
Marine Conservation

Section Detail Report

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Overview

New Zealand's seafood is produced in an environment which is rich in marine habitats and species diversity, and includes a high proportion of species that are found nowhere else in the world. Te Mana o te Taiao, the Aotearoa New Zealand Biodiversity Strategy 2020, prepared as part of New Zealand's international obligations under the Convention on Biological Diversity, provides overall guidance for marine conservation initiatives. The Department of Conservation (DOC) is the primary regulatory agency for marine conservation, but most management initiatives for protected marine species and areas are developed jointly by DOC and Fisheries New Zealand (FNZ), with input from the seafood industry and other interested stakeholders.

All marine mammals and reptiles, most seabirds and corals, and specified other marine species are fully protected under New Zealand law.¹ Management strategies and actions are set out in documents such as National Plans of Action for seabirds and for sharks (consistent with United Nations Food and Agriculture Organisation requirements) and Threat Management Plans for Hector's and Māui dolphins and for New Zealand sea lions. A Marine Protected Areas (MPA) Policy guides the establishment of a network of MPAs to protect outstanding and representative areas of marine biodiversity, using a range of statutory tools.

The seafood industry is required to comply with all measures to protect marine species and all area closures established for marine biodiversity protection purposes.

This report outlines New Zealand's approach to (a) managing populations of protected species and (b) using spatial tools to protect marine biodiversity.

Key statistics

- Over 17,000 marine species have been identified in New Zealand's marine zone but scientists estimate that there may be over 50,000 as yet undiscovered species.²
- All marine mammals and reptiles, most seabirds and corals, and specified other marine species are fully protected under New Zealand law.
- Nine sanctuaries have been established to help protect marine mammals including whales, Hector's and Māui dolphins, and New Zealand sea lions.³
- New Zealand has a network of MPAs which currently comprises 44 marine reserves (in which all extractive activities are prohibited), 10 areas regulated under fisheries legislation, and 9 areas protected using other tools (primarily submarine cable protection zones) – which together protect around 12.3% of the territorial sea.⁴
- In the Exclusive Economic Zone (EEZ), marine biodiversity is protected in a representative network of 17 Benthic Protection Areas and 17 seamount closures which together cover around a third of the EEZ.⁵
- New Zealand and the United States jointly led the establishment in 2017 of the 1.55 million km² Ross Sea region MPA in the ocean bordering Antarctica.⁶
- New Zealand's approach to managing protected species and marine conservation aims to be consistent with at least 17 international and regional agreements to which New Zealand is a signatory.

¹ The Wildlife Act 1953 and the Marine Mammals Protection Act 1978.

² Department of Conservation website <https://www.doc.govt.nz/nature/habitats/marine/new-zealands-marine-environment/>

³ Seven sanctuaries have been established under the Marine Mammals Protection Act and a further two under the Kaikoura (Te Tai o Marokura) Marine Management Act 2014.

⁴ Department of Conservation, Ministry for the Environment & Ministry for Primary Industries (2019). 9.8% is in marine reserves and 2.6% in other tools.

⁵ Ministry for Primary Industries website <https://www.mpi.govt.nz/fishing-aquaculture/sustainable-fisheries/protected-areas/benthic-protection-areas/>

⁶ Department of Conservation website <https://www.doc.govt.nz/about-us/international-agreements/antarctica-treaty-system/ross-sea-region-marine-protected-area/>

Scope

The marine conservation frameworks covered in this report relate to (a) managing populations of protected species and (b) using spatial tools to protect marine biodiversity. Protected species are defined in law and include most seabird species, all marine mammals (dolphins, porpoises, whales, seals and sea lions), all marine reptiles, and other specified marine species. Spatial tools to protect marine biodiversity include benthic protection areas, marine reserves, and other types of MPAs.

The report focuses on the legal and policy frameworks implemented by the Department of Conservation (DOC) and also highlights the seafood industry's obligations and contribution to achieving marine conservation outcomes.

Marine conservation legislation applies throughout New Zealand's territorial sea and in some cases extends to the EEZ. The report summarises key statutes but supplementary legislation that also contributes to marine conservation is not included – either because the Act is high level (e.g., the Conservation Act 1987) or because it applies only to specific areas.⁷

Other essential components of protecting marine biodiversity – such as biosecurity and pest control, managing the adverse effects of terrestrial activities on coastal ecosystems (e.g., sedimentation from changing land use), improving the quality of freshwater entering the marine environment, and addressing ocean acidification and ocean warming – are beyond the scope of this report. Also out of scope is spatial management for purposes other than marine biodiversity protection – for example, protecting fish habitat or setting aside areas for non-commercial customary or recreational fishing. The management of interactions between fishing and protected species is addressed in the Associated Species section.

Background

New Zealand's marine jurisdiction spans over 30° of latitude from sub-tropical to sub-Antarctic waters, and its seas are recognised as being particularly rich in diversity. Over 17,000 marine species have been identified but scientists estimate that there may be over 67,000 species in New Zealand's marine zone.⁸ Around half of the world's total number of whale and dolphin species have been recorded in New Zealand's waters and nearly a quarter of the world's seabird species breed here. Because of New Zealand's isolation, many marine species are endemic (i.e., found only in New Zealand).⁹

The New Zealand approach

New Zealand has developed and implemented a large number of laws, regulations, policies and planning processes to help maintain, protect and restore our marine biodiversity. While DOC administers many of these provisions, the Ministry for the Environment (MFE), Fisheries New Zealand (FNZ), the seafood industry and other stakeholder groups (including customary and recreational fishers, other resource users and environmental groups) play a part in developing and implementing marine conservation measures.

The seafood industry is required to comply with all marine conservation measures, whether set out in statutes, regulations or non-regulatory agreements. In addition, the industry funds a portion of New Zealand's research into protected marine species and marine biodiversity.

⁷ For example, Sugar Loaf Islands Marine Protected Area Act 1991, Hauraki Gulf Marine Park Act 2000, Fiordland (Te Moana o Atawhenua) Marine Management Act 2005, Kaikoura (Te Tai o Marokura) Marine Management Act 2014.

⁸ Department of Conservation website <https://www.doc.govt.nz/nature/habitats/marine/new-zealands-marine-environment/>

⁹ Department of Conservation (2016).

Policy frameworks

The overarching policy framework for managing marine biodiversity is Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020.¹⁰ The Biodiversity Strategy provides the strategic framework for biodiversity in New Zealand over the next 30 years and helps New Zealand to meet its international obligations under the Convention on Biological Diversity 1992 (CBD). The CBD, which is discussed in more detail towards the end of this report, is a binding international agreement that requires parties to develop national strategies for the conservation and sustainable use of biodiversity.¹¹

The Biodiversity Strategy includes many objectives and goals for marine conservation, but those most relevant to the scope of this report are:

- An effective network of MPAs and other tools, including marine and coastal ecosystems of high biodiversity value, is established and is meeting the agreed protection standard (by 2035);
- An interconnected series of marine and coastal ecosystems have been protected and restored to a 'healthy functioning' state and are connected to indigenous land, wetland and freshwater ecosystems (by 2050); and
- Indigenous species have expanded in range, abundance and genetic diversity and are more resilient to pressures, including climate change (by 2050).

Implementation of the Biodiversity Strategy will be guided by implementation plans which will include additional goals, specific actions and responsibilities, and a monitoring programme to assess progress.¹²

In the meantime, for protected species, detailed planning documents with species-specific objectives and management actions have been prepared for the species that are most threatened.

Implementation of MPAs is currently guided by two policy documents known as the MPA Policy developed jointly by DOC and the Ministry of Fisheries (now FNZ).¹³ The objective of the MPA Policy is to protect marine biodiversity by establishing a network of MPAs that is comprehensive and representative of New Zealand's marine habitats and ecosystems. Two types of MPAs are recognised under the Policy:

- Type 1 MPAs, which are marine reserves in which all extractive activities are prohibited; and
- Type 2 MPAs, which provide more targeted controls using tools other than marine reserves, but which nevertheless must afford sufficient protection to meet the protection standard set out in the Policy.

Legislation for protecting species

The most important statutes for the protection of marine species are:

- the Marine Mammals Protection Act 1978, which fully protects all species of marine mammals; and
- the Wildlife Act 1953, which fully protects nearly all species of seabirds, all marine reptiles (e.g., turtles), and other marine wildlife which is specified in Schedule 7A of the Act – i.e., four groups of corals and hydrozoa (black corals, gorgonian corals, stony corals and hydrocorals), seven species of sharks and rays, giant grouper and spotted black grouper.

Both Acts are administered by DOC. Full protection is provided by the statutory requirement that no-one may take or kill a protected marine mammal, seabird or other protected wildlife unless they have a permit to do so.¹⁴ Although protected species may be unintentionally taken in the course of legitimate fishing activities, fishers are required to report any mortality. The main

¹⁰ Department of Conservation (2020).

¹¹ CBD website <https://www.cbd.int/>

¹² Department of Conservation (2020).

¹³ Department of Conservation & Ministry of Fisheries (2005) and Department of Conservation & Ministry of Fisheries (2008).

¹⁴ Marine Mammals Protection Act s4, Wildlife Act s3 & s53.

management tools under these Acts are:

- marine mammal sanctuaries and wildlife sanctuaries; and
- population management plans for marine protected species.

The Fisheries Act 1996 also contains provisions for managing the adverse effects of fishing on protected species. The Act's purpose includes a general obligation to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment (which includes protected species).¹⁵ It also requires decision makers to take account of the principle that all associated or dependent species (a term that includes protected species) should be maintained above a level that ensures their long-term viability.¹⁶ The Minister for Oceans and Fisheries implements these obligations using Fisheries Act powers such as setting a fisheries-related mortality limit or making fisheries regulations.¹⁷

Legislation for protecting marine biodiversity using spatial tools

Under New Zealand's MPA Policy, the two main statutes for implementing MPAs are:

- The Marine Reserves Act 1971 (for Type 1 MPAs); and
- The Fisheries Act (for Type 2 MPAs).

The Marine Reserves Act provides for the establishment of marine reserves in which all fishing and other extractive activities are prohibited.¹⁸ Marine reserves are set up for the purposes of scientific study in areas that contain underwater scenery, natural features, or marine life of such distinctive quality, or so typical, beautiful or unique that their continued preservation is in the national interest.¹⁹ The Act applies in the territorial sea (there is no equivalent EEZ mechanism).

The Fisheries Act, which applies throughout the marine zone, enables specified fishing methods to be prohibited by regulation in an area. However, the regulations must be justified in fisheries management terms, not protection terms – i.e., prohibiting a fishing method must be necessary in order to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment.

¹⁵ Fisheries Act s8.

¹⁶ Fisheries Act s9.

¹⁷ Fisheries Act s15.

¹⁸ Although extractive petroleum and minerals activities are not directly prohibited in the Marine Reserves Act, they are in effect prohibited by the automatic listing of all established marine reserves on Schedule 4 of the Crown Minerals Act 1991 (land to which access restrictions apply).

¹⁹ Marine Reserves Act s3.

Complying with the New Zealand approach for protected species

Prioritising species for management purposes

The threat status of species is determined using the New Zealand Threat Classification System (NZTCS). Under this DOC-administered regime, panels of scientific experts apply published guidelines to periodically assess groups of species based on the species' population size and trends.²⁰ Species are classified as either:

- *Threatened* – i.e., at risk of extinction;
- *At risk* – i.e., not threatened, but could become so because of population size or trend; or
- *Not threatened*.

Sub-categories within these three broad classifications are used to help prioritise management actions. Importantly, the categorisation of the threat status of a species is quite separate from its legal protection – i.e., all marine mammals and almost all seabirds are fully protected by law irrespective of their threat status.

Of New Zealand's marine species that have been assessed, 31% of seabirds (30 species) and 15.5% of marine mammals (7 species) are classified as threatened as a result of multiple historic and present-day pressures.²¹

Fisheries risk assessment outputs – for example, from the New Zealand Seabird Risk Assessment and New Zealand Marine Mammal Risk Assessment – are also routinely used to inform the prioritisation of biological and population monitoring research under DOC and FNZ's protected species research programmes.²²

Marine mammal and wildlife sanctuaries

The Minister of Conservation may establish marine mammal sanctuaries or wildlife sanctuaries in which activities such as fishing or seismic surveying can be restricted or prohibited in order to safeguard marine mammals, seabirds or other protected wildlife.²³

Seven marine mammal sanctuaries have been established under the Marine Mammals Protection Act – five to protect Hector's and Māui dolphin (West Coast North Island, Clifford and Cloudy Bay, Banks Peninsula, Catlins Coast and Te Waewae Bay), one at the Auckland Islands to protect the main breeding areas of the New Zealand sea lion and the southern right whale and one at Te Pēwhairangi (Bay of Islands) to protect bottlenose dolphins. A further two sanctuaries – Ohau New Zealand Fur Seal Sanctuary and Te Rohe o Te Whanau Puha Whale Sanctuary – have been established under the Kaikoura (Te Tai o Marokura) Marine Management Act 2014. No wildlife sanctuaries have been established in the territorial sea for seabird protection purposes.

Managing protected species populations

The Marine Mammals Protection Act and Wildlife Act enable the development of population management plans for protected marine species.²⁴ These plans, which are based on an assessment of the risk to the species posed by fishing and other human-induced threats, may specify a maximum level of fishing-related mortality (MALFiRM) for the species along with recommended measures to mitigate fishing-related mortality. If a MALFiRM is specified, the Minister of Fisheries must take all reasonable steps under the Fisheries Act to ensure that the maximum allowable fishing-related mortality level is not exceeded.

²⁰ Townsend et al (2008).

²¹ Stats NZ marine environmental indicators <https://www.stats.govt.nz/indicators/extinction-threat-to-indigenous-marine-species>.

²² Fisheries New Zealand (2020).

²³ Marine Mammals Protection Act s22, Wildlife Act s9.

²⁴ Marine Mammals Protection Act s3E, Wildlife Act s14F.

In practice, no population management plans have been prepared and therefore no limits on fishing-related mortality have been established under the Marine Mammals Protection Act or Wildlife Act. However, the Minister of Fisheries has established a fisheries-related mortality limit for sea lions under the Fisheries Act. If incidental mortality of sea lions exceeds the limit, the southern squid trawl fishery is closed.²⁵

In place of population management plans, detailed management objectives and actions for groups of protected species or individual protected species are set out in non-statutory documents including:

- National Plans of Action (NPOAs); and
- Threat Management Plans (TMPs).

NPOAs are prepared in line with New Zealand's international responsibilities under the United Nations Food and Agriculture Organisation (FAO). The FAO used expert processes to prepare International Plans of Action for seabirds and sharks which guide the preparation by member states of NPOAs. New Zealand's two NPOAs are:

- *The National Plan of Action Seabirds 2020*, which establishes New Zealand's approach to reducing the incidental mortality of seabirds from fishing;²⁶ and
- *The National Plan of Action for the Conservation and Management of Sharks* (NPOA-Sharks 2013), which has the broader aim of maintaining the biodiversity and the long-term viability of all New Zealand shark populations.²⁷

Both NPOAs were developed using a consultative process led by FNZ, and also involving DOC and other government agencies, the fishing industry, tangata whenua and environmental groups.

TMPs are developed jointly by DOC and FNZ in order to identify threats to the species in question and outline strategies to mitigate those threats. New Zealand's two TMPs are:

- *The Hector's and Maui's Dolphin Threat Management Plan* (prepared in 2007 and most recently revised in 2020), which aims to ensure that the long-term viability of the dolphins is not threatened by human activities and to reduce the impacts of human activities as far as possible;²⁸ and
- *The New Zealand Sea Lion / Rapoka Threat Management Plan*, which aims to promote the recovery and ensure the long-term viability of New Zealand sea lions.²⁹

Where NPOAs or TMPs require controls on fishing, these are implemented either by FNZ using fisheries regulations or directly by the industry using non-regulatory methods. Where the use of an area-based tool such as a marine mammal sanctuary is specified, it is established and implemented by DOC. However, any controls on fishing within marine mammal sanctuaries are usually implemented by FNZ using fisheries regulations.

²⁵ Fisheries New Zealand (2019).

²⁶ Fisheries New Zealand & Department of Conservation (2020). The 2020 NPOA updates earlier NPOAs produced in 2004 and 2013..

²⁷ Ministry for Primary Industries (2013).

²⁸ Fisheries New Zealand website <https://www.mpi.govt.nz/fishing-aquaculture/sustainable-fisheries/protecting-marine-life/protecting-hectors-and-maui-dolphins/>

²⁹ Department of Conservation & Ministry for Primary Industries (2017).

Research and information

Research to help implement NPOAs, TMPs and other protected species initiatives relevant to fisheries is undertaken primarily under either DOC's Conservation Services Programme (CSP) or FNZ's Aquatic Environment Research Programme (which is discussed in more detail below, under protected habitats and ecosystems). CSP research projects fall into four areas: ³⁰

- Interaction projects which examine the interactions between protected species and commercial fisheries using fisheries observers;
- Population studies which examine the population dynamics of protected species that may be caught in fisheries;
- Bycatch mitigation projects which develop measures to reduce the impact of fisheries bycatch on protected species; and
- The development of population management plans.

Each year, DOC consults on a draft CSP Annual Plan which outlines the projects DOC wishes to undertake. This draft plan is informed by the Conservation Services Strategic Plan,³¹ five-year Medium Term Research Plans, and other guidance such as risk assessment outputs, NPOAs, TMPs and international obligations. The CSP Research Advisory Group provides technical and strategic advice to inform the development of CSP Annual Plans and reviews the progress of CSP research undertaken in the previous year. A Technical Working Group with wider stakeholder membership also reviews individual CSP projects. The Minister of Conservation is responsible for approving the final work programme and budget. The substantive portion of the costs of CSP research is then recovered from quota owners by way of levies struck under the Fisheries Act. The industry typically pays around \$2 to \$4 million per year in conservation services levies for CSP research.³²

Spatially-explicit risk assessment has become an increasingly important tool for managing protected species. Risk assessments have been undertaken for almost all seabirds breeding in New Zealand³³ and for most marine mammals.³⁴ The risk assessments provide estimates of fishing-related mortality for protected species in relation to the *population sustainability threshold*, which is a measure of population productivity closely related to the internationally accepted performance measure known as potential biological removals. These assessments allow managers to judge whether, and to what extent, management intervention is required.³⁵

As a consequence of the CSP and FNZ's research programmes, New Zealand has relatively good data about protected seabird and marine mammal populations and the impacts of fishing on these populations are generally well quantified.³⁶ While fisheries bycatch of protected species has demonstrably decreased over the past decades,³⁷ other pressures on protected marine species, for example loss of nesting habitat, remain unquantified, hampering comprehensive threat management.

³⁰ DOC website <http://www.doc.govt.nz/our-work/conservation-services-programme/>

³¹ CSP Strategic Statement 2020 <https://www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/marine-conservation-services/resources/rag-resources/csp-strategic-statement-2020.pdf>

³² For example, in the 2021/22 year, out of a total CSP annual research cost of around \$3.8 million, the industry paid \$3.4 million (89%) with the Crown contributing the balance (Department of Conservation (2021)).

³³ Richard et al (2017).

³⁴ Abraham et al (2017).

³⁵ Fisheries New Zealand (2020).

³⁶ Ministry for the Environment & Stats NZ (2016).

³⁷ Ministry for the Environment & Stats NZ (2019).

Complying with the New Zealand approach for protected habitats and ecosystems

Implementing the MPA Policy

The key elements of the MPA Policy are:³⁸

- A consistent approach to classification of the marine habitats and ecosystems, which is based on dividing New Zealand's inshore waters (out to 200m depth) into 14 biogeographic regions, with further subdivisions based on depth, exposure and substrate type;³⁹
- Mechanisms to co-ordinate a range of management tools, including a *protection standard* which is used to assess whether individual management tools or a combination of management tools provide sufficient protection to a site for it to be designated as an MPA;
- An inventory to identify areas where MPAs are required;⁴⁰ and
- A nationally consistent basis for planning and establishing new MPAs. For inshore waters, MPA planning is undertaken by regional stakeholder planning forums. The regional forums compile information, consult with local communities and stakeholders, and apply the principles set out in the MPA Policy to select MPA sites and tools which form the basis of the forum's recommendations to the Ministers of Conservation and Fisheries. Offshore MPA planning is undertaken at a national level.

The planning process set out in the MPA Policy has been undertaken for the South Island's West Coast, the sub-Antarctic Islands and the south east coast of the South Island. Seafood industry representatives participated in these three processes, which resulted in the establishment of:⁴¹

- On the West Coast, five new marine reserves and three MPAs using fisheries regulations; and
- Around the sub-Antarctic Islands, three new marine reserves and one MPA using fisheries regulations.

Although the MPA Policy envisages the use of a range of marine protection tools, in practice few tools other than marine reserves and fisheries regulations comply with the protection standard, which requires bottom-disturbing fishing methods such as bottom-trawling, dredging and Danish seining to be prohibited. Other fishing methods such as purse seining, midwater trawling and set netting may also need to be prohibited in MPAs.⁴² Sanctuaries established under the Marine Mammals Protection Act or Wildlife Act may in theory qualify as Type 2 MPAs – but in practice no sanctuaries have been designated as MPAs because they do not directly regulate fishing activities.

At the time of writing, New Zealand's network of MPAs (i.e., areas which are deemed to comply with *the protection standard*) comprises:⁴³

- 44 marine reserves (also referred to as 'Type 1 MPAs');
- Ten 'Type 2 MPAs' regulated under fisheries legislation;⁴⁴
- The Ross Sea MPA established under the auspices of the Commission for the Conservation of Antarctic Marine Living

³⁸ Department of Conservation & Ministry of Fisheries (2005).

³⁹ Department of Conservation & Ministry of Fisheries (2008).

⁴⁰ Department of Conservation, Ministry for the Environment & Ministry for Primary Industries (2019).

⁴¹ At the time of writing, no decisions have been made on new MPAs for the south east coast of the South Island.

⁴² Department of Conservation & Ministry of Fisheries (2008).

⁴³ Department of Conservation, Ministry for the Environment & Ministry for Primary Industries (2019).

⁴⁴ The ten areas regulated by fisheries legislation that are classified as Type 2 MPAs are: Pukerua Bay fisheries closure; Paterson Inlet fisheries closure; Te Whaka a Te Wera Mataitai Reserve; Bounty Islands bottom trawling and Danish seine prohibition; Campbell Island bottom trawling and Danish seine prohibition; three fisheries restrictions on the west coast of the South Island (Punakaiki North, Punakaiki South and Hautai), the Fiordland Marine Management Area and Mimiwhangata Marine Park.

- Resources;⁴⁵ and
- Nine 'Type 2 MPAs' implemented using other tools.⁴⁶

In total approximately 12.3 percent of New Zealand's territorial sea is protected in 63 MPAs.⁴⁷ However, the proportion of each of New Zealand's 14 biogeographic regions that is protected varies greatly.⁴⁸

Other planning processes and spatial tools for protecting marine biodiversity

Independently of the MPA planning process, local communities around New Zealand have set up their own stakeholder planning groups to undertake marine spatial planning. These locally-driven processes usually have a range of objectives including, but not limited to, marine biodiversity protection. Seafood industry members were responsible for initiating and driving successful stakeholder forums in Fiordland and Kaikoura which resulted in the implementation of new marine reserves and other management measures in these regions.⁴⁹ A multi-stakeholder marine spatial planning process for the Hauraki Gulf Marine Park recommended the establishment of a number of new MPAs which are currently under consideration by government.⁵⁰

Spatial tools that are not MPAs can also help protect marine biodiversity, even if they are established for other purposes. For example:

- Cable protection zones under the Submarine Cables and Pipelines Protection Act are implemented to protect undersea cables from damage but, as a side-benefit, can protect marine biodiversity;
- Under the Resource Management Act 1991, regional councils have responsibilities for maintaining indigenous biodiversity.⁵¹ Some councils have included rules in regional coastal plans to identify areas in which specified activities (for example, bottom trawling, dredging and non-fishing activities that disturb the seabed) are prohibited for biodiversity protection purposes; and
- Fisheries regulations under the Fisheries Act can make a significant contribution to biodiversity protection. The Fisheries Act's environmental principles require that biological diversity of the aquatic environment should be maintained and that habitat of particular significance for fisheries management should be protected.⁵² Both these obligations can be implemented using spatially defined fisheries regulations.

Examples of Fisheries Act spatial controls which make a substantial contribution to biodiversity protection are:

- Regulations enacted in 2001 prohibiting all trawling in 17 areas of the EEZ (an area of around 81,000km²). These regulations, colloquially known as the seamount regulations,⁵³ protect 25 underwater topographical features, 12 of which are seamounts (i.e., with an elevation greater than 1,000 m);⁵⁴ and
- Regulations enacted in 2007 establishing a network of Benthic Protection Areas (BPAs).⁵⁵ The regulations, put in place by the Minister at the initiative of the seafood industry, protect 17 broadly representative areas of the seabed (benthic) environment by prohibiting bottom trawling and dredging. In total the BPAs cover approximately 1.13 million km² of New Zealand's EEZ.⁵⁶

⁴⁵ DOC website <https://www.doc.govt.nz/about-us/international-agreements/antarctica-treaty-system/ross-sea-region-marine-protected-area/>

⁴⁶ The Sugarloaf Islands Marine Protected Area (established under its own 1991 Act) and eight areas established under the Submarine Cables and Pipelines Protection Act 1996.

⁴⁷ The Ross Sea MPA is not included in this calculation. (DOC, MFE & MPI (2019)).

⁴⁸ Department of Conservation, Ministry for the Environment & Ministry for Primary Industries (2019)

⁴⁹ Fiordland (Te Moana o Atawhenua) Marine Management Act 2005 and Kaikōura (Te Tai o Marokura) Marine Management Act 2014.

⁵⁰ Department of Conservation, Fisheries New Zealand & Ministry for Primary Industries (2021).

⁵¹ Resource Management Act 1991 s30(1)(ga).

⁵² Fisheries Act s9.

⁵³ Fisheries (Commercial Fishing) Regulations 2001, regulation73.

⁵⁴ Helson et al (2010).

⁵⁵ Fisheries (Benthic Protection Areas) Regulations 2007.

⁵⁶ Helson et al (2010).

Together, the BPAs and seamount regulations protect the benthic biodiversity in almost one third of the EEZ from bottom-impacting fishing methods. Fisheries Act measures such as these are particularly important in the EEZ where no purpose-built statutory spatial tools exist for marine biodiversity protection.

Managing activities that affect marine biodiversity protection

Protection provided by MPAs is bolstered by actions taken under other legislation to manage the adverse effects of human activities – both within the MPAs and in the surrounding environment. The main Acts used for this purpose are:

- The Fisheries Act;
- The Resource Management Act 1991 (RMA); and
- The Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act).

The choice of the Act depends on (a) the activity that may be threatening biodiversity, and (b) whether the activity occurs in the territorial sea or EEZ. Where the activity is fishing, any adverse effects are managed under the Fisheries Act by FNZ – for example, by setting and enforcing sustainable catch limits for harvested species. The adverse effects of most other activities are managed under the RMA (for the territorial sea) or the EEZ Act.

The RMA requires regional councils to manage the adverse effects of terrestrial and marine activities on marine biodiversity. The main ways in which councils implement this responsibility is by including rules in their regional coastal plans and by assessing impacts on marine biodiversity when considering applications for resource consents to carry out activities. Councils' policy statements and plans must give effect to the New Zealand Coastal Policy Statement (NZCPS) which is prepared by DOC under the RMA.⁵⁷ The NZCPS requires councils to ensure that significant adverse effects on areas protected under other legislation (e.g., marine reserves) are avoided, and all other adverse effects on protected areas are avoided, remedied or mitigated.⁵⁸ The intent is to provide integrated protection of marine biodiversity from the full range of marine and terrestrial threats.

Regulatory responsibility under the EEZ Act is shared between MFE and the Environmental Protection Authority (EPA). MFE is responsible for developing regulations which may be used, among other purposes, to identify and provide for areas of the EEZ or continental shelf that are important or vulnerable because of their particular biological and physical attributes.⁵⁹ No regulations of this type have been established to date. The EPA makes decisions on marine consent applications to undertake particular activities in the EEZ (e.g., seabed mining or petroleum production). When assessing applications the EPA takes into account a range of statutory criteria including the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species.⁶⁰

Research and information

Implementation of spatial tools for marine biodiversity protection is currently hampered by a lack of detailed knowledge of marine biodiversity. Decision-making and planning are therefore often based on proxy habitat classifications.

Information provided directly by commercial fishers helps fill some of these knowledge gaps. The seafood industry also helps fund marine biodiversity research through fisheries cost recovery levies. Cost recovery levies part-fund the research projects undertaken under two FNZ research programmes, i.e.:

- The Aquatic Environment Research Programme; and
- The Marine Biodiversity Research Programme.

⁵⁷ Department of Conservation (2010).

⁵⁸ Policy 5, NZCPS.

⁵⁹ Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act s28.

⁶⁰ Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act s59(2)(e).

The Aquatic Environment Research Programme focuses on the direct effects of fishing on the aquatic environment, whereas the Biodiversity Research Programme focuses on issues related to the functionality of the marine ecosystem and its productivity.

Research projects for the Aquatic Environment Research Programme are identified from high-level planning documents such as national fisheries plans, fisheries research plans, NPOAs and TMPs, and from discussions between management agencies (including DOC where the projects relate to protected species), technical advisors and stakeholders.⁶¹ All research is peer reviewed by the Aquatic Environment Working Group (AEWG) which has the role of assessing, based on scientific information, the effects of fishing, aquaculture, and enhancement on the aquatic environment for all New Zealand fisheries. Membership of AEWG is open and comprises a chairperson who is a FNZ fisheries scientist, research providers, other scientists to act in a peer review capacity, FNZ fisheries managers, and any interested party – including seafood industry representatives – who agree to the standards of participation set out in the group's terms of reference.⁶²

The principal goal of the Marine Biodiversity Research Programme is “to improve our understanding of New Zealand marine ecosystems in terms of species diversity, marine habitat diversity, and the processes that lead to healthy ecosystem functioning, and the role that biodiversity has for such key processes”.⁶³ A FNZ-convened group called the Biodiversity Research Advisory Group (BRAG) with membership similar to the AEWG has the dual role of:

- Advising on research planning, which is presented in Medium Term Biodiversity Research Plans; and
- Undertaking peer reviews, with responsibility for reviewing and conveying views on the results of marine biodiversity research projects contracted by FNZ.

In addition to being peer reviewed by the AEWG or BRAG, research produced under these MPI programmes is technically reviewed by FNZ before reports are finalised for use in management or for public release. The state of knowledge on the aquatic environment and marine biodiversity (with respect to fisheries issues) is summarised annually in the *Aquatic Environment and Biodiversity Annual Review*. Where appropriate, the review assesses current status of a particular issue against any specified targets or limits.⁶⁴

Current initiatives

Current initiatives related to New Zealand's marine biodiversity conservation include:

- The establishment of an Oceans and Fisheries portfolio (previously the portfolio of the Minister of Fisheries) with responsibility for ‘ensuring the long-term health and resilience of ocean and coastal ecosystems, including the role of fisheries’;⁶⁵
- A major review of conservation laws to improve the protection of biodiversity and implement Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020, including review of the Wildlife Act 1953 and development of a new framework for MPAs;⁶⁶
- The proposed replacement of the RMA with new legislation, including a new Natural and Built Environments Act;⁶⁷
- The collaborative development of implementation plans for the Biodiversity Strategy, led by the Department of Conservation;⁶⁸
- Implementation of *Revitalising the Gulf*, the Government's response to the Sea Change – Tai Timu Tai Pari – Hauraki

⁶¹ Fisheries New Zealand (2020).

⁶² Terms of Reference for the AEWG are appended to Fisheries New Zealand (2020).

⁶³ Fisheries New Zealand (2020).

⁶⁴ Ibid.

⁶⁵ Cabinet paper Oceans and Fisheries portfolio – ensuring healthy ocean ecosystems – Cabinet paper (mpi.govt.nz)

⁶⁶ Department of Conservation website conservation-law-reform-roadmap.pdf (doc.govt.nz)

⁶⁷ Ministry for the Environment website <https://environment.govt.nz/what-government-is-doing/key-initiatives/resource-management-system-reform/>

⁶⁸ Department of Conservation website <https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/>

- Gulf Marine Spatial Plan;⁶⁹
- Implementation of MPAs on the south east coast of the South Island;⁷⁰ and
- The Kermadec Ocean Sanctuary (a 621,831 km² area in New Zealand's northern-most waters) has been proposed by Government but is on hold pending resolution of issues associated with the Crown's obligations to Maori under the Treaty of Waitangi (in particular, implications for the settlement of Maori fisheries claims)⁷¹ and the exercise of existing fishing rights under the Fisheries Act.

Conformance and verification measures

Commercial fishers must report all incidental captures of protected species, whether alive or dead, to FNZ.⁷² Compliance with this requirement is monitored by a FNZ programme to progressively require electronic monitoring (cameras) on specified types of fishing vessels and the placement of FNZ observers on selected vessels. More details on the interactions between fishing activities and protected species, including conformance and verification measures, are provided in the Associated Species section.

Commercial fishing vessel operators must also comply with all area closures and fishing method restrictions established for marine conservation purposes – for example in marine mammal sanctuaries, marine reserves and benthic protection areas. Compliance with area closures is monitored by mandatory geospatial position reporting⁷³ and by standard FNZ and DOC compliance and enforcement activities – including land-based and vessel-based patrols, inspections and investigations.

As measures relating to protected species and area-based biodiversity protection are primarily regulatory in nature, verification of compliance is generally undertaken by agencies external to the seafood industry (FNZ and, to a lesser extent, DOC). However, some seafood sectors augment FNZ's compliance systems with their own fine-scale electronic reporting regimes or data collection programmes to inform industry management responses to marine conservation issues.

Comparability to international best practice

Overarching measures

There are numerous international agreements and regional agreements to which New Zealand is a signatory that are relevant to marine biodiversity protection and managing the effects of fishing on protected species.⁷⁴ The more significant agreements which are discussed in more detail below are the:

- Convention on the Conservation of Migratory Species of Wild Animals;
- Agreement on the Conservation of Albatrosses and Petrels;
- Convention on Biological Diversity;
- Food and Agriculture Organisation International Plan of Action for Seabirds (FAO-IPOA Seabirds); and
- Food and Agriculture Organisation International Plan of Action for Sharks (FAO-IPOA Sharks).

For the sake of completeness, other international agreements and regional agreements with provisions relevant to managing the environmental effects of fishing, but which are not addressed in detail in this report include the:

⁶⁹ Department of Conservation, Fisheries New Zealand & Ministry for Primary Industries (2021).

⁷⁰ Department of Conservation website <https://www.doc.govt.nz/get-involved/have-your-say/all-consultations/2020-consultations/consultation-on-south-eastern-south-island-marine-protected-areas/>

⁷¹ Maori claims in relation to commercial fishing were addressed in a settlement documented in the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

⁷² Fisheries (Reporting) Regulations 2017, regulation 8.

⁷³ Fisheries (Geospatial Position Reporting) Regulations 2017.

⁷⁴ Lists in this section adapted from Fisheries New Zealand (2020).

- United Nations Convention on the Law of the Sea (UNCLOS) which sets out a high level framework for States' rights and obligations with respect to use and protection of marine resources;
- FAO Code of Conduct for Responsible Fisheries, which sets out principles and standards applicable to the conservation, management and development of fisheries;
- Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), which aims to ensure that international trade in wild animals and plants does not threaten their survival;
- United Nations Fish Stocks Agreement (UNFSA), which provides for the conservation and management of straddling and highly migratory fish stocks;
- International Whaling Commission (IWC), which provides for the conservation of whale stocks and the orderly development of the whaling industry;
- Wellington Convention, which aims to prohibit drift net fishing activity in the South Pacific convention area;
- Noumea Convention, which promotes protection and management of natural resources in the South Pacific region;
- Convention for the Conservation of Southern Bluefin Tuna (CCSBT), which includes provisions to aid in the conservation of ecologically related species when fishing for southern bluefin tuna;
- Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), which includes research and monitoring to understand the effects of fishing on associated and dependent species;
- Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC), which aims to ensure the long-term conservation and sustainable use of highly migratory fish stocks;
- South Tasman Rise Orange Roughy Arrangement, which requires New Zealand and Australian fishers to have approval from the appropriate authorities to trawl or carry out other demersal fishing in the identified area; and
- Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (SPRFMO), which manages non-highly migratory species in the South Pacific.

New Zealand's approach to protected species management and marine conservation derives from, and aims to be consistent with, all of these international and regional agreements.

Obligations for protected species derive in large part from the **Convention on the Conservation of Migratory Species of Wild Animals** (CMS) of which New Zealand has been a member since 2000. The CMS is an environmental treaty under the aegis of the United Nations Environment Programme which aims to conserve terrestrial, marine and avian migratory species throughout their range.⁷⁵ Many of New Zealand's seabird species and other protected marine life are identified as migratory species in Appendices to the CMS. Within New Zealand's jurisdiction, protection of migratory species listed in CMS Appendices is provided under the Wildlife Act and Marine Mammals Protection Act.

The CMS also provides the basis to generate agreements between countries to protect endangered migratory species and their habitats – an example is the **Agreement on the Conservation of Albatrosses and Petrels** (ACAP). The ACAP signatories aim to conserve albatrosses and petrels through co-ordinated and co-operative management measures. Thirteen of the 28 species managed under ACAP are either endemic or native to New Zealand but many of these species are exposed to greater threats when they regularly leave New Zealand territory for long periods.⁷⁶

Seabirds also provide a good example of how international agreements work together to create obligations and provide guidance at a national level. Under **UNCLOS**, coastal states such as New Zealand are obliged to ensure that conservation and management measures in their EEZs take account of effects of fishing on seabirds and maintain or restore seabird populations above levels at which their reproduction may be seriously threatened. These obligations are repeated in the **UNFSA** and are generally now considered binding on all countries as part of what is known as customary international law.⁷⁷ Other international agreements provide guidance for states – for example the FAO's **IPOA-Seabirds** provides guidance for the (voluntary) preparation

⁷⁵ CMS website <http://www.cms.int/en>

⁷⁶ DOC website: <http://www.doc.govt.nz/Documents/about-doc/role/international/albatross-update.pdf>

⁷⁷ Ministry for Primary Industries (2014)

of national plans of action for seabirds.⁷⁸ The FAO has augmented the IPOA-Seabirds with best practice guidelines to support the implementation of national plans of action. New Zealand's NPOA-Seabirds 2020 takes account of all of these different layers of obligations and guidance.⁷⁹ Similarly, New Zealand's NPOA-Sharks has been developed to be consistent with **the IPOA-Sharks**.⁸⁰

The **Convention on Biological Diversity** (CBD) is a binding international agreement that provides for the conservation of biological diversity and the sustainable use of its components. Under the CBD, states are accorded the right to exploit their resources pursuant to environmental policies, including national strategies for the conservation and sustainable use of biodiversity.⁸¹ New Zealand became a party in December 1993 and since that time the CBD has driven the government's approach to marine biodiversity protection. The CBD provides a high-level framework that promotes the use of a variety of tools – both area-based and activity-based – to manage threats to biodiversity.

Global targets for marine biodiversity protection for 2010-2020 were set out in the 'Aichi targets' which were part of the CBD Strategic Plan adopted in 2010.⁸² These targets influenced New Zealand's approach to marine biodiversity protection in the decade up to 2020. Parties to the CBD are currently developing a 'Post-2020 Global Biodiversity Framework' which will include new targets.⁸³ Once agreed, these new targets are likely to influence implementation plans for Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020. The New Zealand government, through DOC, provides regular updates to the CBD on how New Zealand is implementing the CBD obligations.

DOC also represents New Zealand on the **International Union for the Conservation of Nature** (IUCN) Unlike the organisations discussed above, the IUCN does not administer any binding international agreements. It is a voluntary organisation with a wide membership of states and non-government organisations with a mission to *"influence, encourage and assist societies throughout the world to conserve nature and to ensure that any use of natural resources is equitable and ecologically sustainable"*.⁸⁴ Membership of the IUCN does not place any obligations on New Zealand. Instead, the IUCN works by providing information and advice. In 1988 the IUCN adopted a resolution calling for the establishment of a global network of MPAs⁸⁵ and since then has produced a series of Best Practice Protected Area Guidelines for establishing MPAs. These non-binding guidelines are used as a source of advice and guidance on MPA planning and management, including in New Zealand – for example, aspects of IUCN guidance are reflected in New Zealand's MPA Policy.

International recognition

New Zealand's MPA network and BPAs have been acknowledged for their contribution to marine biodiversity protection in numerous international publications, including from the United Nations Environment Programme.⁸⁶

⁷⁸ FAO (undated a).

⁷⁹ Fisheries New Zealand & Department of Conservation (2020).

⁸⁰ Ministry for Primary Industries (2013), FAO (undated b).

⁸¹ CBD website <https://www.cbd.int/>

⁸² CBD Convention of Parties (2010). Relevant targets were Target 11: By 2020 at least... 10 percent of coastal and marine areas... are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area based conservation measures. and Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly those most in decline, has been improved and sustained.

⁸³ CBD website <https://www.cbd.int/conferences/post2020>.

⁸⁴ IUCN website <https://www.iucn.org/>

⁸⁵ IUCN General Assembly Resolution 17.38 (1988)

⁸⁶ UNEP-WCMC and IUCN (2016); Spalding, M. et al (2013); Toropova, C. et. al. (2010); Spear, B. and Cannon, J. (2012).

Terms and definitions

Associated and dependent species – any non-harvested species taken or otherwise affected by the taking of any harvested species [Fisheries Act]

Benthic Protection Area (BPA) – a network of 17 areas in New Zealand’s marine zone in which bottom trawling and dredging are prohibited and mid-water trawling is restricted by fisheries regulations

Biogeographic region – an area that is defined according to patterns of ecological and physical characteristics in the seascape [DOC & MFish 2005]

Biological diversity (biodiversity) – the variability among living organisms, including diversity within species, between species, and of ecosystems [Fisheries Act]

Ecosystem – an interacting system of living and non-living parts such as sunlight, air, water, minerals and nutrients

Exclusive Economic Zone (EEZ) – the sea, seabed, and subsoil that are beyond and adjacent to the territorial sea of New Zealand, having as their outer limits a line 200 nautical miles seaward from the coastal baseline

Habitat – the place or type of area in which an organism naturally occurs

MALFiRM – maximum allowable level of fishing related mortality. For threatened species, the MALFiRM should allow the species to achieve non-threatened status as soon as reasonably practicable, but in any case within 20 years [Marine Mammals Protection Act]

Marine Mammal Sanctuary – an identified area established under the Marine Mammals Protection Act within which activities may be controlled for the purposes of protecting marine mammals in New Zealand’s marine zone

Marine Protected Area (MPA) – for the purpose of New Zealand’s MPA Policy, an MPA is an area of the marine environment especially dedicated to, or achieving, through adequate protection, the maintenance and/or recovery of biological diversity at the habitat and ecosystem level in a healthy functioning state [DOC & MFish 2005]

Marine reserve – an area established for the purpose of preserving, for the scientific study of marine life, areas of New Zealand that contain underwater scenery, natural features, or marine life, of such distinctive quality, or so typical, or beautiful, or unique, that their continued preservation is in the national interest [Marine Reserves Act 1971]

Marine zone – the combined territorial sea and EEZ

Population management plan – a plan prepared under the Marine Mammals Protection Act or Wildlife Act which addresses fishing-related risks to protected marine mammals or wildlife species

Protected species – all marine mammals and any wildlife species that are absolutely protected under the Wildlife Act

Protection standard – for the purposes of New Zealand’s MPA Policy, the protection standard provides the guidance for assessing whether a tool, or a combination of tools, provides for the maintenance and/or recovery of biological diversity at the habitat and ecosystem level in a healthy functioning state at a particular site [DOC & MFish 2005]

Regional coastal plan – a plan prepared under the Resource Management Act which contains objectives, policies, rules and other methods for managing the effects of activities in the coastal marine area (territorial sea)

Regional council – a local government authority that operates at a regional level and has responsibility, along with the Department of Conservation, for managing the coastal marine area under the Resource Management Act

Seamount – a large underwater topographic feature rising at least 1000m above the seafloor

Territorial sea – those areas of the sea between the coastal baseline and a line 12 nautical miles seaward from that baseline

Type 1 MPA – for the purposes of New Zealand's MPA Policy, a marine reserve [DOC & MFish 2005]

Type 2 MPA – for the purposes of New Zealand's MPA Policy, a regulation made under the Fisheries Act which meets the MPA protection standard by prohibiting dredging, bottom trawling and Danish seining and other fishing methods on a case by case basis [DOC & MFish 2008]

Wildlife sanctuary – an identified area established under the Wildlife Act within which activities may be controlled for the purposes of protecting wildlife, including seabirds in the territorial sea

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Report Details

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Relevant regulatory agencies	Department of Conservation www.doc.govt.nz Fisheries New Zealand www.fisheries.govt.nz Ministry for the Environment www.mfe.govt.nz Regional Councils