages oil spill responses, the consenting of coastal structures such as boatsheds, jetties, moorings and marine farms, navigational safety, wrecks and abandoned boats, and monitors the effect of large ship wake on shoreline ecology.

Pressures

Oil spill

Many bays in the Marlborough Sounds are at risk of oil pollutants from negligence, ignorance or accidents. Something as simple as a bilge discharge can produce an oil slick covering a significant area; for example, a single cup of diesel may result in a slick the size of an Olympic swimming pool. Spills at refuelling points can happen through inattention or airlocks. The cumulative effect of many such spills, which may appear minor at the time, has an adverse impact on the environment. For example, a spot of oil the size of a pinhead can render a seabird egg infertile. The outer reaches of the Marlborough Sounds and the shorelines along Cook Strait are at risk from oil pollutants from international ships that travel through the strait on the way from South America to Australia.

Coastal structures

The various activities within Marlborough's coastal environment are not always compatible with each other, especially when structures stop others from using public water space. Boatsheds, jetties and moorings, together or on their own, can also affect the visual appeal, recreational enjoyment or navigational safety of an area.

Wrecks and abandoned boats

Wrecks and abandoned boats can create navigational hazards, environmental risks, and reputational damage to Marlborough's maritime image. This is both a regional and national issue. The Harbourmaster is often the first contact for concerns about derelict vessels, but may lack the statutory authority to remove them without resolving complex ownership and liability questions. This creates tension between public expectations for quick action and the procedural requirements of the Maritime Transport Act, Local Government Act and Navigation Bylaws. Managing abandoned vessels requires coordination across multiple agencies, contractors and legal processes, often with limited budget and staff.

Navigational safety

The strong currents and turbulent flows at the entrance to the Tory Channel / Kura Te Au are a well-known challenge to shipping. The flows are dominated by tides that can be predicted with high accuracy. Still, there is often a non-tidal component, which can lead to a high level of uncertainty about the flow conditions at any given time and increases the difficulty for planning safe transit.

Ship wake

Ships capable of travelling at speed or generating significant waves in Queen Charlotte Sound / Tōtaranui and Tory Channel / Kura Te Au have the potential generate adverse environmental effects including erosion, changes in shoreline shape, and the depletion and loss of shoreline organisms and habitats. The speed of vessels has been limited to minimise effects, but the number and size of cruise ships visiting Picton has gradually increased since the monitoring programme began; 49 cruise ships visited in 2024. These vessels utilise the Northern entrance of Queen Charlotte Sound / Tōtaranui rather than Tory Channel / Kura Te Au and it is unclear whether there is any impact from the wakes of these large vessels.

Response

The NZCPS and MEP set out objectives and policies to guide the use of the coastal environment.

The Council manages these pressures through a range of tools primarily through the Resource Management Act and the Maritime Transport Act.

Oil spill

Marlborough's Oil Spill Strategy places a responsibility on all those supplying or buying fuel to respond and clean up any spills. Marine fuelling stations in the Sounds must have a contingency plan for dealing with any spills, including instructions and a 'spill kit' with absorbent booms and pads. At a boatie level, it is essential to be aware of and prevent any possibility of fuel leaking overboard.



Oil spill exercise

For example, having a rag around the nozzle where fuel enters the tank may prevent small spills into the sea.

For larger or more complex incidents, Council has a well-established and tested oil spill contingency plan and a range of response equipment. Where a spill is too large or becomes increasingly complex, Maritime New Zealand assumes control using national and, if necessary, international resources to combat it.

Approximately 20 Marlborough residents have been trained by Maritime New Zealand to respond to a large oil spill, including staff from the Council and Port Marlborough. This work is over and above their daily duties, and their skills are maintained through regular oil spill exercises.

Coastal structures

All boatsheds, jetties and moorings require resource consent from Council. During the consent process, Council considers environmental impacts and the MEP's objectives and policies to determine whether to approve the application. If consent is granted, conditions are imposed to minimise adverse effects on the area's values.

Wrecks and abandoned boats

If a vessel is declared a wreck and/or abandoned, the Harbourmaster has a process that is strictly followed to try and engage with the vessel owner to rectify the issue. If this can't be achieved, it requires the intervention of the Harbourmaster to take the vessel and either sell or destroy it, which can be extremely expensive. The Navigation Bylaw 2025 amended the requirement for vessel identification, which will allow the Harbourmaster to positively identify vessels that require attention. The goal is to build a proactive framework that combines community engagement, regulatory clarity, and ensures that abandoned boats and wrecks are dealt with swiftly and responsibly to protect Marlborough's environment.

Navigational safety

Navigation Bylaw

Council's Navigation Bylaw 2025 sets out rules and requirements to ensure safe navigation within Marlborough's waterways. The bylaw applies to all vessels operating within the Marlborough region, including commercial, recreational and support craft and reflects current safety practices, technological developments and local operational needs.

The bylaw aims to balance safety and operational practicality for all users. It includes speed limits, lifejacket rules and vessel identification and communication equipment standards. There are also controls on activities, including water skiing, diving and swimming near wharves.



AtoN at Motuara island

Aids to Navigation (AToNs)

Council maintains 88 AtoNs (beacons, sector lights, leading lights, swimming buoys, 5-knot buoys and ski lane markers). These mark hazards to navigation and indicate safe water routes for boats and ships or recognised passages. Five-knot buoys and ski lane buoys mark areas of heightened risk for recreational boats. The maintenance of AtoNs is managed through a new digital platform, Safe Harbours, which is also used for incident reporting and asset tracking.

Tide and current modelling

Over the last three years, Council undertook a groundbreaking project in collaboration with Oceanum Ltd and iXBlue to create a real-time prediction of tidal and non-tidal flows to assist navigation and improve safety and at the entrance to the Tory Channel / Kura Te Au.

The tide gauge stations at the entrance to the Tory Channel / Kura Te Au and Motuara Island were implemented in 2021, and the tide and current model went live at the beginning of 2024. The system relies on SIM card connectivity, meaning that any mobile network outage results in a loss of data transmission until service is restored. The system also uses Automatic Identification Systems (AIS) to transmit the readings to improve the reliability of the system.

Shoreline monitoring

Every two years, data is gathered on 'impact sites', beach profiles and shoreline ecology at sites along the transport route where impacts from large ship wake are possible, and 'control sites', those distant from the transport route. The data gathered provides understanding how the beaches of the district function, both in response to vessel wakes and in response to natural events. Monitoring has been undertaken regularly since 1995.

The MEP identifies ships exceeding 500 tonnes travelling at speeds exceeding 15 knots as a controlled activity. It has assigned a maximum wave energy value of 9 kilojoules per metre to which vessels must comply to show that they are not causing environmental impacts.

Council is currently implementing Light Detection and Ranging (LiDAR) monitoring of the height of shipwakes to measure the wakes of ships passing through Tory Channel / Kura Te Au and identify any wake that is in excess of the MEP requirements.

Current state

Oil spills

All reported spills are investigated by Council and a decision on severity and whether to launch a response is made. This may be as simple as agitating the area of a lighter oil spill to accelerate natural evaporation or deploying specialist containment equipment to combat heavier or larger fuel spills. There are 14 marine oil transfer sites where oil is transferred to or from a ship in Marlborough, and each one has an oil spill response plan in place. These sites are either permanent, fixed installations or mobile trucks delivering fuel to customers.

Number of oil spills in Marlborough

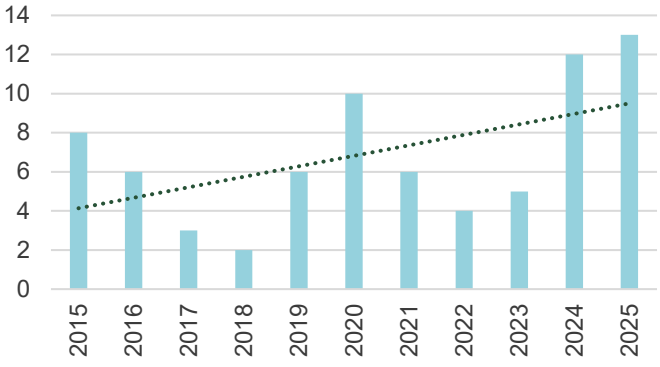


Figure 1: Number of oil spills in Marlborough between 2015–2025

Coastal structures

There are about 1,300 consented foreshore structures in Marlborough, including jetties, boatsheds, launching ramps and seawalls. The greatest densities are found in parts of the Grove Arm, the bays on the north side of Queen Charlotte Sound / Tōtaranui, and parts of inner Pelorus Sound / Te Hoiere. Between 2015 and 2025, and excluding new port or marina facilities, Council granted resource consents for about 130 new structures throughout the Marlborough Sounds.

Consents issued for coastal structures

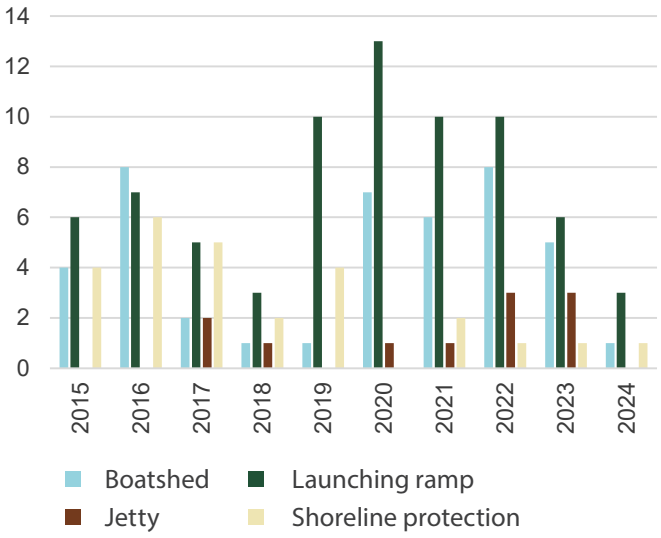


Figure 2: Consents issued for coastal structures, 2015–2024

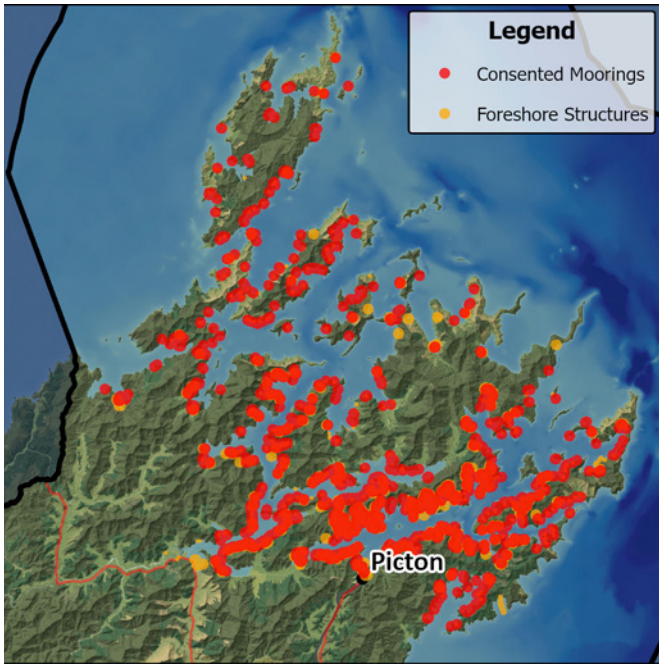


Figure 3: Coverage of consented moorings and coastal structures in the Marlborough CMA

There are also about 3,000 boat moorings in Marlborough, including swing, stern-tie and elasticated designs. The greatest densities are found in the inner parts of Queen Charlotte Sound / Tōtaranui and Pelorus Sound / Te Hoiere. Most moorings are associated with nearby houses, and about 100 are owned by boating clubs for use by their members. Between 2015 and 2025, Council granted resource consents for about 300 new moorings. While some were related to commercial or port enterprises, the majority were to serve landowners nearby.

Navigational safety

AtoN network performance

Failures of the AtoN network have reduced significantly over the past six years, with only one failure recorded in 2025, reflecting the significant investment in the network. Over the last three years, the AtoNs have met Council's performance target, and the standards set by International Association of Lighthouse Authorities.

Navigational safety

A range of maritime incidents occur in the harbour each year. Incidents are recorded in the 'Safe Harbours' database and reviewed by the Harbourmaster team, including an assessment of the risk controls in place. In most cases, these controls are found to be effective and do not require adjustment. Updates to the Navigation Safety Bylaw in 2025 aim to further strengthen safety outcomes by ensuring regulation keeps pace with emerging pressures and boating behaviours.

Despite these measures, the harbour remains an environment where some level of risk cannot be fully eliminated. The number of reported incidents varies over time, with no apparent overall trend up or down. These variations largely reflect changes in boating participation, the amount of vessel traffic and visitor activity.

Wrecks and abandoned boats

There have been 59 wrecks identified in Marlborough in the last six years, and no apparent trend up or down.

Shoreline monitoring

A 2016 report found the beaches in Queen Charlotte Sound / Tōtaranui and Tory Channel / Kura Te Au are coping well with the wakes created by current ferry and boat traffic. The vessel wake does not appear to be causing harmful changes to beach profiles or coastal processes.

Mussels, whelks, aquatic molluscs and sea stars characterise ecology at both 'control' and 'impact' sites. There is a wide degree of variation in the number of individual species, and the number of species found at sites each year.

There is more similarity between the ecology of the shoreline at 'control' and 'impact' sites than there was when monitoring commenced in the late 1990s. This suggests that the 'impact' sites may have recovered to a condition similar to that of the 'control' sites. Findings also suggest that variation driven by environmental factors is more important than the impact of ship wakes.

Future response

Oil spill

A team of trained response staff from the Council and Port Marlborough, plus other personnel, will continue to complete exercises several times a year to maintain their skills.

Coastal structures

In addition to monitoring compliance with individual activities against their consents, Council is required to monitor the effectiveness of the MEP. Over time, this should show:

- Development in the coastal environment is appropriately located and within appropriate limits.
- Areas with significant iwi, biodiversity, natural character and landscape values are protected.
- The amenity values of the coast are maintained and enhanced.

Abandoned boats and wrecks

Council will continue to implement the formal procedure for identifying and managing abandoned boats and wrecks. A recurring challenge for Council remains determining ownership of many abandoned vessels and wrecks.



Submerged yacht in the Marlborough Sounds

Navigational safety

The AtoN and tide gauge network will be continually reviewed and improved to enhance navigational safety for both international and domestic vessels operating within the Marlborough Sounds.

The Wedge Point AtoN is currently being replaced. This location has been identified as a high-risk site under Council's Health and Safety Policy, and plans are in place to install a bespoke, internationally compliant beacon to improve access safety. Enhancements using telemetry and Bluetooth will provide greater oversight of the AtoN network.

Tide gauges will be maintained regularly to ensure accurate readings, including cleaning to remove marine growth that can interfere with both tidal and current data and replacement of equipment when required.

Shoreline monitoring

Council will continue to monitor the size and energy of the shipwake in Tory Channel / Kura Te Au using the latest LiDAR technology. The ecological condition of the intertidal areas of the Marlborough Sounds will be monitored as part of a wider programme.

CHANGES SINCE 2015

- Navigation Bylaw 2025 has been adopted.
- Upgrades and maintenance to Aid to Navigation (AToNs), including telemetry, lanterns, batteries, swim and ski lane buoys and high-risk buoys in parts of the Marlborough Sounds.
- New real-time tide and current modelling to improve the navigational safety at the entrance to the Tory Channel / Kura Te Au.
- Review and update of the shoreline monitoring plan.
- Resource consents granted for about 300 new moorings and 130 new coastal structures including jetties, boatsheds, launching ramps and shoreline protection structures.
- Many older recreational yachts and launches are reaching the end of their serviceable life, with owners unwilling or unable to fund repairs or disposal.
- Cost of removal of vessels has increased significantly since 2015.



Wedge point AtoN

Grounding of the Aratere Ferry

On the night of 21 June 2024, the Interisland ferry Aratere ran aground in Titoki Bay, Picton Harbour. The ship was carrying passengers and fuel, but initial checks confirmed everyone was safe and there was no hull breach.

To protect the harbour, Cook Strait was closed to ferry traffic and an exclusion zone was declared. A Tier 2 oil spill response was activated as a precaution, and booms were deployed in case fuel leaked.

The response involved Marlborough District Council, Port Marlborough, Maritime New Zealand, Civil Defence and Coastguard. The team coordinated vessel patrols, environmental monitoring, and public communications. After careful planning and tidal calculations, two tugs successfully refloated Aratere at 9:08 pm on 22 June, and the ferry was safely berthed the next day.

Lessons learned:

- Clear leadership and communication are essential. Initial uncertainty about the responsible agency delayed coordination.
- The Picton office reached capacity quickly, highlighting the need for scalable facilities.
- Drone imagery and strong collaboration helped maintain situational awareness.
- This incident demonstrated the value of planning, teamwork and preparedness in protecting people and the environment.



Oil spill response set up at the site of the grounded Aratere ferry

Azamara Quest incident

Tory Channel / Kura Te Au is a narrow, high-energy waterway with strong tidal streams and confined turning areas, making precise timing and coordination essential.

The Azamara Quest incident highlighted that tide and current monitoring is critical for safe passage, as even small delays can compromise vessel safety.

On 27 January 2016, the passenger vessel Azamara Quest struck Wheki Rock while navigating Tory Channel / Kura Te Au en route to Picton. The Maltese-flagged cruise ship carried 652 passengers and 394 crew. A harbour pilot boarded outside Tory Channel / Kura Te Au, and a passage plan was discussed, emphasising the tight turn and strong tidal currents at the entrance. However, miscommunication between the master and pilot led to differing understandings of how the first critical turn would be executed.

The turn was initiated late, and the vessel failed to achieve the required rate of turn, resulting in contact with Wheki Rock near the northern shoreline. The incident caused minor hull damage and damage to one propeller, but no injuries occurred. The Transport Accident Investigation Commission (TAIC) found that the bridge team lacked a shared understanding of the manoeuvre and tidal influences, leaving them "set up to fail."

The inquiry also found that the actual tidal stream differed from what was shown on Land Information New ZEaland (LINZ) nautical charts, which added to the challenge. This led Council to seek a better understanding of the speed and direction of tidal currents in Tory Channel / Kura Te Au to improve maritime risk management.

Lessons learned:

- Clear, detailed communication of the passage plan, including tidal effects, is vital.
- All team members must share a common understanding of manoeuvres.
- The report noted deficiencies in pilot training and risk assessment integration, recommending simulator-based training and improved port risk frameworks.

This incident underscores the importance of effective communication, real-time environmental monitoring and robust risk management systems, which are essential for navigating challenging waterways like Tory Channel / Kura Te Au.



Tory Channel entrance, West Head