Proposed southeast marine protected areas

Consultation document

June 2020

Department of Conservation
Te Papa Atawhai

Fisheries New Zealand
Tini a Tangaroa

Proposed southeast marine protected areas

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COVER: Long Point from Papatowai. *Photo: Fergus Sutherland*

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Contents

1 Introduction

1.1 Purpose of this document

The Department of Conservation (DOC) and Fisheries New Zealand are consulting on a proposed network of 12 marine protection measures in the southeast of the South Island of New Zealand. This network represents one of the two options that were put forward by the South-East Marine Protection Forum Roopu Manaaki ki te Toka (the Forum) in 2018[1] in response to a request by the Ministers of Conservation and Primary Industries at that time to recommend marine protection options for the area. Together, these measures aim to provide comprehensive and representative marine protection for the region and help to meet New Zealand's obligations under the United Nations Convention on Biological Diversity.[2]

For further information on this network and the Forum's recommendations report, visit www.doc.govt.nz/our-work/south-eastern-south-island-marine-protection.

The appendices that are referred to in this consultation document can be found at https://survey.publicvoice.co.nz/s3/semp-consultation and include:

- Appendix 1: Application for marine reserves
- Appendix 2: Crown and Māori relationship
- Appendix 3: Catch and export value estimation methods
- Appendix 4: Habitats in the region and at each site
- Appendix 5: Taonga species.

1.1.1 Decisions on the network

The Ministers of Conservation and Fisheries have agreed to consult with Treaty partners and the public on the proposed network, and we are now seeking feedback on this proposal.

Your submission will inform the decisions of:

a) the Ministers of Conservation and Fisheries on the six proposed marine reserves under the Marine Reserves Act 1971.[3]
b) the Minister of Fisheries on the five proposed Type 2 marine protected areas (MPAs) and the proposed kelp protection area as regulations under the Fisheries Act 1996.[4]

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[1] South-East Marine Protection Forum 2018: Recommendations to the Minister of Conservation and the Minister of Fisheries: recommendations towards implementation of the Marine Protected Areas Policy on the South Island's south-east coast of New Zealand. Department of Conservation, Wellington. 314 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

[2] www.cbd.int/convention/

[3] www.legislation.govt.nz/act/public/1971/0015/latest/DLM397838.html

[4] www.legislation.govt.nz/act/public/1996/0088/latest/DLM394192.html

The proposed marine protection measures will be assessed against relevant legislative criteria, taking into account all available and relevant information, the submissions received, and the merits of the proposals. Once all of this information has been considered, one of the following decisions will be made.

- Retain the status quo – do not implement the proposed protection measures.
- Implement the proposed network as presented in this consultation document.
- Implement some or all of the proposed protection measures with amendments and/or conditions.

1.2 How to make a submission

DOC and Fisheries New Zealand welcome submissions on any or all of the proposed marine protection measures set out in this consultation document. A set of questions is provided at the end of the description of each marine protection measure. These questions are intended to stimulate discussion and help guide your submission, but answers are not mandatory. Your submission may support or oppose any aspect of the proposals. All submissions will be received by DOC and Fisheries New Zealand and will be taken into account by the Ministers of Conservation and Fisheries under their respective statutory frameworks.

The deadline for submissions is 3 August 2020.

Online submissions are preferred, as DOC and Fisheries New Zealand will be able to collate, analyse and summarise these responses more quickly and efficiently. To make an online submission, visit https://survey.publicvoice.co.nz/s3/semp-consultation.

Submissions can also be emailed to southeast.marine@publicvoice.co.nz.

If you are unable to make an electronic submission, you may make a written submission, which should include the following information.

- The title of this document.
- Your name and title.
- Your organisation's name (if you are submitting on behalf of an organisation).
- Your contact details (phone number, address and email).

Written submission should be mailed to:

Proposed southeast marine protection network
Department of Conservation and Fisheries New Zealand
Conservation House
PO Box 10420
Wellington 6143
New Zealand

Please note that any submission you make will become public information and that anyone can ask for copies of all submissions under the Official Information Act 1982.[5] The Official Information Act states that we must make information available unless there is a good reason for withholding it and

[5] http://www.legislation.govt.nz/act/public/1982/0156/latest/DLM64785.html

provides a list of such reasons in sections 6 and 9. If you think there are grounds to withhold specific information, please state this in your submission. Reasons may include the fact that it is commercially sensitive or personal information. Note that any decision that is made by DOC or Fisheries New Zealand to withhold information can be reviewed by the Ombudsman, who may require the information to be released.

2 Background

2.1 The problem

New Zealand has one of the largest marine areas in the world and most of its biodiversity remains unexplored and poorly understood. Based on our limited knowledge, approximately 31% of New Zealand's *known* species inhabit the marine environment and approximately 51% of all our marine species are only found in New Zealand.[6] Furthermore, as much as 80% of our total biodiversity lives in the marine environment and new species are being discovered regularly.

Many pressures are affecting our marine environment, including our activities on land and in the sea and climate change. These pressures have led to a decline in biodiversity and in the condition of marine habitats,[7] and their cumulative effects amplify the threat to biodiversity in our marine environment and make it less resilient.

2.1.1 The role of MPAs

MPAs are one of a number of tools that are available for conserving marine biodiversity and are an important component of sustainable marine management systems. They contribute to protecting and restoring ecosystems and habitats by managing the activities that occur within them.

MPAs provide a safeguard for the marine environment, allowing it to cope better with future pressures, such as climate change. The protection of pristine, relatively untouched environments that is afforded by MPAs also provides opportunities for monitoring and studying changes to the marine environment over time. Furthermore, when developed with fishing interests in mind, MPAs can contribute to fisheries management objectives (eg they may protect spawning and nursery habitat), and MPAs can also provide for nature-based recreational and tourism opportunities, such as diving.

MPAs are most effective at supporting marine health and resilience when they form a representative network of habitats and ecosystems. Such a network protects key sites and habitats while providing links between them that are important for maintaining ecosystem processes and also maintains resilience by spreading risk (eg the replication of habitats within a network reduces the risk of losing biodiversity due to a catastrophic event).

Although MPAs are effective at managing the impacts from activities that occur within their boundaries, they do not manage all marine pressures. This is because MPAs and the ecosystems within them are interconnected with the surrounding areas and consequently affect and are affected

[6] Gordon, D.P.; Beaumont, J.; MacDiarmid, A.; Robertson, D.A.; Ahyong, S.T. 2010: Marine biodiversity of *Aotearoa* New Zealand. *PLOS ONE 5(8)*: e10905. doi:10.1371/journal.pone.0010905

[7] www.mfe.govt.nz/publications/marine/our-marine-environment-2019

by activities that occur outside their boundaries. Therefore, it is important that an MPA network complements other management regimes, such as fisheries, coastal and land management.

2.1.2 International obligations and New Zealand's MPA policy

New Zealand signed the United Nations Convention on Biological Diversity in 1993, agreeing to the goal of establishing an effectively and equitably managed, ecologically representative, and well-connected system of MPAs and other conservation-related measures covering at least 10% of its coastal and marine areas by 2020. New post-2020 international biodiversity targets are to be agreed in late 2020, and there is a push for more ambitious targets. These new targets will establish a yardstick by which New Zealand will be measured in the coming decade and beyond.

The *New Zealand Biodiversity Strategy*[8] reflects the New Zealand Government's commitment (through its ratification of the Convention on Biological Diversity) to help stem the loss of biodiversity worldwide. DOC and the former Ministry of Fisheries[9] developed the *Marine Protected Areas: policy and implementation plan* (MPA policy)[10] in 2005 and the *Marine Protected Areas: classification, protection standard and implementation guidelines* (MPA guidelines)[11] in 2008 to provide a framework to help deliver on the *New Zealand Biodiversity Strategy* and New Zealand's commitment under the Convention on Biological Diversity.

The objective of the MPA policy is to:

> Protect marine biodiversity by establishing a network of marine protected areas that is comprehensive and representative of New Zealand's marine habitats and ecosystems.

The MPA policy notes that this network of areas that protect marine biodiversity can include marine reserves and areas that are closed to certain fishing methods as long as these management tools enable a site's biodiversity to be maintained or recover to a healthy functioning state. Some levels of extractive use may be allowed (eg the use of less impactful fishing methods and extraction for research or scientific purposes) provided the biodiversity at the site is maintained and/or is able to recover.

The MPA policy provides for three types of management tools for its implementation: marine reserves (Type 1 MPAs), other MPAs (Type 2 MPAs) and other marine protection tools. Only Types 1 and 2 are considered MPAs for the purpose of the MPA policy. Type 1 MPAs are created via the Marine Reserves Act 1971, while Type 2 MPAs can be established by restricting or prohibiting particular fishing methods through regulations made under the Fisheries Act 1996 where this is

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[8] Department of Conservation; Ministry for the Environment 2000: The New Zealand biodiversity strategy. Department of Conservation and Ministry for the Environment, Wellington. 146 p. www.doc.govt.nz/nature/biodiversity/nz-biodiversity-strategy-and-action-plan/new-zealand-biodiversity-strategy-2000-2020/

[9] Now Fisheries New Zealand.

[10] Department of Conservation; Ministry of Fisheries 2005: Marine Protected Areas: policy and implementation plan. Department of Conservation and Ministry of Fisheries, Wellington. 25 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

[11] Ministry of Fisheries; Department of Conservation 2008: Marine Protected Areas: classification, protection standard and implementation guidelines. Ministry of Fisheries and Department of Conservation, Wellington. 53 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-classification-protection-standard-and-implementation-guidelines/

considered to provide sufficient protection to be considered an MPA. Other marine protection tools may not protect sufficient biodiversity to meet the definition of an MPA but can still contribute to the overall protection objectives of the network.

2.1.3 The southeast region of the South Island

The southeast region of the South Island of New Zealand currently has no MPAs in place, heightening the risk that unique marine habitats and ecosystems that are already being affected by cumulative pressures, including climate change, will be lost. This lack of MPAs also removes the opportunity to maintain representative marine areas for study and fails to meet New Zealand's MPA policy or international obligations for biodiversity in this region.

2.2 Southeast region and the Forum

In 2014, the New Zealand Government appointed the Forum to consider and recommend marine protection options for the southeast region. The Forum's terms of reference included the objective to provide a report for the Ministers of Conservation and Fisheries recommending levels of marine protection for the southeast region that were consistent with the MPA policy and guidelines.

Forum members represented Kāi Tahu, commercial and recreational fishing interests, conservation advocates, tourism interests, and local communities. The Forum was assisted and advised by DOC and Fisheries New Zealand.

Encouraging input to the process from iwi and communities was an important focus for the Forum. Therefore, it released a consultation document in October 2016 that detailed the 20 proposed sites on which it was seeking feedback, which resulted in 2803 submissions being received.

The Forum was unable to reach consensus and as a result proposed two alternative networks to the Ministers of Conservation and Fisheries.

- Network 1, which would cover 14.2% (1267 km^2) of the region and include six marine reserves, five Type 2 MPAs and one kelp protection area. Network 1 was supported by the environment, tourism, community and science representatives and one of two recreational fishing representatives.
- Network 2, which would cover 4.1% (366 km^2) of the region and include three marine reserves and two Type 2 MPAs. Network 2 was supported by the commercial fishing representatives and one of two recreational fishing representatives.

2.2.1 Ministers have decided to consult on network 1

Once the recommendations report had been presented to the Ministers of Conservation and Fisheries, DOC and Fisheries New Zealand provided advice on the recommendations by assessing them against the MPA policy. These agencies considered that network 1 better met the objectives of the MPA policy.

In May 2019, the Ministers of Conservation and Fisheries announced their agreement to consult on a network that was consistent with network 1, using tools available in the Marine Reserves Act and the Fisheries Act.

The Forum's recommendations for network 1 also included restrictions on seismic surveying and bottom disturbance across the network, as well as fishing for whitebait in the Whakatorea (L1) and

Tahakopa (Q1) Type 2 MPAs. However, these recommendations cannot be implemented under the Marine Reserves Act or Fisheries Act but rather are managed by other legislation, such as the Whitebait Fishing Regulations 1994 under the Conservation Act 1987[12] (administered by DOC) and the Crown Minerals Act 1991[13] (administered by the Ministry of Business, Innovation, and Employment). Therefore, they will be considered at a later stage once decisions have been made on the statutory processes currently being consulted on.

2.3 Relevant legislation

As noted above, we are currently consulting on the establishment of a proposed network of marine protection measures in the southeast region of the South Island in comparison to the status quo. This network is made up of marine reserves (Type 1 MPAs), Type 2 MPAs and a kelp protection area.

2.3.1 Marine reserves (Type 1 MPAs)

The six proposed marine reserves will be decided on under the Marine Reserves Act 1971. This Act has the purpose of:

> ... preserving, as marine reserves 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 are generally 'no-take' areas in which fishing, mining and the disturbance of all marine life and habitat are prohibited. However, some provision can be made to allow specific fishing activities and scientific research provided it is consistent with the purpose of the Act.

The statutory process for the establishment of a marine reserve requires an application that meets the requirements of the Marine Reserve Act to be made to the Director-General (DG) of Conservation. However, the DG may also make the application. In this case, the DG has made an application for the establishment of the six marine reserves that were proposed as part of network 1 by the Forum. The application is provided in Appendix 1. Any final decisions on the application will be subject to the submissions received as part of the consultation process. Therefore, aspects of the application may be changed and any or all parts of the application may not be pursued.

The proposed marine reserves will be decided on through the process set out in section 5 of the Marine Reserves Act. The Act provides for the application to be publicly notified and allows a 2-month period for the public to make any objections (or submissions). In making a decision, the Minister of Conservation must consider whether any objections made should be upheld by considering whether the proposed marine reserve would interfere unduly with a range of activities and interests, including any estate or interest in land in or adjoining the proposed reserve, any existing right of navigation, and commercial fishing. In addition, the Minister must consider whether the proposed marine reserve would interfere unduly with or adversely affect any existing use of the area for recreational purposes or would otherwise be contrary to public interest.

In accordance with the purpose of the Act, the Minister will also need to consider whether the proposed marine reserve will be in the best interests of scientific study, will be for the benefit of the

[12] www.legislation.govt.nz/regulation/public/1994/0065/latest/DLM189522.html

[13] www.legislation.govt.nz/act/public/1991/0070/latest/DLM242536.html

public, and that it is expedient to declare the area as a marine reserve either unconditionally or subject to any conditions.

The establishment of a marine reserve requires concurrence (agreement) from the Ministers of Fisheries and Transport.

2.3.2 Type 2 MPAs

The Type 2 MPAs will be decided on under the Fisheries Act 1996. The purpose of this Act is:

> ... to provide for the utilisation of fisheries resources while ensuring sustainability, where ensuring sustainability means (a) maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and (b) avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment. Utilisation means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing.

Type 2 MPAs prohibit or restrict particular activities to manage adverse effects on the marine environment. The minimum level of protection required for an area to be considered for designation as a Type 2 MPA is the prohibition of fishing methods that involve dragging gear across the seabed (ie bottom trawling, Danish seining, and both the commercial and recreational use of dredges). Prohibitions or restrictions on other fishing methods may be required in designating a Type 2 MPA and can be established under the Fisheries Act if doing this is consistent with the purpose and principles of the Act.

2.3.3 Kelp protection area

One kelp protection area is also proposed, which would prohibit the harvesting of kelp from a specific area. While this does not qualify as a Type 2 MPA under the MPA policy, it would provide protection for areas of kelp and contribute to the biodiversity goals of the network. This area would be established using Fisheries (Commercial Fishing) Regulations 2001 under the Fisheries Act.[14]

2.4 Special relationship between the Crown and Māori

2.4.1 Crown obligations and decision-making

The Crown has obligations to Māori through Te Tiriti o Waitangi,[15] deeds of settlement, legislation, protocols and regulations.

When making a decision under the Marine Reserves Act, the Ministers of Conservation and Fisheries must give effect to the principles of Te Tiritiri o Waitangi.

When making decisions under the Fisheries Act, the Minister of Fisheries must act in a manner that is consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.[16]

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[14] www.legislation.govt.nz/regulation/public/2001/0253/latest/whole.html

[15] See the Glossary at the end of this report for a definition of all Māori terms.

[16] www.legislation.govt.nz/act/public/1992/0121/latest/DLM281433.html

See Appendix 2 for details of the relevant Treaty principles.

2.4.2 Ngāi Tahu Claims Settlement Act 1998

As a wider context for these proposed MPAs, the Crown has acknowledged Kāi Tahu[17] rights as mana whenua under Te Tiritiri o Waitangi through various pieces of legislation, including the Ngāi Tahu Claims Settlement Act 1998.[18] Among other things, this acknowledges Kāi Tahu's connection with particular places and species.

Statutory acknowledgements are acknowledgements by the Crown of Kāi Tahu's particular cultural, spiritual, historical and traditional associations with specified areas. The statutory acknowledgements that are relevant to this region are set out in the schedules to the Ngāi Tahu Claims Settlement Act.

See Appendix 2 for more detail.

2.4.3 Marine and Coastal Area (Takutai Moana) Act 2011

The Marine and Coastal Area (Takutai Moana) Act 2011[19] acknowledges the importance of the marine and coastal area to all New Zealanders and provides for the recognition of the customary rights of whānau, hapū and iwi in the common marine and coastal area.

Under this Act, any whānau, hapū or iwi who consider they exercise kaitiakitanga in a part of the common marine and coastal area that is affected by the proposed marine reserves have a right to participate in the process and provide their views on the proposals. The Minister of Conservation must have particular regard to the views of affected whānau, hapū and iwi in considering the proposals.

In addition, customary marine title (if granted) gives greater rights to those who hold title in an area. There are currently three pending applications for customary marine title under the Marine and Coastal Area (Takutai Moana) Act adjacent to or over the proposed marine reserves.

- Te Rūnanga o Ngāi Tahu on behalf of Ngāi Tahu Whānui: over all of the proposed marine reserves.
- Te Maiharoa Whānau: adjacent to and over the proposed Waitaki Marine Reserve.
- Paul and Natalie Karaitiana: adjacent to and over the proposed Papanui Marine Reserve.

Should customary marine title be granted prior to the marine reserves being established, among other rights the holders would have a permission right regarding new marine reserve proposals and concessions in that area (with some conditions). This permission right includes a power to decline the application to establish a marine reserve.

If marine reserves are established prior to the determination of customary marine title, those areas will remain part of the 'common marine and coastal area'; therefore, any applications for customary

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[17] Also referred to as Ngāi Tahu in relation to documents, Acts and the formal name of the tribe. In the Kāi Tahu dialect, the 'ng' becomes a 'k'.

[18] www.legislation.govt.nz/act/public/1998/0097/latest/DLM429090.html

[19] www.legislation.govt.nz/act/public/2011/0003/latest/DLM3213131.html

marine title could proceed. The existence of a marine reserve may be relevant to the assessment of whether customary marine title exists.

2.5 Implications for whānau, hapū and iwi

Engagement with Kāi Tahu during and after the forum process has indicated that the proposed network of MPAs will be opposed unless the following matters are satisfactorily addressed:

- rebalancing for any impacts the MPA network may have on Kāi Tahu rights and interests;
- co-management of the MPA network by Kāi Tahu and the Crown; and
- generational review of the MPA network.

2.5.1 Rebalancing for the impacts of the MPA network on Kāi Tahu rights and interests

The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 settled Māori commercial fishing claims and recognised non-commercial customary fishing rights. It enables the Minister of Fisheries to develop policies to help recognise Māori practices in the exercise of their non-commercial fishing right, and to make regulations that recognise and provide for customary food gathering and the special relationship tangata whenua have with their important fishing grounds.

Kāi Tahu has indicated that a network of MPAs could displace fishing pressure into other areas which, in turn, may require catch limits for commercial fish stocks to be cut in order to ensure fishing does not jeopardise stock sustainability. Kāi Tahu are concerned that this would negatively impact their customary non-commercial fishing practices and their commercial fishing interests and the economic wellbeing of coastal fishing communities.

In addition, a new MPA network has the potential to negatively impact the opportunity for Kāi Tahu to establish customary fishing areas (taiāpure or mātaitai) as provided for following the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

Kāi Tahu has indicated that a 'rebalancing' process is needed to address these potential impacts. Kāi Tahu has indicated that 'rebalancing' should also include improvements to the functionality of customary fishing tools (in particular taiāpure rule-making).

2.5.2 Co-management by Kāi Tahu and the Crown

Co-management of MPAs acknowledges the partnership between the Crown and Kāi Tahu over the proposed MPAs and will provide for the retention and transfer of mātauraka between Kāi Tahu generations, to maintain connection to their rohe moana.

Kāi Tahu has also suggested that:

- co-management arrangements for each MPA could be modelled on the existing governance arrangement in place for the East Otago Taiāpure;
- Kāi Tahu rangers with appropriate powers to undertake day-to-day management, monitoring and compliance work should be provided for; and
- wānaka (which may include sampling and strategic take of marine life for the purpose of enhancing mātauraka and retaining the generational connection with the rohe moana) should be provided for in the MPA network and therefore not necessarily prohibited across the Type 1 (marine reserve) sites.

Further work is underway between Treaty Partners to define the scope and key elements of potential co-management arrangements. One tool that has been used previously for MPAs is statutory advisory committees, which could include tangata whenua and representatives from DOC and Fisheries New Zealand. Wider community forums to discuss management might also be an appropriate part of these management arrangements.

Once the final scope of possible co-management arrangements has been developed, DOC and Fisheries New Zealand will need to assess whether such arrangements can be achieved under the existing legislative framework. In the event of any elements that involve changes to government policy, or the making of new regulation, further public consultation may need to be undertaken.

2.5.3 Generational review of the MPA network

A 25-yearly generational review of the MPA network is required. This is to actively recognise the mana and engagement of Kāi Tahu in managing the network, as well as recognising their intergenerational connections to the past, present and future.

Kāi Tahu has indicated its aspirations for periodic reviews of the MPA network (5–10 years from the establishment of the MPAs) leading into the 25-yearly generational review.

2.5.4 Kāi Tahu concerns with the proposed Te Umu Koau Marine Reserve (D1)

Agencies are aware of significant concerns expressed by Kāi Tahu and the commercial fishing industry with regards to the proposal for a marine reserve at site D1. The proposed marine reserve extends over areas of offshore reef that are seasonally important rock lobster (*Jasus edwardsii*) fishing grounds. Kāi Tahu are concerned that prohibiting commercial fishing on these grounds would impact on their people, particularly those members of the Moeraki, Otakou and Puketeraki Rūnaka whose families are involved in rock lobster fishing, processing and export.

The Ministers of Conservation and Fisheries are interested in the views of submitters about how the marine reserves proposed for site D1 (Te Umu Koau Marine Reserve) could be progressed to balance these concerns against marine protection objectives.

2.6 Hector's and Māui Dolphin Threat Management Plan

Fishing method restrictions are being considered in an update of the *Hector's and Māui Dolphin Threat Management Plan*.[20] These restrictions could overlap with the proposed Tuhawaiki and Mokotere-a-torehu Type 2 MPAs and Waitaki Marine Reserve. Therefore, depending on what is decided for the updated plan, the proposed Type 2 MPAs may be superseded or implemented in a modified form.

See the Hector's and Māui Dolphin Threat Management Plan review for more information.[21]

[20] www.mpi.govt.nz/dmsdocument/34971

[21] www.doc.govt.nz/get-involved/have-your-say/all-consultations/2019/hectors-and-maui-dolphins-threat-management-plan-review/

3 Proposed marine protection network

3.1 Overview of the proposed network

The following marine protection measures are proposed for the southeast region of the South Island of New Zealand.

- Six marine reserves (Type 1 MPAs): Waitaki, Te Umu Koau, Papanui, Ōrau, Okaihae and Hākinikini.
- Five Type 2 MPAs: Tuhawaiki, Moko-tere-a-torehu, Kaimata, Whakatorea and Tahakopa.
- One kelp protection area: Arai Te Uru.

This network is almost identical to the network 1 that was proposed in the Forum's recommendations report.[22] However, some small changes have been made to the boundaries of the proposed areas to make navigation easier. Also, an additional section of the Pleasant River estuary has been added to the proposed Te Umu Koau Marine Reserve. This area was not included in the Forum's initial recommendation due to an outdated coastal boundary but was re-established as part of the estuary in 2009/10 through the removal of a groyne. Therefore, since the intent of the recommendation was to protect the entire estuary, this section has now been included.

The names for the proposed MPAs and kelp protection area have been retained as those provided by the Forum until formal support for each is obtained from rūnaka with mana whenua. These names may also be subject to change following consultation with Te Rūnanga o Ngāi Tahu and interested parties before being approved by the New Zealand Geographic Board.

3.1.1 Design of the MPA network

A range of international best practice documents and agreements to which New Zealand is a party provide guidance for the establishment of MPA networks, all of which share some common elements. The Convention on Biological Diversity, United Nations Environment Programme and the International Union for Conservation of Nature (IUCN) all provide examples of established principles for designing MPA networks and provide advice on the network design process.

The following best practice principles guided the design of the proposed network.

- Representation: includes elements of biodiversity (from genes to ecosystems) and associated environments that are characteristic of the larger marine area.
- Replication: an example of a given feature is protected at more than one site within a given biogeographic area.
- Connectivity: allows for larvae, juveniles and species to move from one protected site to another and to benefit one another.
- Adequacy: each site is suitably placed and sufficiently large to protect the species, populations and ecology within it.
- Viability: each site can be self-sustaining even in the face of natural and human-induced variations.

[22] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

The proposed network meets each of these best practice principles by:

- representing 17 of the 22 coastal habitats that have been identified in the southeast region in effective protection, as well as three biogenic (living) habitats in effective protection
- replicating 11 of the 17 coastal habitats and one biogenic habitat (bryozoan thickets)
- allowing for good connectivity across habitats for most of the region at the 50–100-km scale
- providing protection for nine habitats that are represented at > 10% of their total area, four additional habitats that are represented at > 5% of their total area and four further habitats that are represented at > 1% of their total area
- comprising areas that are considered to be of a suitable size based on the proposed restrictions at each site.

Figure 1 shows the locations of the proposed MPAs and kelp protection area.

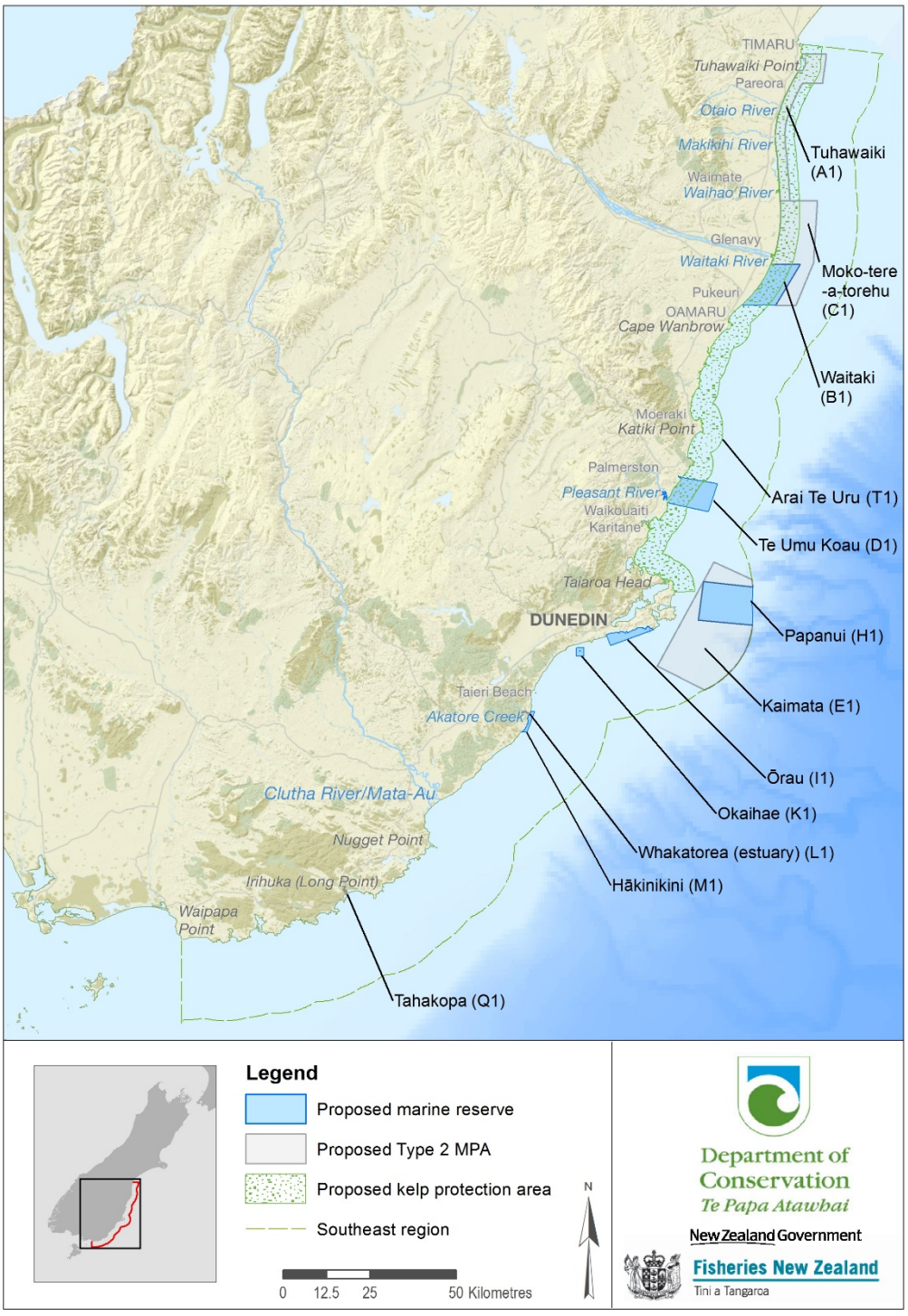

Figure 1. Locations of the proposed marine reserves (Type 1 marine protected areas (MPAs)), Type 2 MPAs and kelp protection area in the southeast region of the South Island of New Zealand.

3.1.2 Assessment criteria

The costs and benefits of establishing the proposed network were considered against the status quo (ie not implementing the network). The following criteria were used to compare options.

- Does the option have the potential to improve biodiversity conservation?
- Will the option provide reference areas for scientific study?
- Does the option minimise negative social, cultural and economic impacts?

In section 3.2, the costs and benefits of establishing the proposed network as a whole are considered in relation to these criteria. Sections 3.3–3.5 then provide a description of each individual site and identifies its costs and benefits. The methodology that was used to estimate the catch and export value is outlined in Appendix 3.

3.2 Costs and benefits of the overall network

Option 1: Maintaining the status quo, no protection provided

There are currently no marine reserves or Type 2 MPAs in the southeast region of the South Island of New Zealand.

Biodiversity conservation

Maintaining the status quo would mean:

- a lack of progress towards meeting New Zealand's international biodiversity commitments
- a lack of progress towards meeting the objectives of the *New Zealand Biodiversity Strategy* and MPA policy
- that marine biodiversity in the southeast of the South Island is not explicitly protected and maintained or allowed to recover. The absence of MPAs in this region increases the risk of losing unique marine habitats and ecosystems that are already being affected by cumulative pressures, including climate change.

Reference areas for scientific study

Maintaining the status quo would:

- not provide reference areas for the benefit of research or scientific study and may hinder our understanding of cumulative pressures and the impacts of climate change on the southeast of the South Island.

Social, cultural and economic impacts

Maintaining the status quo would:

- have no economic impacts on existing fisheries and other affected activities
- have no impacts on customary fisheries and Kāi Tahu's ability to exercise their non-commercial fishing rights
- have no impacts on recreational fishing
- have no added management and compliance costs
- not allow the potential benefits associated with wellbeing and public enjoyment from the proposed MPAs to be realised
- not allow the potential fisheries benefits associated with the proposed MPAs to be realised
- not meet the public's desire to see greater marine protection and their raised expectations of this from the Forum's process.

Questions

Do you agree with our initial analysis of the effects of maintaining the status quo? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Option 2: Establishing the proposed network

Together, the proposed MPAs and kelp protection area represent marine habitats of the southeastern South Island from Timaru to Waipapa Point with varying depths, exposures to weather, currents and tides, and physical characteristics.

Examples of these environments include shallow rocky reefs near Dunedin, deep canyons off the Otago Peninsula and soft-sediment (sand and mud) habitats in the northern part of the region. Important ecological areas and sensitive habitats including seagrass, thickets of bryozoans (tiny animals that form colonies) and giant kelp forests along the coast are also included in the proposed network.

Biodiversity conservation

Establishment of the proposed network would:

- contribute to New Zealand's international biodiversity commitments in the southeast of the South Island
- contribute to the objectives of the *New Zealand Biodiversity Strategy* and MPA policy for this area
- allow the marine biodiversity in the southeast of the South Island to be explicitly protected and maintained or allowed to recover
- protect an important biogenic habitat (kelp) from the future effects of harvesting
- provide greater benefits than establishing individual MPAs in an ad hoc fashion as it would provide the important spatial links that are needed to maintain ecosystem processes and connectivity and avoid any risks to individual sites from localised disasters, climate change impacts, etc.

Reference areas for scientific study

Establishment of the proposed network would:

- provide reference areas for the benefit of research or scientific study. It could, for example, enable an increased understanding of cumulative pressures and the impacts of climate change on the southeast of the South Island.

Social, cultural and economic impacts

Establishment of the proposed network would:

- provide potential benefits associated with wellbeing and public enjoyment from MPAs, such as tourism and educational opportunities
- allow the potential fisheries benefits associated with the creation of MPAs to be realised
- increase the risk of local depletion if fishers move to other areas to fish and fishing activity in those other areas increases as a result
- potentially be associated with negative cultural, social and economic impacts on the fishers who are affected by area and fishing method restrictions (see Table 1 for estimates of the potential economic impacts on commercial fishers)
- have potential impacts on Māori interests (see section 2.5).

Establishment of the proposed network would displace the catch from fisheries, some but not all of which could be taken from elsewhere. An estimate of the likely commercial fishery displacements caused by the network is provided in Table 1, while estimates of the displacement for individual sites are provided in sections 3.3–3.5.

Table 1. Estimated average annual catch by fish stock that would be affected by the establishment of the proposed network based on annual catches from the 2007/08 to 2016/17 fishing years and export value estimates. QMA: quota management area.

Fish stock (QMA)	Estimated catch affected (kg)	Estimated % of total QMA	Estimated export value (NZ$)
Elephant fish (*Callorhinchus milii*) (ELE3)	31,007	2.8	162,478
Flatfish (FLA3)	27,838	2.0	177,332
Red cod (*Pseudophycis bachus*) (RCO3)	26,001	0.7	40,823
Red gurnard (*Chelidonichthys kumu*) (GUR3)	24,422	2.3	171,691
Rough skate (*Zearaja nasuta*) (RSK3)	24,268	1.7	28,152
Koura/rock lobster (*Jasus edwardsii*) (CRA7)	19,949	23.3	2,068,428
School shark (*Galeorhinus galeus*) (SCH3)	13,276	3.6	67,838
Rig (*Mustelus lenticulatus*) (SPO3)	10,195	2.2	68,717
Barracouta (*Thyrsites atun*) (BAR1)	9,854	0.1	15,863
Blue cod (*Parapercis colias*) (BCO3)	7,130	4.2	106,946
Arrow squid (*Nototodarus sloanii, N. gouldi*) (SQU1T&J)	7,084	0.0	30,321
Spiny dogfish (*Squalus griffin, S. acanthias*) (SPD3)	6,933	0.4	5,061
Tarakihi (*Nemadactylus macropterus, Nemadactylus* sp.) (TAR3)	4,836	0.5	17,362
Hāpuku/bass (*Polyprion oxygeneios / P. americanus*) (HPB3)	3,909	.2	43,893

Fish stock (QMA)	Estimated catch affected (kg)	Estimated % of total QMA	Estimated export value (NZ$)
Ling (*Genypterus blacodes*) (LIN3)	3,553	0.2	13,425
Stargazer (*Kathetostoma* spp.) (STA3)	2,457	0.5	5,918
Ghost shark (*Hydrolagus novaezealandiae*) (GSH3)	2,449	0.5	2,646
Blue moki (*Latridopsis ciliaris*) (MOK3)	2,416	1.7	13,361
Sea perch (*Helicolenus* spp.) (SPE3)	2,051	0.4	5,474
Octopus (*Pinnoctopus cordiformis*) (OCT3)	1,574	4.7	17,124
Leatherjacket (*Meuschenia scaber*) (LEA3)	1,483	1.2	4,656
Common warehou (*Seriolella brama*) (WAR3)	1,242	0.1	5,679
Smooth skate (*Dipturus innominatus*) (SSK3)	1,068	0.3	1,240
Paddle crab (*Ovalipes catharus*) (PAD3)	448	1.1	2,961
Large trough shell (*Mactra murchisoni*) (MMI3)	309	0.9	2,082
Pāua (*Haliotis iris, H. australis*) (PAU5D)	306	0.4	16,739
Kina (*Evechinus chloroticus*) (SUR3)	211	5.4	10,473
Silver warehou (*Seriolella punctata*) (SWA3)	132	0.0	326
Triangle shell (*Spisula aequilatera*) (SAE3)	122	0.5	826
Jack mackerel (*Trachurus declivis, T. murphyi, T. novaezelandiae*) (JMA3)	121	0.0	173
Bluenose (*Hyperoglyphe Antarctica*) (BNS3)	103	0.0	1,137

Fish stock (QMA)	Estimated catch affected (kg)	Estimated % of total QMA	Estimated export value (NZ$)
Kahawai (*Arripis trutta, A. xylabion*) (KAH3)	82	0.1	20
Trumpeter (*Latris lineata*) (TRU3)	71	0.4	211
Seal shark (*Dalatias licha*) (BSH3)	45	0.1	49
Pale ghost shark (*Hydrolagus bemisi*) (GSP1)	22	0.0	24
Snapper (*Pagrus auratus*) (SNA3)	18	25.4	179
Ringed dosinia (*Dosinia anus*) (DAN3)	13	0.5	87
Southern tuatua (*Paphies donacina*) (PDO3)	12	0.1	114
Queen scallop (*Zygochlamys delicatula*) (QSC3)	12	0.1	39
Kingfish (*Seriola lalandi*) (KIN3)	11	0.9	132
Other	1,484	53.3	N/A
Total	238,517		3,110,000

Questions

Do you agree with this initial analysis of the effects of establishing the network? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the network would you like to see? Why? Please provide evidence to support your answer.

What is your preferred option, the status quo or the network? Why?

3.3 Costs and benefits of the proposed marine reserves (Type 1 MPAs)

This section provides background information and outlines the costs and benefits of each proposed marine reserve. Additional information about each site can be found in Appendix 1, while a list of the habitats in the region and at each site is provided in Appendix 4 and a list of the taonga species that are present at each site is provided in Appendix 5.

3.3.1 Waitaki Marine Reserve

Figure 2 shows the proposed Waitaki Marine Reserve, which was identified as site B1 by the Forum.

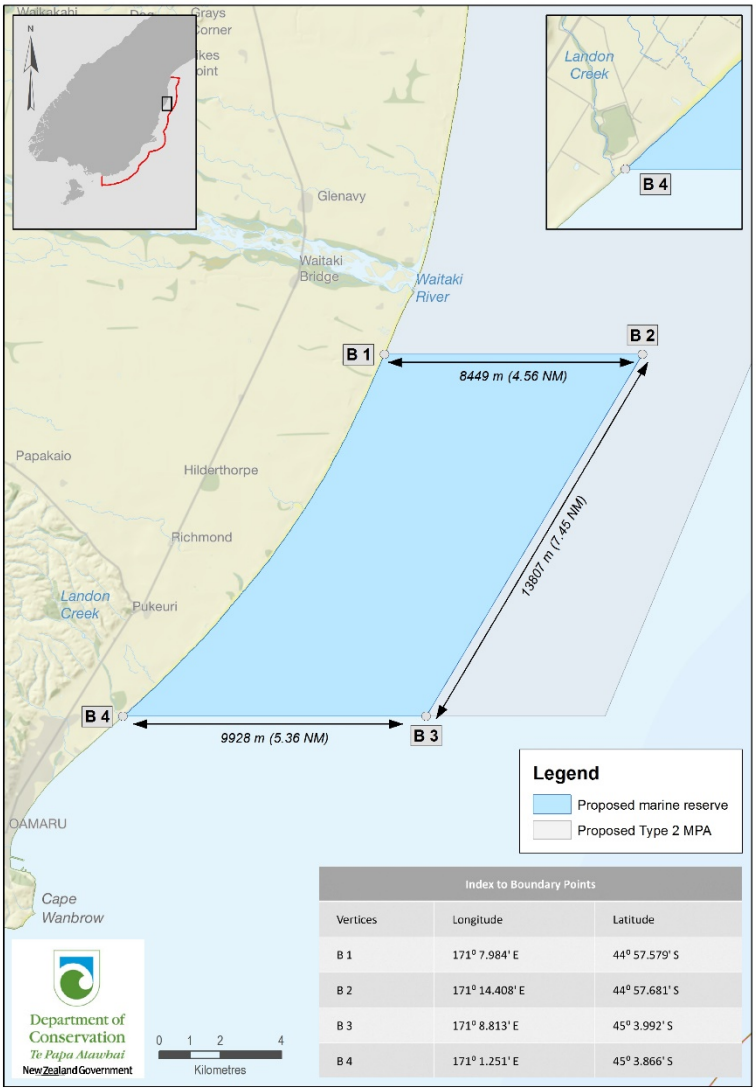

Figure 2. Locations of the proposed Waitaki Marine Reserve and the adjacent Type 2 marine protected area (MPA).

This site contains moderate gravel beach, moderate shallow gravel and moderate shallow mud habitats that are typical of this section of coast. It is approximately 15 × 8 km, which is considered a suitable size for allowing the maintenance and/or recovery of the biodiversity associated with these habitat types.

Why protecting this site is important (benefits)

The waters around the mouth of the Waitaki River hold some regionally unique, natural features due to the influence of fresh water and river sediments on the marine environment. Anecdotal evidence indicates that the cobble and gravel substrate that is found in this area supports several biogenic habitats of high biodiversity value, such as kelp and rhodolith (hard, calcified red algae) beds.

Large shoals of the juvenile form of squat lobster (*Munida gregaria)* can accumulate in the frontal systems of the river plume in late spring and summer. Squat lobsters represent an important food source for fishes, marine mammals and birds.

The area is a known foraging area for wildlife, including penguins and Otago shags (*Phalacrocorax chalconotus*) at Cape Wanbrow. The importance of this area for these species indicates its wider ecological value, which would be enhanced by establishment of the proposed marine reserve.

This is the only proposed marine reserve that would protect the biodiversity associated with gravel habitats. However, the proposed Type 2 MPAs at Tuhawaiki and Moko-tere-a-torehu would also contain these habitats. This site increases the connectivity across the network, linking with other proposed MPAs at Moko-tere-a-torehu and Tuhawaiki to the north and Te Umu Koau Marine Reserve to the south.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Waitaki Marine Reserve are outlined in Table 2.

Table 2. Activities that would be prohibited in the proposed Waitaki Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$21,491 (4.8 tonnes) per year. The biggest displacement (in terms of export value) would be experienced by the red gurnard (*Chelidonichthys kumu*), elephant fish (*Callorhinchus milii*) and rig (*Mustelus lenticulatus*) commercial fisheries, for each of which < 1 tonne per year would be expected to be displaced.
Recreational fishing	All recreational fishing would be prohibited. This would be unlikely to have a major impact as most recreational fishing in the area occurs at the mouth of the Waitaki River, which is excluded from the proposed reserve.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur.
Vehicle access over the foreshore	Driving over the intertidal area (foreshore) would be prohibited.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.3.2 Te Umu Koau Marine Reserve

Figure 3 shows the proposed Te Umu Koau Marine Reserve, which was identified as site D1 by the Forum.

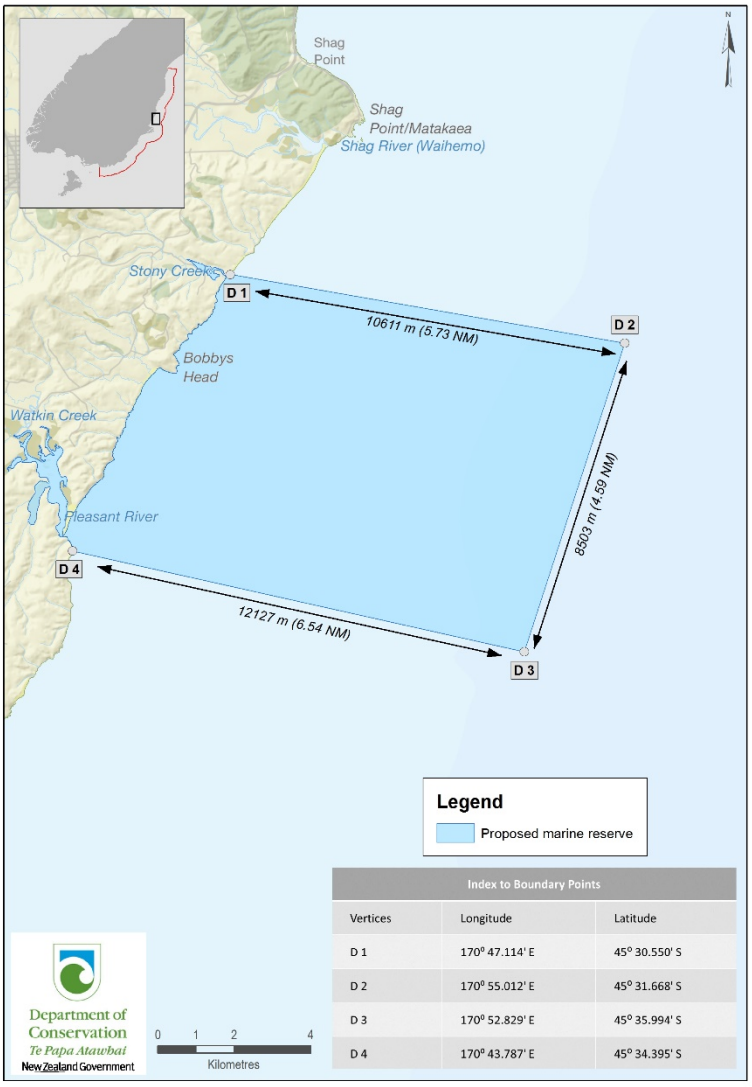

Figure 3. Location of the proposed Te Umu Koau Marine Reserve.

The proposed Te Umu Koau Marine Reserve contains habitats that are representative of those found from north of the Otago Peninsula to Oamaru. The combination of deep and shallow reef and sand, estuarine, and biogenic (kelp and seagrass) habitats make this site unique along the coast.

This site is approximately 8 × 10 km, which is considered a suitable size for allowing the maintenance and/or recovery of the biodiversity associated with these habitat types.

Of the seven coastal habitats that are represented by this site, two (deep sand and moderate shallow mud) are adequately replicated in other MPAs.

Why protecting this site is important (benefits)

This site includes a moderately exposed section of coastline that supports extensive kelp beds. Kelp forests have been likened to terrestrial forests in their structure and ability to support many other species, including koura/rock lobster (particularly the settling puerulus larvae), blue cod (*Parapercis colias*) and greenbone (butterfish; *Odax pullus*), and are one of the most productive habitat types in the world. This particular kelp forest is of outstanding value and contributes significantly to the biodiversity of the region. As with most of Otago's rocky, wave-exposed coasts, the area that is exposed at low tide is dominated by bull kelp (*Durvillaea* spp.).

Pleasant River is a tidal lagoon salt marsh habitat that is typical of tidal lagoons along this part of the coast. The edge of the Pleasant River estuary is listed as an Area of Significant Conservation Value in the *Dunedin City District Plan*[23] and as a regionally significant wetland in Schedule 9 of Otago Regional Council's *Regional Plan: Water for Otago*.[24]

An important bird area has been identified at Bobbys Head (the English name for Te Umu Koau).[25] Colonies of spotted shags (*Stictocarbo punctatus*) and tītī/sooty shearwaters (*Puffinus griseus*) have been reported at this site and hoiho/yellow-eyed penguins (*Megadyptes antipodes*) breed there.

Te Umu Koau Marine Reserve would encompass many different habitats in close proximity to each other, providing an opportunity to protect several habitats in one reserve. These include rare examples of volcanic rock reefs, estuaries, kelp forests, exposed reef shelves, sea caves and seaweed gardens. The proposed marine reserve area is considered to have exceptionally high value relating to the protection of ecosystem processes across habitats.

This is the only proposed marine reserve to represent deep reef and estuarine habitats in the Otago region. The deep reef at this site is considered to be typical of the deep reefs that are associated with this section of the coast. The inclusion of a diverse range of habitats within a single reserve would enhance the connectivity between shallow and deep reef habitats and sand and reef habitats.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Te Umu Koau Marine Reserve are provided in Table 3.

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[23] www.dunedin.govt.nz/__data/assets/pdf_file/0018/147330/Schedule-25.4-Areas-of-Significant-Conservation-Value.pdf

[24] www.orc.govt.nz/media/5795/regional-plan_-water-for-otago-updated-to-1-july-2018-schedules.pdf

[26] Department of Conservation; Ministry of Fisheries 2005: Marine Protected Areas: policy and implementation plan. Department of Conservation and Ministry of Fisheries, Wellington. 25 p. http://www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

Table 3. Activities that would be prohibited in the proposed Te Umu Koau Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be approximately NZ$2 million (40.6 tonnes) per year. Of this, $1.84 million is attributed to the displacement of koura/rock lobster (*Jasus edwardsii*; 17.7 tonnes), with Fisheries New Zealand estimating that 20.7% of the catch in CRA7 (the quota management area within which this site falls) occurs in this area. Commercial eeling also occurs in the Stony Creek and Pleasant River estuaries, which would be prohibited under the proposal.
Recreational fishing	All recreational fishing would be prohibited. Limited information is available on the use of this site for recreational fishing but it is likely that the area is used for floundering, whitebaiting, trout fishing, collecting pāua (*Haliotis* spp.), and targeting reef fishes and koura/rock lobster. However, the adverse effects on overall recreational opportunities would likely be low as alternative locations are available nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Discharge of firearm	The discharging of any firearm (as defined in the Marine Reserves Act) would be prohibited. This would prohibit game shooting in the Stony Creek and Pleasant River estuaries.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.
Vehicle access over the foreshore	Driving over the intertidal area (foreshore) would be prohibited.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.3.3 Papanui Marine Reserve

Figure 4 shows the proposed Papanui Marine Reserve, which was identified as site H1 by the Forum.

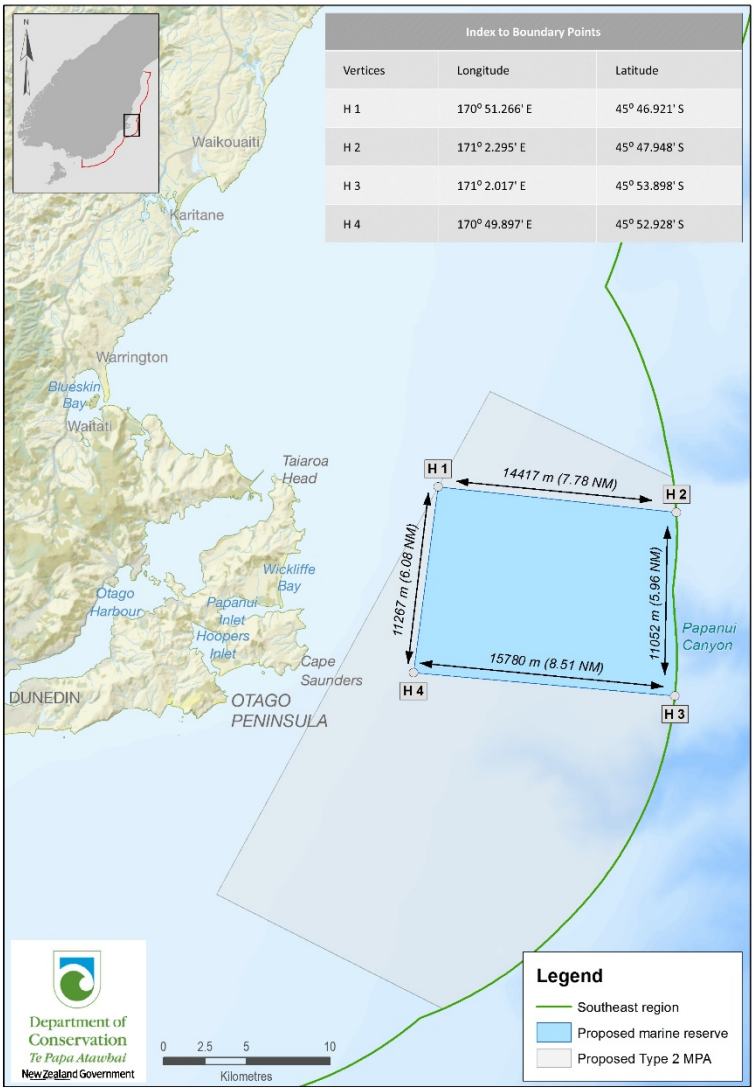


Figure 4. Locations of the proposed Papanui Marine Reserve and the adjacent Type 2 marine protected area (MPA).

This site contains three deep, soft-sediment habitat types and one biogenic habitat (bryozoan thickets). It is approximately 15 × 11 km, which is considered a suitable size for allowing the maintenance and/or recovery of the biodiversity associated with these habitat types.

All three of the soft-sediment habitat types at this site are replicated at least twice in the network (see Te Umu Koau, Hākinikini and Okaihae marine reserves and Kaimata Type 2 MPA). This site links with other deep gravel habitats in Moko-tere-a-torehu to the north and the adjacent Kaimata (both Type 2 MPAs), as well as with deep sand habitats from Te Umu Koau Marine Reserve in the north to Okaihae Marine Reserve in the south.

This area is one of only a few on the east coast of the South Island and one of only two in the southeast region where canyons extend substantially within the territorial sea. The habitats associated with these canyons are likely to be typical of the canyon habitats of the east coast of the South Island.

Why protecting this site is important (benefits)

The canyons in this area are biologically diverse, providing habitats for brittle stars, sea stars, gastropods, bivalves, shrimps, hermit crabs, bryozoans, sponges and quill worms, among others. The canyons are also hotspots for seabirds and whales, including upokohue/long-finned pilot whales (*Globicephala melas*) and parāoa/sperm whales(*Physeter macrocephalus*), making this site unique along the region's coastline, and provide a foraging area for predators such as whakahao/New Zealand sea lions (*Phocarctos hookerii*), kekeno/New Zealand fur seals (*Arctocephalus forsteri*) and hoiho/yellow-eyed penguins.

The bryozoan thicket habitat that occurs at depths of 70 m or more is a major natural feature that has been identified off the Otago Peninsula, and this is the only location where these thickets are known to occur. Thickets are distinct biogenic habitat-forming structures on the seafloor that provide habitat for a diverse community of invertebrates (eg sponges, anemones, worms, crabs, snails, sea stars and sea squirts) and many species of fishes. Bryozoans are also referred to as 'lace corals' due to their intricate structure and formations and arguably create some of the most beautiful seafloor structures and underwater scenery.

The bryozoan thickets off the Otago Peninsula are considered to be 'outstanding, rare, distinctive or internationally or nationally important marine habitat and ecosystems', meeting the criteria outlined in the MPA policy[26]. This marine reserve would afford full protection to 30% of the known distribution of habitat-forming bryozoans off the Otago Peninsula.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Papanui Marine Reserve are provided in Table 4.

Table 4. Activities that would be prohibited in the proposed Papanui Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$122,000 (21 tonnes) per year. The biggest displacement of fishing (in terms of export value) would be experienced by the blue cod (*Parapercis colias*; 3.2 tonnes), arrow squid (*Notodarus* spp.; 6.4 tonnes) and rig (*Mustelus lenticulatus*; 1.7 tonnes) commercial fisheries, which are estimated to represent 1.9%, 0.7% and 0.4%, respectively, of the quota management area landings.
Recreational fishing	All recreational fishing would be prohibited. While the establishment of this marine reserve would be likely to have some impact on recreational fishing, the adverse effects on overall recreational opportunities would likely be minimal as the generally preferred recreational destination at Saunders Canyon would still be available.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to

[26] Department of Conservation; Ministry of Fisheries 2005: Marine Protected Areas: policy and implementation plan. Department of Conservation and Ministry of Fisheries, Wellington. 25 p. http://www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

Activity	Details
	be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site. A small proportion of a current petroleum exploration permit overlaps the reserve (approximately 18 km^2 or 0.1% of the full exploration block), which has an expiry date of 2021. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.3.4 Ōrau Marine Reserve

Figure 5 shows the proposed Ōrau Marine Reserve, which was identified as site I1 by the Forum.

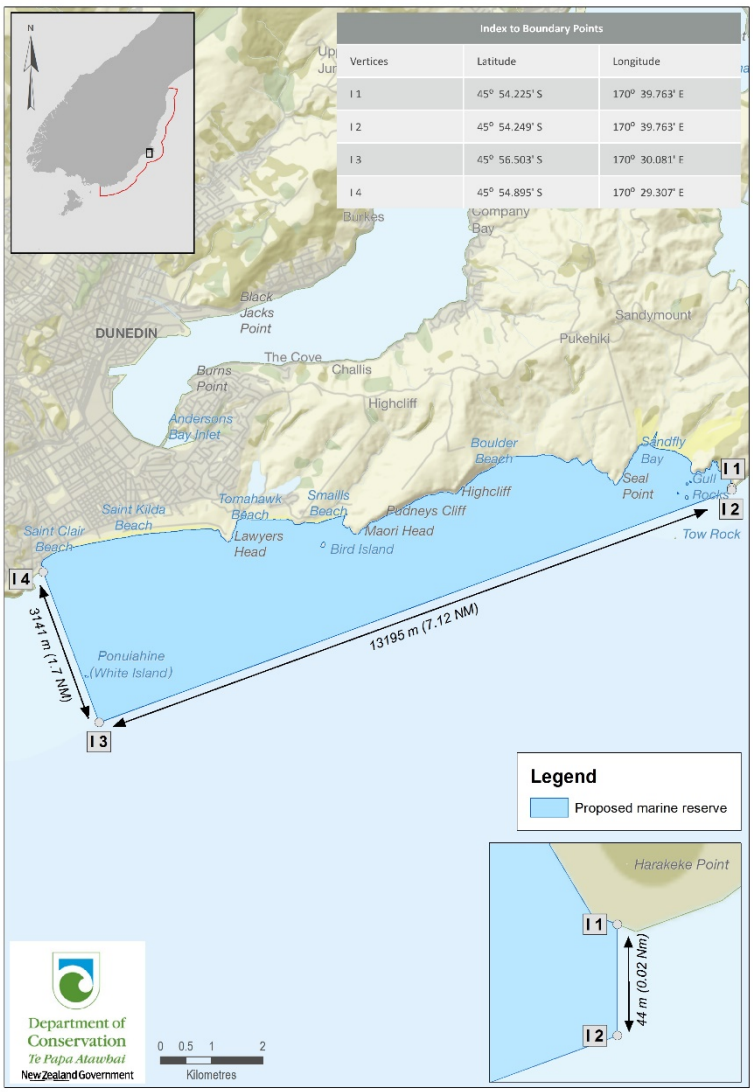


Figure 5. Location of the proposed Ōrau Marine Reserve.

This site is representative of the habitats that occur from south of Taiaroa Head to The Catlins. The proposed marine reserve would incorporate several beaches and rocky headlands, as well as a number of rock stacks and islands. It would protect six broad-scale habitat types (including intertidal and subtidal rocky reef and soft-sediment habitats) and one of only two boulder beaches in the region, making it particularly important for adequately representing exposed shallow sand and rocky reef habitats in the network.

With a length of approximately 13 km (incorporating more than 19 km of coastline) and extending 3 km offshore at its widest point, it is considered that this proposed marine reserve would likely be a suitable size for allowing the maintenance and/or recovery of the biodiversity associated with these habitat types.

This marine reserve along with those at Te Umu Koau, Hākinikini and Okaihae would provide at least two replicates of exposed reef and sand habitats. However, boulder beach habitat is not replicated anywhere else within the network.

This site links to other exposed habitats extending from Te Umu Koau to Hākinikini, as well as deep habitats from Moko-tere-a-torehu in the north to Okaihae in the south.

Why protecting this site is important (benefits)

The natural features at this site include exposed volcanic rock shorelines along which cliffs and wave-washed platforms are interspersed with sandy or boulder beaches. Small rocky islets and offshore rock stacks create unique habitats beyond the surf zone, and Lion Rock off Sandfly Bay has a dive-through cave.

Rocky reefs are dominated by forests of bull kelp (*Durvillaea* spp.) in the shallows that have a diverse understorey of other seaweeds beneath them. Koura/rock lobster and a range of reef fishes, including blue moki (*Latridopsis ciliaris*), trumpeter (*Latris lineata*) and greenbone (butterfish), are found on the reefs in this area.

At the northern end of the proposed reserve, shallow algae-dominated reefs extend to deep reef habitats where strong currents enable the formation of impressive encrusting communities of filter-feeding invertebrates (eg sponges and ascidians). Tow Rock, which is a pinnacle on the most extensive of these deep reef habitats, is not included in the reserve due to the significant cultural, commercial and recreational values associated with it.

A special feature of this area is the significant population of hoiho/yellow-eyed penguins. Some individuals forage inshore but many feed 20 km or more out to sea. Other seabirds, including tītī/sooty shearwaters, fairy prions (*Pachyptila turtur*) and kororā/little blue penguins (*Eudyptula minor*), burrow or find crevices to shelter in along this coast.

Kekeno/New Zealand fur seals haul out along this coast, but their main breeding rookeries are north of the proposed area. Whakahao/New Zealand sea lions frequent Sandfly Bay from August to November before the larger males head south to breed in the subantarctic islands, and the more secluded spots are becoming increasingly important for the small number of females that give birth here in late December. Sandfly Bay Conservation Area, Sandfly Bay Wildlife Refuge and Boulder Beach Conservation Area are important areas that are protected for the benefit of marine wildlife on shore, so extending this protection out to sea would be a valuable addition.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Ōrau Marine Reserve are provided in Table 5.

Table 5. Activities that would be prohibited in the proposed Ōrau Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$27,300 (2.6 tonnes) per year, which represents 0.1% of the export value of the southeast region. However, Fisheries New Zealand also notes that the estimated average commercial catch for each fishing method by fishery is less than 1 tonne per year, so the impact on the commercial fishing sector would likely be relatively low.
Recreational fishing	All recreational fishing would be prohibited. This area is valued by recreational fishers, particularly for pāua (*Haliotis* spp.) and blue cod (*Parapercis colias*). However, while there would be an effect on some types of fishing (particularly shore-based fishing), the adverse effects on overall recreational opportunities would likely be moderated by the availability of other suitable locations nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited.
Vehicle access over the foreshore	The use of vehicles over the intertidal area of the marine reserve would be an offence, with some exceptions for vessel launching, emergency services or management. Consistency with the Dunedin City Council Reserves and Beaches Bylaw 2017* is intended.

* www.dunedin.govt.nz/community-facilities/parks-and-reserves/reserves-and-beaches-bylaw-2017

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.3.5 Okaihae Marine Reserve

Figure 6 shows the proposed Okaihae Marine Reserve, which was identified as site K1 by the Forum.

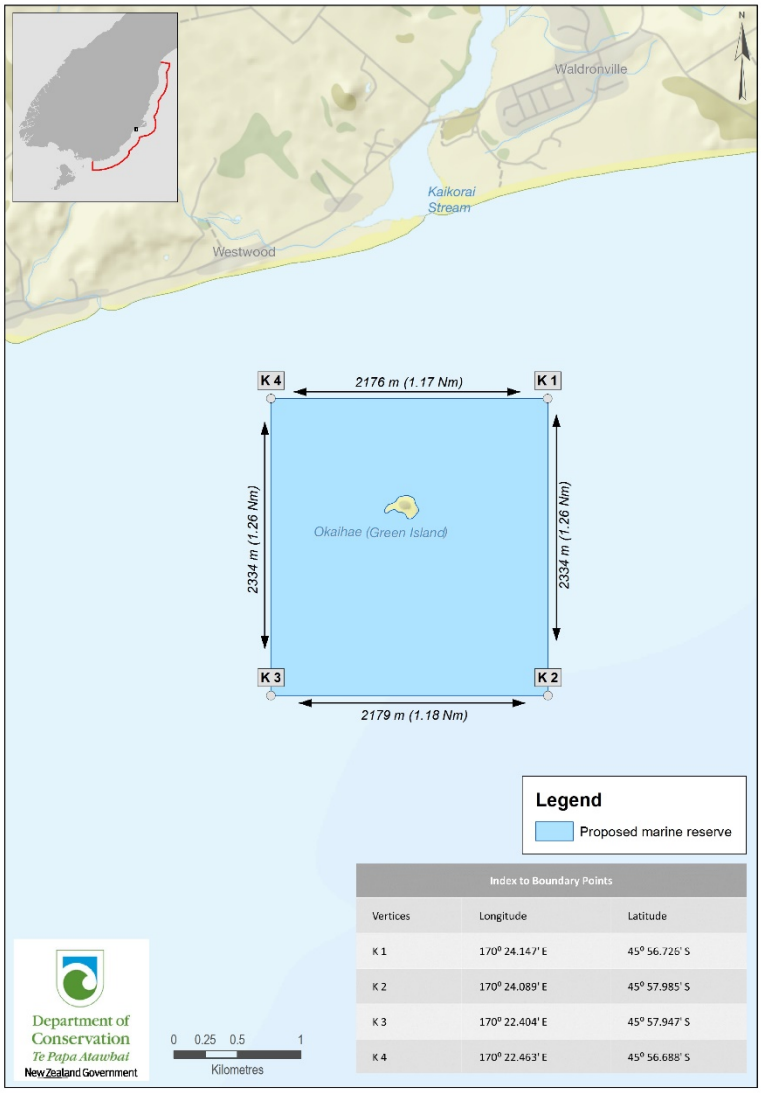


Figure 6. Location of the proposed Okaihae Marine Reserve.

This site would protect four habitat types (intertidal and subtidal reefs, and subtidal deep and shallow sand habitats). At 2 × 2.4 km, this marine reserve is much smaller than the other proposed MPAs but would encompass the entire reef around Green Island (Okaihae) and allow for the maintenance and/or recovery of the biodiversity associated with the reef habitats.

This marine reserve along with those at Ōrau and Hākinikini would provide at least two replicates of each of the reef and shallow sand habitats within the network. This site also links to deep habitats in

the marine reserves extending from Te Umu Koau to Ōrau and exposed habitats from Ōrau in the north to Hākinikini in the south.

Why protecting this site is important (benefits)

As an offshore island that is already a nature reserve, Green Island (Okaihae) is unique and has the potential to be an iconic place with the existing nature reserve extending through to the marine reserve.

The rocky reefs include forests of bull kelp (*Durvillaea* spp.) in the shallows with an understorey of other seaweed species beneath. This provides habitat for koura/rock lobster and many reef fish species, such as moki, trumpeter and greenbone (butterfish). Anecdotal evidence also suggests that hāpuku/grouper (*Polyprion oxygeneios*) were once commonly found on the Green Island reefs.

A number of seabird species live on the island, including tītī/sooty shearwaters, kororā/little blue penguins, tarāpunga/red-billed gulls (*Larus novaehollandiae*), fairy prions, hoiho/yellow-eyed penguins, little pied shags (*Phalacrocorax melanoleucos brevirostris*) and Otago shags. It is also frequently visited by kekeno/New Zealand fur seals and whakahao/New Zealand sea lions.

Anecdotally, the marine environment around Green Island has undergone a considerable decline in species diversity and abundance in the last few decades. The island is surrounded by a reasonable extent of offshore reef at diveable depths. Although the proposed marine reserve is small, protecting habitats here would likely lead to measurable changes in biodiversity, and the area could also act as a source of replenishment for invertebrates and fishes on the low-relief reefs.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Okaihae Marine Reserve are provided in Table 6.

Table 6. Activities that would be prohibited in the proposed Okaihae Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the proposed marine reserve to be NZ$19,000 (0.7 tonnes) per year, which represents 0.06% of the export value of the southeast region. The koura/rock lobster (*Jasus edwardsii*) fishery makes up an estimated $15,500 of this displacement. The impact of this site on the commercial fishing sector would likely be relatively low.
Recreational fishing	All recreational fishing would be prohibited.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.

Activity	Details
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.3.6 Hākinikini Marine Reserve

Figure 7 shows the proposed Hākinikini Marine Reserve, which corresponds to site M1 as identified by the Forum with minor adjustments to the boundaries.

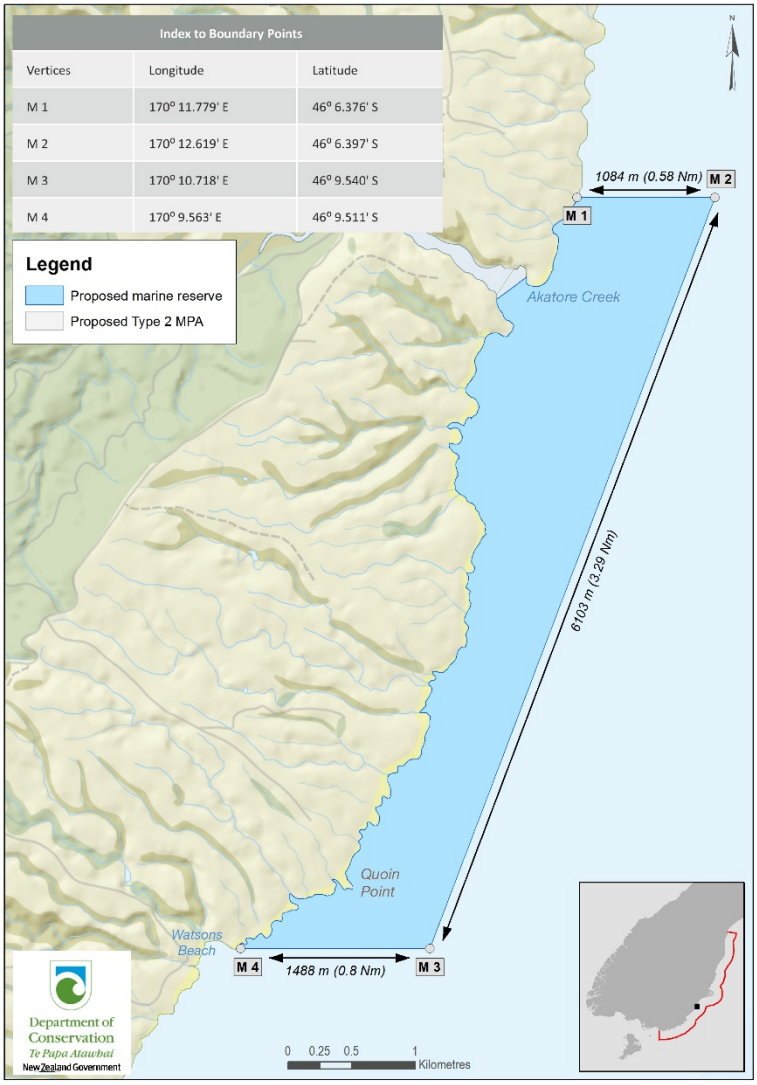


Figure 7. Locations of the proposed Hākinikini Marine Reserve and the adjacent Type 2 marine protected area (MPA).

This site would be representative of the rocky reef habitats and sandy beaches that are found from south of Taiaroa Head to The Catlins.

At approximately 6 km long (incorporating more than 9 km of coastline) and extending 1.5 km offshore at its widest point, this proposed marine reserve is expected to be a suitable size for allowing the maintenance and/or recovery of the biodiversity associated with the habitats it contains.

This marine reserve along with those at Ōrau and Okaihae would provide at least two replicates of reef and sandy beach habitats. This site also links to exposed habitats at Ōrau and Okaihae marine reserves and provides connectivity with estuarine habitats in the adjacent Type 2 MPA in the Akatore estuary (Whakatorea).

Why protecting this site is important (benefits)

This site includes a unique exposed section of Otago Schist wave-cut platforms interspersed with sand beaches, which are a combination of modern fine- to medium-grained quartz sands and much coarser quartz sand that is believed to have originated from the erosion of the geological 'Taratu Formation'. The platforms include rock pools, crevices and gutters, which provide many micro-habitats along the intertidal zone and form a beautiful and rugged coastline. Mussel beds of *Perna canaliculis* and *Mytilus galloprovincialis* extend subtidally, finding space between the bull kelp.

At Quoin Point, there is a breeding rookery of kekeno/New Zealand fur seals, and whakahao/New Zealand sea lions are increasingly observed hauling out on some beaches here.

There has been speculation that the water along this coastline was once clear enough to allow *Macrocystis* kelp beds to form offshore, which is supported by the presence of small, stunted *Macrocystis* in rock pools along the coast.

By protecting a range of representative habitats and unique features, this site would contribute to New Zealand's international biodiversity commitments, protect significant biodiversity, and provide an important representative area for research and scientific study.

Activities that would be affected by the proposed marine reserve (costs)

The 'no-take' status of marine reserves generally prohibits fishing and disturbance of any kind unless specific exceptions (that are consistent with the purpose of the Marine Reserves Act) are provided for. Swimming, snorkelling, boating and diving are not affected. Details of the activities that would be prohibited in the proposed Hākinikini Marine Reserve are provided in Table 7.

Table 7. Activities that would be prohibited in the proposed Hākinikini Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$239,300 (7 tonnes) per year, which represents 0.7% of the export value of the southeast region. The fisheries that would most likely be affected are the koura/rock lobster (*Jasus edwardsii*) and flatfish trawl fisheries, for which approximately 2.37% and 0.10%, respectively, of their quota management area catches occur at this site.
Recreational fishing	All recreational fishing would be prohibited. This area is used by recreational fishers, particularly for pāua (*Haliotis* spp.) fishing. While there would be an effect on some types of fishing, particularly shore-based fishing, the adverse effects on overall recreational opportunities would likely be moderated by the availability of other suitable locations nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to

Activity	Details
	be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

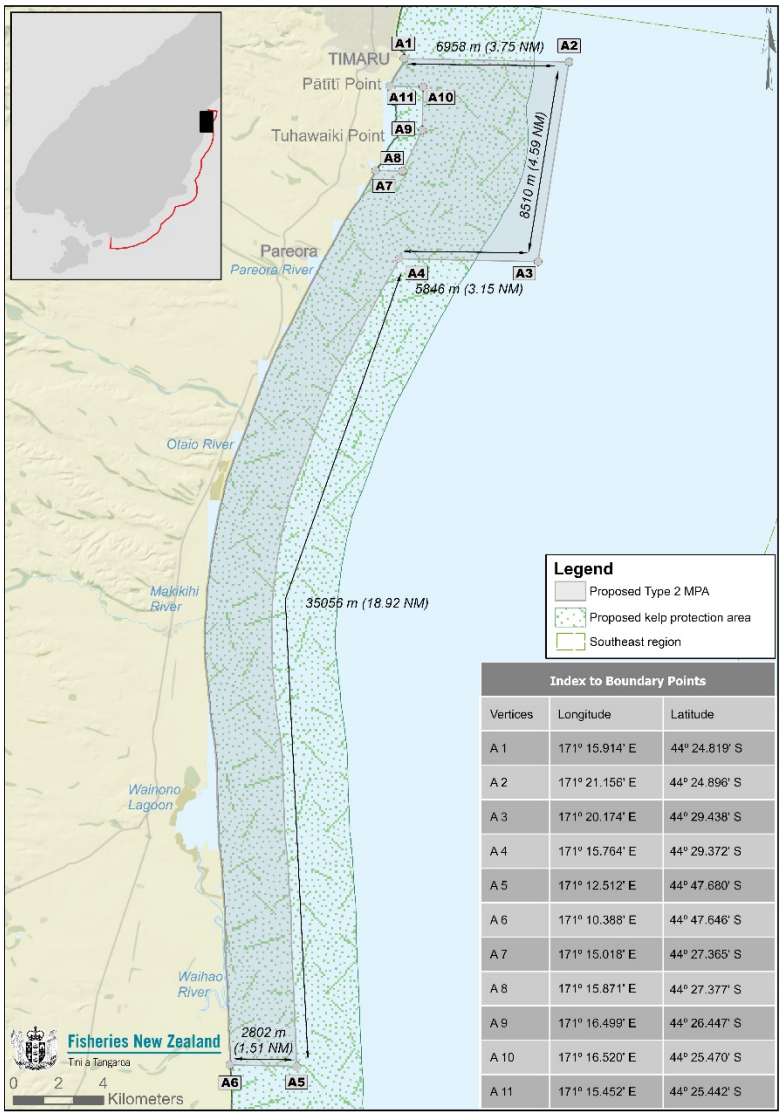
Please consider the stated costs and benefits described above. What changes to the site or activity restrictions would you like to see? Why? Please provide evidence to support your answer.

3.4 Costs and benefits of the proposed Type 2 MPAs

This section provides background information and outlines the costs and benefits of each proposed Type 2 MPA. A list of the habitats in the region and at each site is provided in Appendix 4 and a list of the taonga species that are present at each site is provided in Appendix 5.

3.4.1 Tuhawaiki

Figure 8 shows the proposed Tuhawaiki Type 2 MPA, which was identified as site A1 by the Forum.



Index to Boundary Points

Vertices	Longitude	Latitude
A 1	171° 15.914' E	44° 24.819' S
A 2	171° 21.156' E	44° 24.896' S
A 3	171° 20.174' E	44° 29.438' S
A 4	171° 15.764' E	44° 29.372' S
A 5	171° 12.512' E	44° 47.680' S
A 6	171° 10.388' E	44° 47.646' S
A 7	171° 15.018' E	44° 27.365' S
A 8	171° 15.871' E	44° 27.377' S
A 9	171° 16.499' E	44° 26.447' S
A 10	171° 16.520' E	44° 25.470' S
A 11	171° 15.452' E	44° 25.442' S

Figure 8. Locations of the proposed Tuhawaiki Type 2 Marine Protected Area (MPA) and the adjacent kelp protection area.

This site includes four coastal habitat types: moderate gravel beach, moderate shallow mud, moderate shallow sand, and moderate shallow gravel. With a width of approximately 7 km in the northern section, this proposed Type 2 MPA is expected to be a sufficient size for allowing the maintenance and/or recovery of the biodiversity associated with these habitat types.

This Type 2 MPA together with that at Moko-tere-a-torehu and the marine reserves at Waitaki and Te Umu Koau would provide replication of all four habitat types. This site also provides connectivity with the soft-sediment habitats in the MPAs further south.

Why protecting this site is important (benefits)

The waters south of Timaru are an important nursery area for school sharks (*Galeorhinus galeus*) and a spawning area for elephant fish (*Callorhinchus milii*). In addition, this area is particularly significant for pahu/Hector's dolphins (*Cephalorhynchus hectori*), kororā/little blue penguins, hoiho/yellow-eyed penguins (particularly juveniles in their pelagic phase) and a range of sessile invertebrates, indicating its wider ecological value, which would be enhanced by establishment of the proposed MPA.

Protecting this site by prohibiting a range of fishing methods within it would contribute to New Zealand's international biodiversity commitments and enable biodiversity to be maintained, including important habitats for school sharks and elephant fish.

Activities that would be affected by establishment of the proposed Type 2 MPA (costs)

Bottom trawling, dredging, Danish seining, set netting, mid-water trawling and commercial long lining would be prohibited. In addition, a five-hook limit for line fishing would apply for recreational fishing to reduce the level of extraction but allow some recreational take. Details of the activities that would be affected by establishment of the proposed Tuhawaiki Type 2 MPA are provided in Table 8.

Table 8. Activities that would be affected by establishment of the proposed Tuhawaiki Type 2 Marine Protected Area (MPA).

Activity	Details
Commercial fishing	Fisheries New Zealand estimates that establishment of this Type 2 MPA would displace an average of approximately 110 tonnes of catch per year. It is used by an average of 25 commercial fishers each year, at least 19 of whom use fishing methods that would be prohibited. Based on Statistics New Zealand data from 2017, Fisheries New Zealand estimates the export value of the potentially displaced commercial catch to be approximately NZ$463,000 per year. The commercial catch data indicate that the most significant impact would be on commercial bottom trawling for flatfish, elephant fish (*Callorhinchus milii*) and red gurnard (*Chelidonichthys kumu*).
Recreational fishing	A five-hook limit for line fishing would apply for recreational fishing. This would likely have a low impact on recreational fishers. Recreational dredging would be prohibited.
Customary fishing	This site has customary significance, with two historical pā sites in the vicinity, as well as adjacent customary fishing areas. Te Rūnaka o Arowhenua exercises kaitiakitanga for the northern part of the site and administers a mātaitai reserve at Tuhawaiki Point, which is excluded from the proposed Type 2 MPA. (Mātaitai reserves are established over traditional fishing grounds to recognise and provide for customary management practices and food gathering.) Te Rūnaka o Waihao exercises kaitiakitanga for the southern part of the site.

Questions

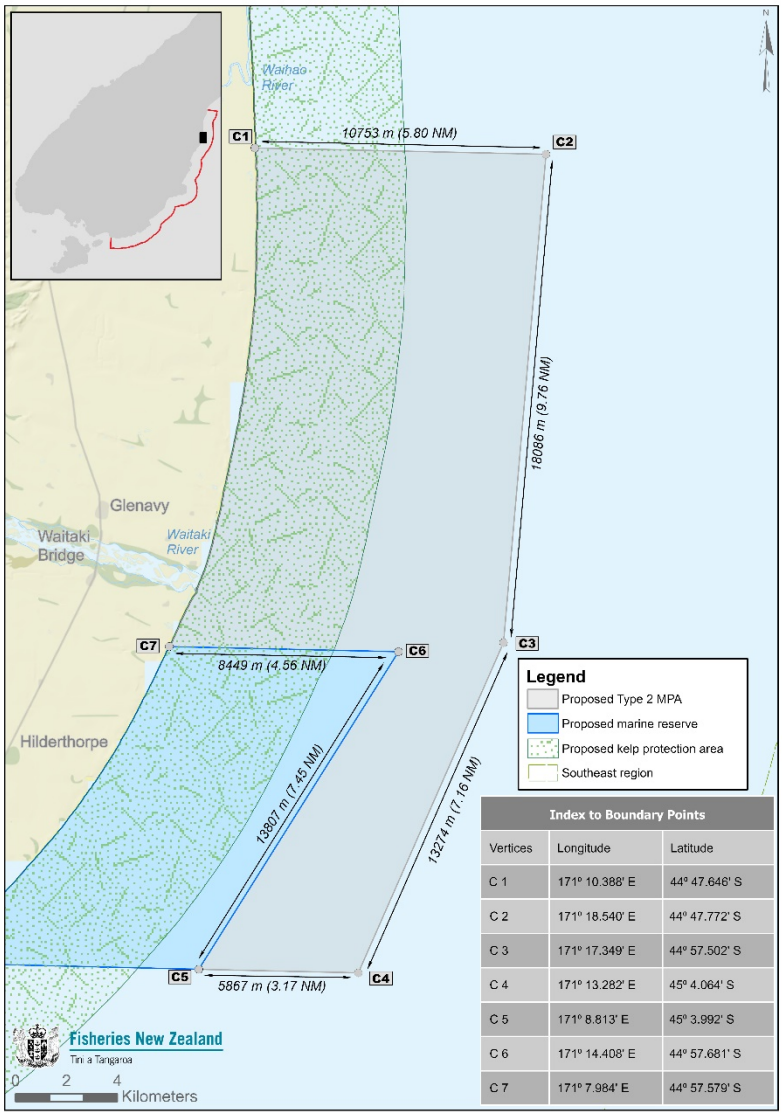
Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

3.4.2 Moko-tere-a-torehu

Figure 9 shows the proposed Moko-tere-a-torehu Type 2 MPA, which was identified as site C1 by the Forum.



Index to Boundary Points

Vertices	Longitude	Latitude
C 1	171° 10.388' E	44° 47.646' S
C 2	171° 18.540' E	44° 47.772' S
C 3	171° 17.349' E	44° 57.502' S
C 4	171° 13.282' E	45° 4.064' S
C 5	171° 8.813' E	45° 3.992' S
C 6	171° 14.408' E	44° 57.681' S
C 7	171° 7.984' E	44° 57.579' S

Figure 9. Locations of the proposed Moko-tere-a-torehu Type 2 Marine Protected Area (MPA) and the adjacent marine reserve and kelp protection area.

This site includes five habitat types: deep gravel, moderate gravel beach, moderate shallow gravel, moderate shallow mud and moderate shallow sand.

The proposed Type 2 MPA spans approximately 19 km of coastline from south of the Waihao River to south of the Waitaki River and covers an area of approximately 254 km^2. It adjoins the offshore and northern boundaries of the proposed Waitaki Marine Reserve and establishes a link along the southeast region's coastline, as well as providing replication of some of the habitat types that are present at Tuhawaiki Type 2 MPA.

Why protecting this site is important (benefits)

The Waitaki River has a strong influence on the North Otago and South Canterbury coasts in terms of freshwater inputs to the marine environment and the transportation of sediment from the land to the sea.

The cobble and gravel substrate that is found in this area supports several biogenic habitats of high biodiversity value, such as kelp and rhodolith beds, which are likely to provide habitat for juvenile fishes.

Some of the densest concentrations of squat lobster have been found around the mouth of the Waitaki River, representing an important food source for fishes, marine mammals and birds. Seabirds (including kororā/little blue penguins) and pahu/Hector's dolphins are known to forage in this area, indicating its high biodiversity values and associated habitats.

Protecting this site by prohibiting a range of fishing methods within it would contribute to New Zealand's international biodiversity commitments and enable biodiversity to be maintained and recover.

Activities that would be affected by establishment of the proposed Type 2 MPA (costs)

Bottom trawling, dredging, Danish seining, set netting, and mid-water trawling would be prohibited. Details of the activities that would be affected by establishment of the proposed Moko-tere-a-torehu Type 2 MPA are provided in Table 9.

Table 9. Activities that would be affected by establishment of the proposed Moko-tere-a-torehu Type 2 Marine Protected Area (MPA).

Activity	Details
Commercial fishing	This site is used by an average of 17 commercial fishers each year, at least 10 of whom use gears that would be prohibited. Establishment of the proposed Type 2 MPA would displace an average of approximately 34.5 tonnes of catch per year, around 25% of which would be attributed to the set net prohibition. A further 20 tonnes of this catch is taken by Danish seining, 6 tonnes by trawling and 0.3 tonnes by dredging. The most significant potential impact of establishing this proposed Type 2 MPA would be on the red gurnard (*Chelidonichthys kumu*), rig (*Mustelus lenticulatus*) and school shark (*Galeorhinus galeus*) commercial fisheries.
Recreational fishing	The proposal to establish a Type 2 MPA rather than a marine reserve around the mouth of the Waitaki River is to ensure that there is no impact on customary and recreational fishing associated with the river mouth, particularly salmon fishing and kohikohi inaka. Recreational dredging would be prohibited. There is little evidence that the proposed fishing restrictions at Moko-tere-a-torehu would have a significant impact on recreational fishing interests.
Customary fishing	This area and its waterways are of high cultural importance to Kāi Tahu hapū associated with this area (represented by traditional settlements and rich mahika kai resources). There are high customary fisheries interests immediately in and around the mouth of the Waitaki River, and the Waihao Marae and Māori reserve lands are located just to the north of this proposed site.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

3.4.3 Kaimata

Figure 10 shows the proposed Kaimata Type 2 MPA, which was identified as site E1 by the Forum.

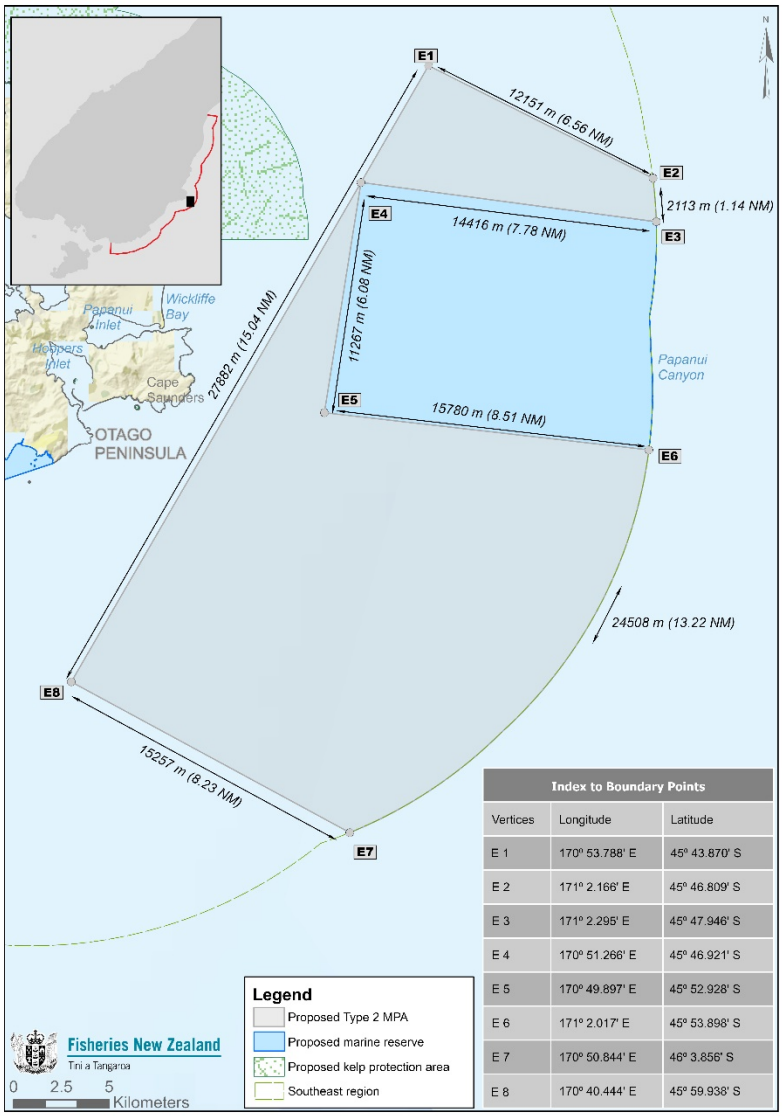


Figure 10. Locations of the proposed Kaimata Type 2 Marine Protection Area (MPA) and the adjacent marine reserve and kelp protection area.

This site is approximately 450 km^2 and was designed to complement the proposed Papanui Marine Reserve. It includes regionally important bryozoan thickets and would protect approximately 65% of the known and potential extent of habitat-forming bryozoans off the Otago Peninsula. Deep water sand and deep sand habitats are also included at the proposed site.

Why protecting this site is important (benefits)

The waters to the east of the Otago Peninsula are defined by a unique set of oceanographic conditions. Coastal, subtropical and subantarctic waters mix here, and an upwelling of deep, nutrient-rich water supports a rich diversity of habitats and associated ecosystems.

Bryozoan beds represent an important biogenic habitat in this area, supporting diverse invertebrate communities (eg sponges and anemones) and juvenile fishes. The proximity of deeper waters due to the narrow shelf and the abundance of organisms using bryozoans as habitat create feeding grounds for some larger vertebrates, such as whakahao/New Zealand sea lions and hoiho/yellow-eyed penguins. Numerous other species are known to frequent these waters, including various protected sharks, and seabirds also forage here, among which eight species are threatened and three species are classified as Nationally Critical.

Protecting this site by prohibiting a range of fishing methods would contribute to New Zealand's international biodiversity commitments and enable biodiversity within this site to be maintained or enhanced.

Activities that would be affected by establishment of the proposed Type 2 MPA (costs)

Bottom trawling, dredging, Danish seining, set netting, mid-water trawling and purse seining would be prohibited. Details of the activities that would be affected by establishment of the proposed Kaimata Type 2 MPA are provided in Table 10.

Table 10. Activities that would be affected by establishment of the proposed Kaimata Type 2 Marine Protected Area (MPA).

Activity	Details
Commercial fishing	This site is used by approximately 27 commercial fishers each year, at least seven of whom use gears that would be prohibited by establishment of this MPA. However, 19 of these are pot fishers who would be unaffected. Establishment of the proposed Type 2 MPA would displace approximately 18 tonnes of catch, approximately 80% of which would result from the set net prohibition. Approximately 4 tonnes of catch is taken from this site by trawling. No Danish seining or dredging has been reported at this site. The export value of potentially displaced commercial catch from the area is NZ$77,500. The commercial catch data indicate that the most significant potential impact of the proposed prohibitions at this site would be on the school shark (*Galeorhinus galeus*), rig (*Mustelus lenticulatus*) and flatfish fisheries.
Recreational fishing	Establishment of this Type 2 MPA would have a low impact on recreational fishers.
Customary fishing	Traditional settlements in the Cape Saunders area used sheltered anchorages to access the rich fisheries in this area. Maintaining and enhancing marine ecosystems that contribute to the biodiversity of the Otago coast is an important issue for Kāi Tahu. The shelf and canyons are similarly considered to be important in terms of customary fisheries. Ōtākou whānau and hapū have maintained a continuous and active role in all facets of fishery activities, be it customary, commercial or recreational.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

3.4.4 Whakatorea

Figure 11 shows the proposed Whakatorea Type 2 MPA, which was identified as site L1 by the Forum.

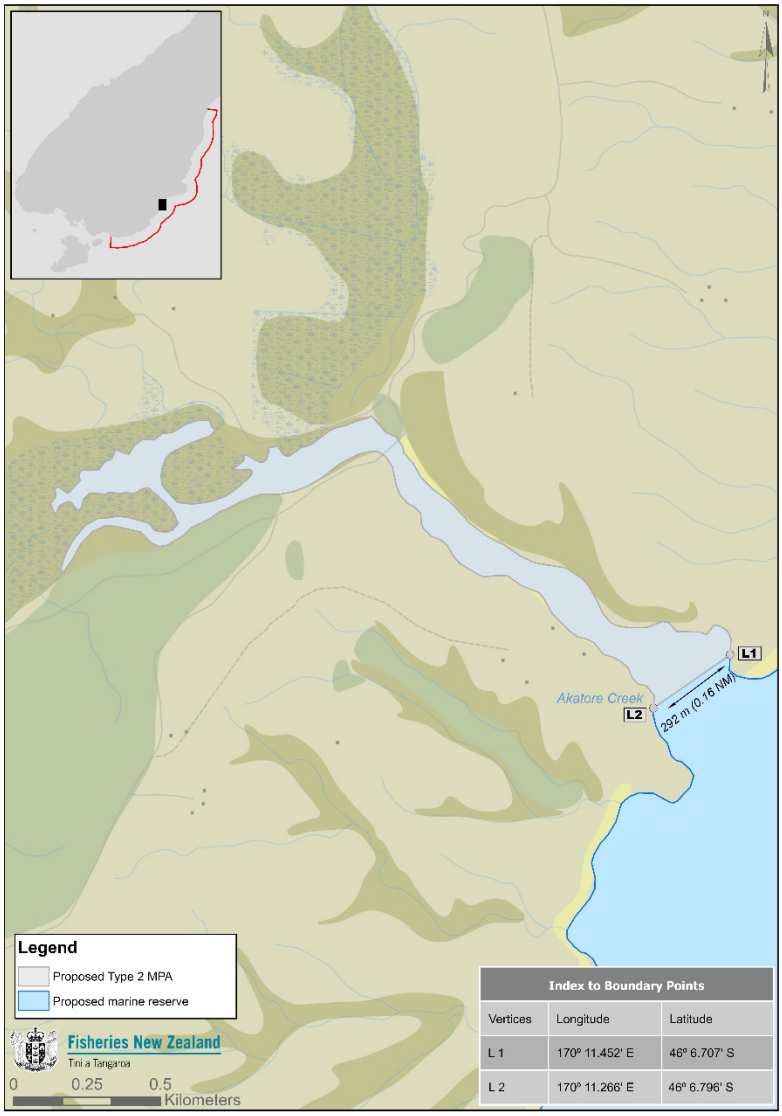


Figure 11. Locations of the proposed Whakatorea Type 2 Marine Protected Area (MPA) and the adjacent marine reserve.

Whakatorea includes the entire Akatore estuary and incorporates 0.28 km² of estuarine habitat. It includes mud flats, sand flats and estuarine sandy beach habitat types. This Type 2 MPA would provide a replicate of an estuarine system, examples of which are also found in the proposed Te Umu Koau Marine Reserve and Tahakopa Type 2 MPA. The boundary of this site at the mouth of the Akatore Creek adjoins the proposed Hākinikini Marine Reserve.

Why protecting this site is important (benefits)

The Akatore estuary is a known nursery area for flatfish and hosts two species of galaxiids (the adults of whitebait species), whitebait and fauna of higher trophic levels, particularly eels. It also includes one of the best examples of a salt marsh outside The Catlins.

The commercial harvesting of eels can alter the size and sex distribution of their populations, so harvesting methods that have the potential to extract significant numbers of eels would be restricted to maintain the food web.

This area can be easily accessed and is close to Dunedin. Therefore, the potential benefits associated with protection include providing access to a near-natural estuary and related educational opportunities (eg birdwatching).

Activities that would be affected by establishment of the proposed Type 2 MPA (costs)

Dredging, set netting, commercial line fishing, mechanical harvesting (including spades for collecting shellfish) and fyke net fishing would be prohibited. Details of the activities that would be affected by establishment of the proposed Whakatorea Type 2 MPA are provided in Table 11.

Table 11. Activities that would be affected by establishment of the proposed Whakatorea Type 2 Marine Protected Area (MPA).

Activity	Details
Commercial fishing	Fisheries New Zealand has limited information on commercial fishing activity in the Akatore estuary due to the scale at which commercial catches are reported. Therefore, it is not possible to estimate the catch that would be displaced or the potential economic loss that would be associated with establishment of this Type 2 MPA. Some commercial fishing for shortfin eels (*Anguilla australis*) takes place in the estuary, which would be affected by the prohibition on fyke netting. The submissions received by the South-East Marine Protection Forum indicated that the mean shortfin eel catch is approximately 1.75 tonnes per year. Establishment of this MPA could displace shortfin eel fishing effort into surrounding estuaries. However, this may be limited as other estuaries in the relevant quota management area are already closed or restricted to commercial fishing activity.
Recreational fishing	Fisheries New Zealand considers that the potential impacts on recreational fishers would likely be low. The forum report noted that those who were opposed to this MPA considered that local recreational fishers would be adversely affected.
Customary fishing	The Akatore estuary is a customary mahika kai resource for whānau and hapū associated with this area. It is of particular interest to the Taieri-based Ōtakou whānau, who use the estuary for the customary gathering of shellfish. The whānau and hapū who remain in the area around the mouth of the Taieri River have maintained a continuous and active role in all facets of fishery activities, be it customary, commercial or recreational.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

3.4.5 Tahakopa

Figure 12 shows the proposed Tahakopa Type 2 MPA, which was identified as site Q1 by the Forum.

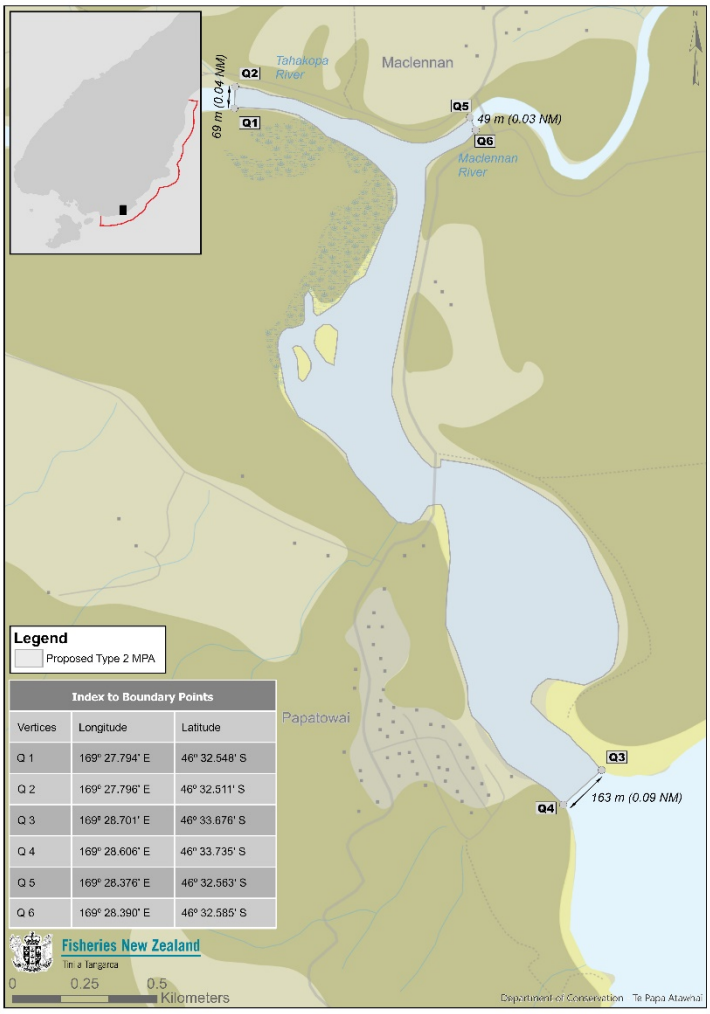


Figure 12. Location of the proposed Tahakopa Type 2 Marine Protected Area (MPA).

The Tahakopa estuary is a tidal lagoon and comprises 0.68 km^2 of estuarine habitat that includes mud flats and sandy beach habitat. This Type 2 MPA would provide a replicate example of an estuarine system in association with the proposed Te Umu Koau Marine Reserve.

Why protecting this site is important (benefits)

The western side of the Tahakopa estuary has unmodified mud flats with a small area of salt marsh turf and an extensive area of tall jointed rush (*Juncus articulatus*). This area is of special significance for wading birds and whitebait spawning, and flatfish are also a feature of the estuary's biodiversity. Salt marsh has been removed from elsewhere in the estuary by human activities.

The commercial harvesting of eels can alter the size and sex distribution of their populations, so harvesting methods that have the potential to extract significant numbers of eels would be restricted to maintain the food web.

The Tahakopa estuary can be accessed by the public via various walks and access points, although parts are only accessible by water. Including this area in a Type 2 MPA would enable families and visitors to learn about and experience estuarine habitats in a natural condition.

Activities that would be affected by establishment of the proposed Type 2 MPA (costs)

Dredging, set netting, commercial line fishing, mechanical harvesting (including spades for collecting shellfish) and fyke net fishing would be prohibited. Details of the activities that would be affected by establishment of the proposed Tahakopa Type 2 MPA are provided in Table 12.

Table 12. Activities that would be affected by establishment of the proposed Tahakopa Type 2 Marine Protected Area (MPA).

Activity	Details
Commercial fishing	Fisheries New Zealand has limited information on commercial fishing activity in the Tahakopa estuary due to the scale at which these catches are reported. Therefore, it is not possible to estimate the catch that would be displaced or the potential economic loss resulting from establishment of this Type 2 MPA. Fisheries New Zealand is aware of some commercial fishing activity for shortfin eels (*Anguilla australis*) in this estuary and considers that a prohibition on fyke netting would have an impact on this. The submissions received by the South-East Marine Protection Forum estimated that the mean shortfin eel catch is approximately 2.75 tonnes per year.
Recreational fishing	The recreational set netting that currently occurs in the Tahakopa estuary would be prohibited.
Customary fishing	The Tahakopa estuary has extensive wāhi tapu and wāhi taōka sites, with carbon dating providing evidence of some of the oldest archaeological sites known in New Zealand. The estuary is regularly used by whānau to gather mahika kai and launch waka ama. Customary practices are used to educate and transfer intergenerational mātauraka in traditional gathering practices. Set net and fyke net prohibitions would affect the ability of tangata whenua to gather kai moana using these methods.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

3.5 Costs and benefits of the bladder kelp protection area, Arai Te Uru

Figure 13 shows the proposed Arai Te Uru kelp protection area, which was identified as site T1 by the Forum.

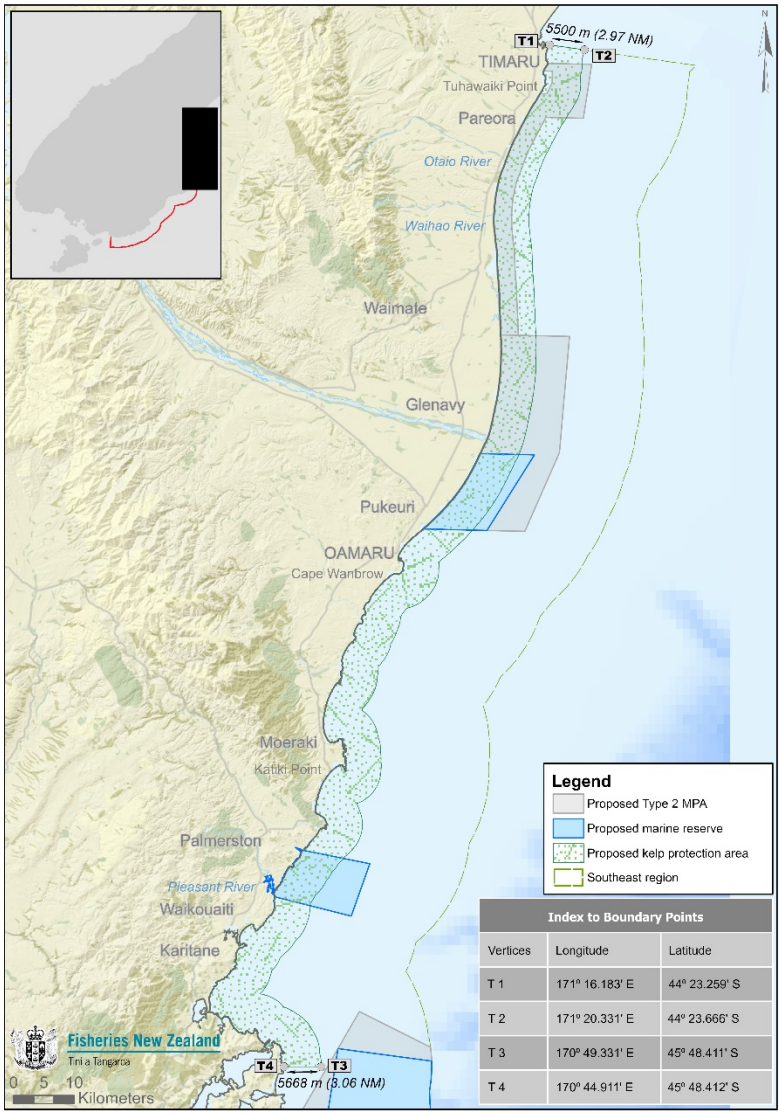


Figure 13. Locations of the Arai Te Uru kelp protection area and the adjacent marine reserves and Type 2 marine protection areas (MPAs).

Why protecting this site is important (benefits)

Bladder kelp (*Macrocystis pyrifera*) forests are important biogenic habitats that support biodiversity and provide ecosystem services in the southeast region.

Kelp forests have been likened to terrestrial forests in their structure and ability to support many other species, including koura/rock lobster (particularly the settling puerulus larvae), blue cod and greenbone (butterfish), and are one of the most productive habitat types in the world.

The decline in kelp forests can be linked to increased sedimentation from land and other stressors, and kelp harvesting adds an additional and unwarranted risk to the value provided by this species.

This site was proposed for protection to prevent kelp forests from being affected by commercial harvesting in the event that harvesting operations are developed in this area.

The protection of the kelp forests would have potential benefits to fisheries (eg through the provision of habitat for juvenile koura/rock lobsters), maintain the role of this habitat type in coastal erosion mitigation and reduce the effects of climate change on coastal habitats.

Activities that would be affected by the establishment of the Arai Te Uru kelp protection area (costs)

The commercial harvest of bladder kelp would be prohibited. Details of the activities that would be affected by establishment of the proposed Arai Te Uru kelp protection area are provided in Table 13.

Table 13. Activities that would be affected by establishment of the proposed Arai Te Uru kelp protection area.

Activity	Details
Commercial fishing	Bladder kelp (*Macrocystis pyrifera*) harvesting is managed under the quota management system. This area is within quota management area KBB3G, which extends from Slope Point northwards to the mouth of the Waiau Toa / Clarence River. There are currently six KBB3G quota holders. Fisheries New Zealand estimates that only a small amount of attached bladder kelp is currently harvested from this area (the main harvest occurs around Banks Peninsula). Fisheries New Zealand notes that the establishment of this site may impact on the ability of quota holders to fully develop the kelp fishery (harvesting of kelp) and reduce the value of the bladder kelp quota they hold, which could put pressure on kelp beds in other parts of KBB3G if exploitation of the stock increases.
Recreational fishing	Not affected.
Customary fishing	Not affected.

Questions

Do you agree with the costs and benefits identified for this site? If not, why not? Please provide evidence to support your answer.

Are there other benefits or impacts that have not been described here?

Please consider the stated costs and benefits described above. What changes to the site or fishing restrictions would you like to see? Why? Please provide evidence to support your answer.

4 Implementation and monitoring

The proposed marine reserves would be established under the Marine Reserves Act 1971, while the proposed Type 2 MPAs would be established using regulations under the Fisheries Act 1996.

Marine reserves are administered by DOC, whose management responsibilities include marking the boundaries (where necessary), informing the public of permitted and prohibited activities, undertaking biological monitoring, issuing scientific permits, and overseeing the enforcement provisions of the Marine Reserves Act in relation to offences. Compliance and enforcement costs would be funded within DOC baseline funding and/or via DOC's Biodiversity 2018 Programme, which has provided additional funding for marine reserve compliance.

The Ministry for Primary Industries (MPI) is responsible for enforcing any new fisheries regulations. Enforcement of the new regulations would be incorporated into normal MPI compliance operations in the area, and MPI would consider the appropriate level of compliance activity as part of implementing the new regulations. It is expected that compliance and enforcement activity would be funded from within existing baseline funding.

5 Glossary of Māori terms

Note: This glossary includes Māori terms that are presented in both this report and the accompanying appendices. Many of these definitions have been taken from the Forum's recommendations report.[27]

hapū	Extended family.
iwi	Tribe, people.
kai moana	Seafood.
kaitiakitanga	The exercise of guardianship; in relation to fisheries resources, this includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate mana whenua in accordance with tikaka Māori (Fisheries Act 1996).
kohikohi inaka	Whitebaiting.
kōiwi tākata	Unidentified (Māori) human remains / skeletons.
mahika kai	Places where food and resources are procured and the practices of gathering such resources.
manaakitaka	Hospitality; this is a key cultural value as the ability to share kāi and appropriately host visitors at home or the marae is highly valued.
mana whenua	Customary authority or rakatirataka exercised by an iwi or hapū in an identified area.
mātauraka	The traditional knowledge accumulated by generations of Kāi Tahu whānau and hapū through co-existence with and the use and protection of their natural resources.
pou	Someone or something that strongly supports a cause or is a territorial symbol.
rūnaka	The governing council or administrative group of a Māori hapū or iwi.
takiwā	Traditional area of occupation of a hapū or iwi.
taoka/taonga	Highly prized.
Te Tiriti o Waitangi	The Treaty of Waitangi.
tino rangatiratanga	Sovereignty, autonomy, self-government.

[27] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

wāhi taōka	Places of special value.
wāhi tapu	Sacred place or site.
waka ama	Outrigger canoe.
wānaka	Intergenerational sharing of knowledge.
whanau	Family group; to be born, give birth.

Appendices

Long Point at dawn. *Photo: Fergus Sutherland*

Contents

Appendix 1: Application for marine reserves

1 Purpose and statutory framework

1.1 Purpose

This is an application by the Director-General (DG) of Conservation for Orders in Council pursuant to section 4(1) of the Marine Reserves Act 1971[1] to declare as marine reserves six areas of sea and foreshore in the localities of the Waitaki River, Bobbys Head (Te Umu Koau), Sandfly Bay (Ōrau), Papanui Canyon, Green Island (Okaihae) and Quoin Point (Hākinikini).

This application includes descriptions of the locations and extents of the proposed marine reserves, the background to the application, and an assessment of the effects that marine reserve status may have on existing users of these areas.

A copy of the DG's formal notice of intention to apply for the Orders in Council is provided as an annex at the end of this appendix.

The purpose of marine reserves is set out in section 3 of the Marine Reserves Act, which states that marine reserves will be preserved and maintained in a natural state for the scientific study of marine life and that the public shall have freedom of access. The Act also defines the purpose of marine reserves to preserve areas and marine life and defines ways in which reserves will be administered and maintained. Marine reserves also have a role in advancing public understanding and appreciation of the marine environment.

Note: This application follows on from the decision of the Ministers of Conservation and Fisheries to proceed with the statutory processes for establishing the network of marine protected areas (MPAs) that was identified as network 1 in the recommendations report of the South-East Marine Protection Forum Roopu Manaaki ki te Toka (the Forum).[2] This network comprises the six marine reserves covered by this application as well as five additional Type 2 MPAs that are proposed to be established under the Fisheries Act 1996 and a kelp protection area. The Department of Conservation (DOC) and Fisheries New Zealand have produced a *Southeast marine protection network consultation document*[3] that includes more information about all of the proposed marine protection measures in this region.

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[1] www.legislation.govt.nz/act/public/1971/0015/latest/DLM397838.html?src=qs

[2] South-East Marine Protection Forum 2018: Recommendations to the Minister of Conservation and the Minister of Fisheries: recommendations towards implementation of the Marine Protected Areas Policy on the South Island's south-east coast of New Zealand. Department of Conservation, Wellington. 314 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

3 https://survey.publicvoice.co.nz/s3/semp-consultation

1.2 Statutory framework

Section 3 of the Marine Reserves Act states:

> Marine reserves to be maintained in natural state, and public to have right of entry.
>
> (1) It is hereby declared that the provisions of this Act shall have effect for the purpose of preserving, as marine reserves 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.
>
> (2) It is hereby further declared that, having regard to the general purpose specified in subsection (1), marine reserves shall be so administered and maintained under the provisions of this Act that—
>
> > (a) they shall be preserved as far as possible in their natural state
> >
> > (b) the marine life of the reserves shall as far as possible be protected and preserved
> >
> > (c) the value of the marine reserves as the natural habitat of marine life shall as far as possible be maintained
> >
> > (d) subject to the provisions of this Act and to the imposition of such conditions and restrictions as may be necessary for the preservation of the marine life or for the welfare in general of the reserves, the public shall have freedom of access and entry to the reserves, so that they may enjoy in full measure the opportunity to study, observe, and record marine life in its natural habitat.
>
> (3) For the purposes of this section but subject to any authorisation given under section 11(b), no person shall fish in a marine reserve except—
>
> > (a) persons (not being persons holding a permit issued under Part 4 of the Fisheries Act 1983) authorised by notice in the Gazette given by the Minister after having regard to the purpose specified in subsection (1); and
> >
> > (b) in accordance with such conditions as to time, place, species of fish, methods, and gear to be used in fishing, as may be specified in the notice; and
> >
> > (c) where not inconsistent with any conditions imposed under paragraph (b), in compliance with restrictions imposed on fishing by the Fisheries Act 1983 and any regulations made under it.
>
> (4) Nothing in this section shall apply to prohibit any person from fishing in the reserve in accordance with any conditions imposed by any Order in Council made under section 5.

1.3 Applying for an Order in Council

For the purposes of section 3(1) of the Marine Reserves Act, marine reserves are established by an Order in Council that is made by the Governor-General following the process set out in section 5 of the Act. This process begins here, with the DG of Conservation lodging this formal application for Orders in Council to declare the marine reserves and includes the following steps.

1. An application is made by (or to) the DG of Conservation.

2. Public notification is given of the intention to apply for an Order in Council to declare the area a marine reserve, including a request for any objections.

3. Specific written notification is given to anyone owning an estate or with interest in land adjoining the proposed reserve (including Māori land owners), any regional council that acts as a harbour board with jurisdiction over the area, any local authority that has control of the foreshore in the area, and the Secretary of Transport and the DG of Fisheries.

4. A 2-month deadline is established from the first day of public notification for objections.

5. A 3-month deadline is established from the first day of public notification for the applicant (in this case the DG) to respond to these objections if they so wish.

6. The DG refers the application, objections and any answer to those objections to the Minister of Conservation.

7. When (as in this case) the DG is the applicant, the Minister may decide to also obtain and consider an independent report on the objection(s) and the application.[4]

8. The Minister of Conservation decides whether or not to uphold any objections. If objections are upheld, the application does not proceed.

9. If no objections are upheld, the Minister of Conservation considers the application and whether declaring the area a marine reserve will be in the best interests of scientific study, will be for the benefit of the public and is expedient.

10. If the Minister of Conservation is satisfied that the application meets the above requirements, the concurrence (agreement) of the Ministers of Fisheries and Transport is sought. If concurrence is withheld, the application does not proceed.

11. If concurrence of the Ministers of Fisheries and Transport is obtained, the Minister of Conservation recommends that the Governor-General makes an Order in Council to establish the marine reserve.

12. An Order in Council is made and notified in the New Zealand Gazette. The order declaring the marine reserve comes into force 28 days after it is notified.

1.4 Role of the Department of Conservation

This application is made by the DG of Conservation, as provided for under section 5(1)(a)(v) of the Marine Reserves Act.

Regardless of who the applicant is, all marine reserves are administered by DOC, whose management responsibilities include marking the boundaries (where necessary), informing the public of permitted and prohibited activities, undertaking biological monitoring, issuing scientific permits, and overseeing the enforcement provisions of the Act in relation to offences.

[4] The Report of the Regulations Review Committee on the Marine Reserve (Whanganui A Hei (Cathedral Cove)) Order 1992 recommends that this should happen as a matter of course.

1.5 Responses invited

DOC welcomes submissions on the proposed marine reserves that are set out in this application. Anyone who wishes to object or make a submission in support of this application should do so no later than 2 months after the public notification date.

Online submissions are preferred as they allow DOC to collate, analyse and summarise these responses more quickly and efficiently. To make an online submission, visit https://survey.publicvoice.co.nz/s3/semp-consultation.

Submissions can also be emailed to southeast.marine@publicvoice.co.nz.

If you are unable to make an electronic submission, you may post a written submission, which should include the following information.

- The title of this document.
- Your name and title.
- Your organisation's name (if you are submitting on behalf of an organisation).
- Your contact details (phone number, address and email).

Written submissions should be mailed to:

Proposed southeast marine protection network
Department of Conservation and Fisheries New Zealand
Conservation House
PO Box 10420
Wellington 6143
New Zealand

1.6 Statutory considerations

Under section 5(5) of the Marine Reserves Act, the DG of Conservation must refer any objections to the application to the Minister of Conservation who, pursuant to section 5(6) of the Act, will decide whether any of the objections should be upheld. The DG has the right as applicant to answer any objections received. Any answers provided by the DG are to be considered by the Minister of Conservation alongside any objections.

It is noted that where the applicant is the DG (as is the case here), the Minister of Conservation may obtain an independent report on the objections and applications from an independent source. The Minister may also consider any submissions in support of the application that have been included in the applicant's answer to objections. Such submissions in support may be relevant to the public interest, to which the Minister is required to have regard under section 5(6)(e) of the Act.

The final decision on which sites will be designated as marine reserves will have regard to any relevant information that is submitted as part of this consultation. Details of evidence received and a government response to the issues raised in the consultation will be published, together with the final decision for each site.

2 Background

2.1 Marine protection commitments

2.1.1 Convention on Biological Diversity

As a signatory to the United Nations Convention on Biological Diversity,[5] New Zealand has committed to conserving at least 10% of its coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services. Marine conservation will be achieved through the establishment of effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, which will be integrated into the wider landscapes and seascapes.[6]

2.1.2 New Zealand Biodiversity Strategy

The *New Zealand Biodiversity Strategy*[7] (NZBS) reflects the commitment by the New Zealand Government, through its ratification of the United Nations Convention on Biological Diversity, to help stem the loss of biodiversity worldwide.

The *Marine Protected Areas: policy and implementation plan*[8] (MPA policy; see section 2.1.3) was designed to contribute to Objective 3.6 of the NZBS and is a direct response to the following two priority actions under that objective.

> Action 3.6(a): Develop and implement a strategy for establishing a network of areas that protect marine biodiversity, including marine reserves, world heritage sites, and other coastal and marine management tools such as mātaitai and taiāpure areas, marine area closures, seasonal closures and area closures to certain fishing methods.
>
> Action 3.6(b): Achieve a target of protecting 10 percent of New Zealand's marine environment by 2010 in view of establishing a network of representative protected marine areas. Action 3.6(b) will be important as an indicator of progress towards achieving marine biodiversity protection. However, the ultimate extent of protection will be determined by what coverage is required to establish a comprehensive and representative network of marine protected areas.

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[5] www.cbd.int/convention/

[6] www.cbd.int/sp/targets/rationale/target-11/

[7] Department of Conservation; Ministry for the Environment 2000: The New Zealand Biodiversity Strategy. Department of Conservation and Ministry for the Environment, Wellington. 146 p. www.doc.govt.nz/nature/biodiversity/nz-biodiversity-strategy-and-action-plan/new-zealand-biodiversity-strategy-2000-2020/

[8] Department of Conservation; Ministry of Fisheries 2005: Marine Protected Areas: policy and implementation plan. Department of Conservation and Ministry of Fisheries, Wellington. 25 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

2.1.3 MPA policy

DOC and the former Ministry of Fisheries[9] developed the MPA policy in 2005 and the *Marine Protected Areas: classification, protection standard and implementation guidelines*[10] in 2008 to provide a framework to help meet Objective 3.6 of the NZBS and New Zealand's commitment under the United Nations Convention on Biological Diversity. To address the objectives and actions of the NZBS, 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.

Of note is the requirement to establish a **network** of MPAs. As such, the six marine reserves that are included in this application and the five additional Type 2 MPAs and kelp protection area that are proposed, as outlined in the *Southeast marine protection network consultation document*, should be considered in combination as part of a network.

Planning principle 3 of the MPA policy states that:

> The special relationship between the Crown and Māori will be provided for, including kaitiakitanga customary use and mātauranga Māori.

This requires the observance of obligations arising from Te Tiriti o Waitangi[11] commitments to mana whenua and ensures effective participation at an early planning stage. In addition, planning principle 5 requires consideration of the impacts on customary use rights and that any such impacts are minimised when selecting areas to recommend as MPAs.

2.1.4 South-East Marine Protection Forum

In 2014, the then Minister of Conservation Hon. Dr Nick Smith and the then Minister for Primary Industries Hon. Nathan Guy appointed a forum to undertake a collaborative process to consider and recommend marine protection options for the southeast of the South Island of New Zealand.

The South-East Marine Protection Forum was a multi-stakeholder group that included representatives from Kāi Tahu,[12] commercial and recreational fishing interests, conservation advocates, tourism interests, and local communities, all of whom have an interest in the marine environment. It was tasked with developing recommendations for MPAs along the southeastern coast of the South Island within territorial waters to 12 nautical miles (NM) offshore. The Forum was assisted and advised by DOC and Fisheries New Zealand.

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[9] Now Fisheries New Zealand.

[10] Ministry of Fisheries; Department of Conservation 2008: Marine Protected Areas: classification, protection standard and implementation guidelines. Ministry of Fisheries and Department of Conservation, Wellington. 53 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-classification-protection-standard-and-implementation-guidelines/

[11] See the Glossary at the end of the *Southeast marine protection network consultation document* for definitions of all Māori terms.

[12] Also referred to as Ngāi Tahu in relation to documents, Acts and the formal name of the tribe. In the Kāi Tahu dialect, the 'ng' becomes a 'k'.

The Forum's terms of reference[13] included the objective to provide a report for the Ministers of Conservation and Fisheries recommending levels of marine protection for the Otago subregion[14] of the Southern South Island biogeographic region, consistent with the MPA policy and guidelines.

Public engagement and consultation on the proposed sites

Encouraging input to the process from iwi, associates and communities was an important focus for the Forum. This was enabled by:

- holding public information sessions throughout the southeast of the South Island
- making the online mapping and collaboration tool SeaSketch[15] open to the public
- setting up an online questionnaire, a Facebook page and an 0800 number to receive comments about the value of the marine environment and people's concerns
- Forum members attending numerous hui, events, and stakeholder and public meetings throughout the process.

The Forum released a consultation document in October 2016 that detailed the 20 proposed sites on which it was seeking feedback.[16] A total of 2803 submissions were received, all of which were carefully considered by the forum members.

Forum recommendations to Ministers and decision

In February 2018, the Forum presented the Ministers of Conservation and Fisheries with a recommendations report that detailed two alternative networks for marine protection for consideration (networks 1 and 2).[17] DOC and Fisheries New Zealand also provided advice to the Ministers to assess the recommendations against the MPA policy and relevant Acts.[18] These agencies considered that network 1 provided the best level of representation and replication for coastal, estuarine and biogenic habitats, and best met the policy requirements.

In May 2019, the Ministers of Conservation and Fisheries jointly announced their agreement for network 1 to be progressed through public consultation and assessment against statutory criteria.

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[13] See Appendix 3.3 of the South-East Marine Protection Forum recommendations report: www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf.

[14] Note: the terms of reference were established for the Otago subregion, though the Forum considered and recommend marine protection options for the southeast of the South Island of New Zealand, encompassing Otago, Southland and Canterbury subregions.

[15] www.seasketch.org/#projecthomepage/5331eff529d8f11a2ed3dd04/about

[16] www.doc.govt.nz/our-work/south-eastern-south-island-marine-protection/south-east-marine-protection-forum/

[17] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

[18] Department of Conservation; Fisheries New Zealand 2018: Joint agency advice on the South-East Marine Protection Forum recommendations. Department of Conservation and Ministry of Fisheries, Wellington. 150 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

This network comprises the six marine reserves being applied for here, five Type 2 MPAs and a kelp protection area.

2.2 Special relationship between the Crown and Māori

2.2.1 Treaty partners

The Crown has a number of obligations to Māori, including those arising through Te Tiriti o Waitangi, deeds of settlement, legislation, protocols and regulations. The DG of Conservation is grateful for the input from Kāi Tahu and Papatipu rūnaka into the Forum's recommendations and seeks to continue to work closely with them as Treaty partners.

When making a decision under the Marine Reserves Act, both the Minister of Conservation and the Minister of Fisheries must give effect to the principles of the Treaty of Waitangi.[19]

The following Treaty principles are most relevant to the proposed marine reserves.

- **Partnership – mutual good faith and reasonableness:** The Crown and Māori must act towards each other reasonably and in good faith. These mutual duties of reasonableness and good faith describe the nature of the relationship between the Crown and Māori and are the core of what has been described as the Treaty partnership. This principle is about how the Crown should behave towards Māori and Māori towards the Crown.
- **Informed decision-making:** The Crown and Māori need to be well informed of each other's interests and views. When exercising the right to govern, Crown decision-makers need to be fully informed. For Māori, full information needs to be provided in order to contribute to the decision-making process. This is closely connected to the principles of good faith and active protection. Consultation is a means of achieving informed decision-making.
- **Active protection:** The Crown must actively protect Māori interests that are retained under the Treaty as part of the promises that were made in the Treaty for the right to govern. This includes the promise to protect tino rangatiratanga and taonga. Active protection requires informed decision-making and judgement as to what is reasonable in the circumstances.
- **Redress and reconciliation:** The Treaty relationship should include processes to address differences of view between the Crown and Māori. The Crown must preserve its capacity to provide redress for proven grievances that result from a failure to uphold the promises made in the Treaty. Māori and the Crown should demonstrate reconciliation as grievances are addressed.

[19] Under section 4 of the Conservation Act 1987, the Conservation Act and any legislation that is administered under it, including the Marine Reserves Act 1971, must be interpreted and administered to give effect to the principles of the Treaty of Waitangi. www.legislation.govt.nz/act/public/1987/0065/latest/DLM103610.html

Detailed information about how MPAs may affect Treaty rights, particularly the principles of kaitiakitaka, mātauraka and manaakitaka, is provided in sections 1.14–1.17 of the Forum's recommendations report.[20]

To better acknowledge and provide for kaitiakitaka and mātauraka, co-management functions would be incorporated into the management of the proposed marine reserves (see section 3.4).

2.2.2 Takiwā of Ngāi Tahu Whānui

The southeast region of the South Island of New Zealand includes the takiwā of Ngāi Tahu Whānui, which consist of:

- Te Rūnaka o Arowhenua, which centres on Arowhenua and extends from Rakaia to Waitaki, sharing interests with Kāi Tūāhuriri ki Kaiapoi between Hakatere and Rakaia, and thence inland to Aoraki/Mount Cook and the Southern Alps/Kā Tiritiri o te Moana
- Te Rūnaka o Waihao, which centres on Wainono and extends inland to Ōmarama and the Southern Alps/Kā Tiritiri o te Moana, sharing interests with Te Rūnaka o Arowhenua to Waitaki
- Te Rūnaka o Moeraki, which centres on Moeraki and extends from Waitaki to Waihemo and inland to the Southern Alps/Kā Tiritiri o te Moana.
- Kāti Huirapa Rūnaka ki Puketeraki, which centres on Karitane and extends from Waihemo to Purehurehu, including an interest in Dunedin (Ōtepoti) and the greater harbour of Ōtākou, and extends inland to the Southern Alps/Kā Tiritiri o te Moana, sharing an interest in the lakes and mountains to Whakatipu Waitai with rūnaka to the south
- Te Rūnaka o Ōtākou, which centres on Ōtākou and extends from Purehurehu to Te Mata-au and inland, sharing an interest in the lakes and mountains to the western coast with rūnaka to the north and south
- Te Rūnaka o Awarua, which centres on Awarua and extends to the coasts and estuaries adjoining Waihopai, sharing an interest in the lakes and mountains between Whakatipu Waitai and Tawhititarere with other Murihiku rūnaka and those located from Waihemo southwards.

2.2.3 Ngāi Tahu Claims Settlement Act 1998

Statutory acknowledgements

Statutory acknowledgements are an acknowledgement by the Crown of a statement of Kāi Tahu's particular cultural, spiritual, historical and traditional associations with specified areas. The statutory acknowledgements relevant to this region are set out in the schedules to the Ngāi Tahu Claims Settlement Act 1998.[21] These include statutory acknowledgements for:

- Te Tai o Arai Te Uru (the Otago Coastal Marine Area; Schedule 103)
- the Waitaki River, including the river mouth

[20] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

[21] www.legislation.govt.nz/act/public/1998/0097/latest/DLM429090.html

- the Clutha River/Mata-au, including the river mouth.

Taonga species

Schedules 97 and 98 of the Ngāi Tahu Claims Settlement Act set out taonga species. These schedules list a number of seabirds, marine mammals, shellfish and fish species, as well as one species of kelp. The list of taonga species that was agreed on with the Crown does not include some species that have been brought into the quota management system, so the schedules are not an exhaustive list of taonga species that are of importance to Kāi Tahu. It should also be noted that all native species are treasured by Kāi Tahu.

Sections 288 and 298 of the Ngāi Tahu Claims Settlement Act are intended as an acknowledgement by the Crown of the cultural, spiritual, historic and traditional associations of Kāi Tahu with the taonga species listed in the Act. Under the Act, the Ministers of Conservation and Fisheries have obligations (in relation to these taonga species) to:

- advise and consult with Te Rūnanga o Ngāi Tahu
- have particular regard to their advice as an advisory committee
- recognise and provide for the association of Kāi Tahu with taonga species.

Such obligations arise:

- for the Minister of Conservation when reviewing any relevant conservation management strategy reviews or any non-statutory actions pertaining to taonga species, or when making policy decisions concerning the protection, management, use or conservation of a taonga species
- for the Minister of Fisheries when making policy decisions concerning the protection, management, use or conservation of taonga species within the Kāi Tahu claim area.

The southeast region wholly adjoins the coastline of the takiwā of Ngāi Tahu Whānui as defined by the Te Rūnanga o Ngāi Tahu Act 1996.[22] The marine, coastal and estuarine species listed in Schedules 97 and 98 that are likely to occur within this region are listed in Appendix 5.

2.2.4 Marine and Coastal Area (Takutai Moana) Act 2011

The Marine and Coastal Area (Takutai Moana) Act 2011[23] acknowledges the importance of the marine and coastal area to all New Zealanders and provides for the recognition of the customary rights of whānau, hapū and iwi in the common marine and coastal area.

Under the Act, any whānau, hapū or iwi who consider themselves to exercise kaitiakitanga in a part of the common marine and coastal area that is affected by the proposed marine reserves has a right to participate in the process and provide their views on the proposals. The Minister of Conservation must have particular regard to the views of affected whānau, hapū and iwi in considering the proposals.

Additionally. customary marine title (if granted) gives greater rights to those who hold title in an area. There are currently three pending applications for customary marine title under the Marine

[22] www.legislation.govt.nz/act/private/1996/0001/latest/DLM117218.html

[23] www.legislation.govt.nz/act/public/2011/0003/latest/DLM3213131.html

and Coastal Area (Takutai Moana) Act in areas that are adjacent to or over the proposed marine reserves.

- Te Rūnanga o Ngāi Tahu on behalf of Ngāi Tahu Whānui over all of the proposed marine reserves.
- Te Maiharoa Whānau adjacent to and over the proposed Waitaki Marine Reserve.
- Paul and Natalie Karaitiana adjacent to and over the proposed Papanui Marine Reserve.

Should customary marine title be granted prior to the marine reserves being established, among other rights the holders would have a permission right regarding new marine reserve proposals and concessions in that area (with some conditions). This permission right includes a power to decline the application to establish a marine reserve.

If marine reserves are established prior to the determination of customary marine title, those areas will remain part of the 'common marine and coastal area' to allow any applications for customary marine title to proceed. The existence of a marine reserve may be relevant to the assessment of whether customary marine title exists.

3 The application

3.1 The applicant

This is an application by the DG of Conservation. It is largely guided by the recommendations of the South-East Marine Protection Forum, which was established in 2014 and tasked with recommending MPAs for the coastal region of the southeastern South Island from Timaru to Waipapa Point, in accordance with the MPA policy.[24]

The minutes and reports produced by the Forum serve to document the planning and implementation of the processes that were undertaken to progress the establishment of marine reserves.

3.2 Proposed marine reserve locations and names

The locations of the six proposed marine reserves are shown in Figure A1.1. and briefly described below. More complete descriptions, boundaries and details are provided in section 4.

The names of the proposed reserves that are used in this application have been retained as those provided in the Forum's recommendations report until formal support is given by rūnaka with mana whenua for each site. These names may be subject to change following consultation with Te Rūnanga o Ngāi Tahu and interested parties, before being approved by the New Zealand Geographic Board.

[24] www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

No land areas above the level of mean high-water springs (MHWS) are included in the marine reserve proposals (including land on offshore rock stacks). The proposals lie entirely within the foreshore and seabed of the marine and coastal area, as defined in the Marine and Coastal Area (Takutai Moana) Act. No private land is included.

Waitaki Marine Reserve

Known by the Forum as site B1, the proposed Waitaki Marine Reserve's northern boundary starts approximately 2 km south of the mouth of the Waitaki River and extends south for 14.8 km (8 NM). The site includes the coastal marine area from MHWS to 8 km (4.3 NM) offshore, encompassing 101.3 km^2. See section 4.1 for a full description.

Te Umu Koau Marine Reserve

Known by the Forum as site D1, the proposed Te Umu Koau Marine Reserve starts approximately 100 m north of the mouth of Stony Creek and extends south to a point approximately 400 m south of the mouth of Pleasant River. It includes the prominent feature of Bobbys Head. The reserve extends from MHWS to a straight-line outer boundary that ranges between 10 km and 12 km offshore and covers approximately 96 km^2. The reserve includes both the Stony Creek and Pleasant River estuaries up to the coastal marine area boundary. See section 4.2 for a full description.

Papanui Marine Reserve

Known by the Forum as site H1, the western edge of the proposed Papanui Marine Reserve starts approximately 6 km from Cape Saunders and extends north approximately 11 km. The reserve extends out to the 12-NM territorial sea limit, incorporating Papanui Canyon, and covers a total of 167 km^2. See section 4.3 for a full description.

Ōrau Marine Reserve

Known by the Forum as site I1, the boundary of the proposed Ōrau Marine Reserve extends 17.8 km (9.6 NM) from Harakeke Point on the Otago Peninsula to the outer point of the Saint Clair Beach saltwater pool. It includes Lawyers Head, Maori Head, Seal Point and the waters surrounding Gull Rocks from MHWS. The seaward boundary extends from Harakeke Point to approximately 1 km to the south of the breaking reef to the west of White Island (Ponuiahine). The area does not include Tow Rock. The reserve covers 28.8 km^2. See section 4.4 for a full description.

Okaihae Marine Reserve

Known by the Forum as site K1, the proposed Okaihae Marine Reserve encompasses Green Island (Okaihae) and extends approximately 1 km to the north, west and east of the island and 1.3 km to the south, covering a total of 5 km^2. See section 4.5 for a full description.

Hākinikini Marine Reserve

Known by the Forum as site M1, the proposed Hākinikini Marine Reserve's northern boundary begins approximately 0.8 km north of the entrance to Akatore Creek and extends south along the coastline for approximately 6.5 km to the northern point of Watsons Beach. It extends out from MHWS to approximately 0.6 to 1.3 km offshore and covers 5.9 km^2. See section 4.6 for a full description.

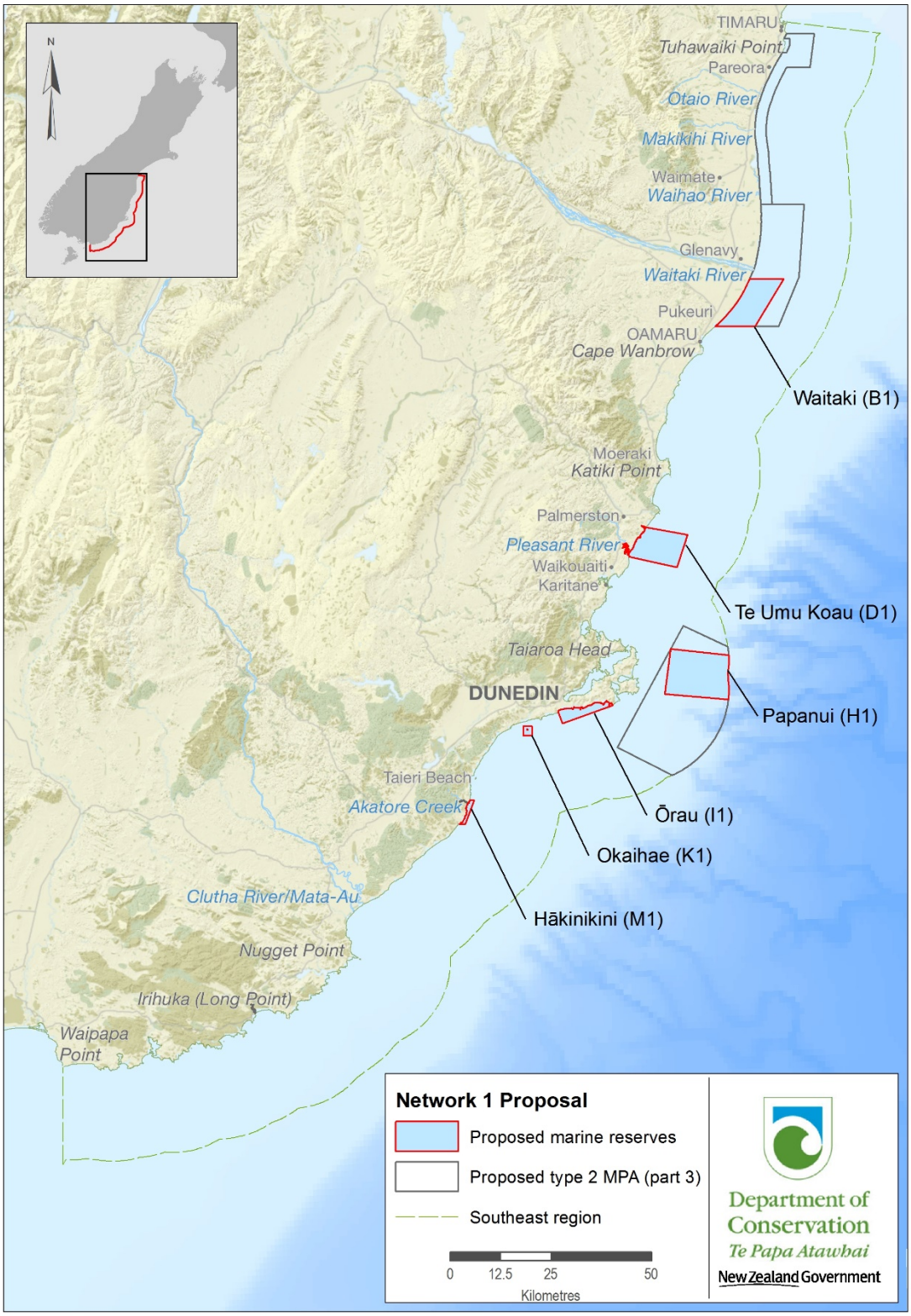

Figure A1.1. Locations of the six proposed marine reserves included in this application and the five Type 2 marine protected areas (MPAs).

3.3 Values

3.3.1 Natural values

Overall, the six proposed marine reserve areas are representative of marine environments of the southeastern South Island, from Timaru to Kaka Point. They include a variety of habitat types across a range of depths, exposures and substrate characteristics. Together, they include features that represent much of the region, from exposed shallow reefs in the vicinity of Dunedin, to moderately exposed soft-sediment and reef habitats north of the Otago Peninsula, and deep biogenic habitats and canyons off the Otago Peninsula.

They also include ecologically important and sensitive biogenic habitats. Of particular note are the giant kelp forests and bryozoan thickets, but other ecologically important habitats that have not been well mapped due to limited information about their distribution are also known to occur, such as seagrass in the Pleasant River estuary.

Habitat and ecosystem types

The purpose of the Marine Reserves Act is to preserve, as marine reserves 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'. Representation of the full range of habitats and ecosystems in marine reserves has high scientific value, contributing to the scientific purpose of the Act, and is also a key aspect of the MPA policy, which states that marine reserves will be used to protect:

> (i) representative examples of the full range of marine communities and ecosystems that are common or widespread;
>
> (ii) outstanding, rare, distinctive, or internationally or nationally important marine communities or ecosystems; and
>
> (iii) natural features that are part of the biological and physical processes of the marine communities and ecosystems referred to in (i) and (ii), in particular those natural features that are outstanding, rare, unique, beautiful, or important.[25]

The sites that are contained in this application aim to protect and preserve a representative range of New Zealand's marine habitats. A total of 22 coastal habitat types have been mapped in the southeast region, 18 of which are included within the proposed marine reserves (Table A1.1).[26]

In addition, three biogenic (living) habitats have been mapped in this region: giant kelp forest, bryozoan thickets and seagrass beds. Among these, kelp forest and bryozoan thickets are included in Te Umu Koau and Papanui marine reserves, respectively. Furthermore, although seagrass has

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[25] MPA policy, paragraph 30, p. 12. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

[26] Note that in addition to the marine reserves, the Forum recommended the establishment of five Type 2 MPAs and one kelp protection area that also contribute to the protection of habitats. A full list of the habitats that are covered by both types of protection can be found in Appendix 4.

not been mapped within the Pleasant River estuary, it is known to be present there and is therefore included to some degree in Te Umu Koau Marine Reserve.

Finally, the proposed marine reserves include two different estuary types:[27] a beach stream at Stony Creek and a tidal lagoon at Pleasant River.

Table A1.1. Habitat types that are present in the six marine reserves. Values are the percentage of each habitat type that is included in each reserve as a proportion of the total area of that habitat in the southeast region.

		Percentage of region's habitat included in proposed marine reserves					
Habitat type	Total area of habitat in the southeast region (km²)	Waitaki (B1)	Te Umu Koau (D1)	Papanui (H1)	Ōrau (I1)	Okaihae (K1)	Hākinikini (M1)
Deep gravel	1102.0			1.9	0.1		
Deep mud	128.0		7.4				
Deep reef	163.0		4.5				
Deep sand	4785.0		0.8	2.7	0.1		
Deep water sand	73.1.0			25.0			
Exposed boulder beach	0.0				80.3		
Exposed intertidal reef	7.2.0				6.2	0.4	8.4
Exposed sandy beach	6.3.0				9.0		0.6
Exposed shallow gravel	6.5.0				3.5[1]		
Exposed shallow reef	90.9				2.7	0.2	2.9
Exposed shallow sand	547.0				3.1	0.6	0.5
Moderate gravel beach	3.2	13.2					
Moderate intertidal reef	5.2		3.6				
Moderate sandy beach	6.4		3.2				
Moderate shallow gravel	902.0	9.7					
Moderate shallow mud	133.0	10.4	7.6				
Moderate shallow reef	117.0		24.8				
Moderate shallow sand	768.0		0.1				
Sheltered intertidal reef	0.4						
Sheltered sandy beach	1.0						
Sheltered shallow reef	4.5						
Sheltered shallow sand	25.9						
Giant kelp forest	18.0		32.8				
Bryozoan habitat	431.0			29.9			
Seagrass	7.2		(*)				
Estuarine environment	90.6		1.1				

* Habitat is known to be included but the amount is unknown.

[1] Habitat is present but not considered to contribute to the overall representation.

[27] Hume, T.; Gerbeaux, P.; Hart, D.; Kettles, H.; Neale, D. 2016: A classification of New Zealand's coastal hydrosystems. NIWA Client Report No. HAM2016-062 prepared for the Ministry of the Environment. 120 p. www.mfe.govt.nz/sites/default/files/media/Marine/a-classification-of-nz-coastal-hydrosystems.pdf

3.3.2 Recreational and educational values

While the objectives for the establishment of the proposed reserves are primarily scientific in accordance with the Marine Reserves Act, there are also recreational and educational values to be enjoyed within the proposed reserves.

All of the sites will provide opportunities for the public to access and learn about the marine environment in a more natural state and will provide opportunities for environmental education (such as through media and publications, photography, and the arts).

3.4 Implications for tangata whenua and Māori cultural interests

Engagement with Kāi Tahu during and after the forum process has indicated that the proposed network of MPAs will be opposed unless the following matters are satisfactorily addressed:

- rebalancing for any impacts the MPA network may have on Kāi Tahu rights and interests;
- co-management of the MPA network by Kāi Tahu and the Crown; and
- generational review of the MPA network.

3.4.1 Rebalancing for the impacts of the MPA network on Kāi Tahu rights and interests

The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 settled Māori commercial fishing claims and recognised non-commercial customary fishing rights. It enables the Minister of Fisheries to develop policies to help recognise Māori practices in the exercise of their non-commercial fishing right, and to make regulations that recognise and provide for customary food gathering and the special relationship tangata whenua have with their important fishing grounds.

Kāi Tahu has indicated that a network of MPAs could displace fishing pressure into other areas, which in turn may require catch limits for commercial fish stocks to be cut in order to ensure fishing does not jeopardise stock sustainability. Kāi Tahu are concerned that this would negatively impact their customary non-commercial fishing practices and their commercial fishing interests and the economic wellbeing of coastal fishing communities.

In addition, a new MPA network has the potential to negatively impact the opportunity for Kāi Tahu to establish customary fishing areas (taiāpure or mātaitai) as provided for following the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

Kāi Tahu has indicated that a 'rebalancing' process is needed to address these potential impacts. Kāi Tahu has indicated that 'rebalancing' should also include improvements to the functionality of customary fishing tools (in particular taiāpure rule-making).

3.4.2 Co-management of MPAs by Kāi Tahu and the Crown

Co-management of MPAs acknowledges the partnership between the Crown and Kāi Tahu over the proposed MPAs and will provide for the retention and transfer of mātauraka between Kāi Tahu generations, to maintain connection to their rohe moana.

Kāi Tahu has also suggested that:

- co-management arrangements for each MPA could be modelled on the existing governance arrangement in place for the East Otago Taiāpure;

- Kāi Tahu rangers with appropriate powers to undertake day-to-day management, monitoring and compliance work should be provided for; and
- wānaka (which may include sampling and strategic take of marine life for the purpose of enhancing mātauraka and retaining the generational connection with the rohe moana) should be provided for in the MPA network and therefore not necessarily prohibited across the Type 1 (marine reserve) sites.

Further work is underway between Treaty Partners to define the scope and key elements of potential co-management arrangements. One tool that has been used previously for MPAs, is statutory advisory committees, which could include tangata whenua and representatives from DOC and Fisheries New Zealand. Wider community forums to discuss management might also be an appropriate part of these management arrangements.

Once the final scope of possible co-management arrangements has been developed, DOC and Fisheries New Zealand will need to assess whether such arrangements can be achieved under the existing legislative framework. In the event of any elements that involve changes to government policy, or the making of new regulation, further public consultation may need to be undertaken.

3.4.3 Generational review of the MPA network

A 25-yearly generational review of the MPA network is required. This is to actively recognise the mana and engagement of Kāi Tahu in managing the network, as well as recognising their intergenerational connections to the past, present and future.

Kāi Tahu has indicated its aspirations for periodic reviews of the MPA network (5–10 years from the establishment of the MPAs) leading into the 25-yearly generational review.

3.4.4 Kāi Tahu concerns with the proposed Te Umu Koau Marine Reserve

Agencies are aware of significant concerns expressed by Kāi Tahu and the commercial fishing industry with regards to the proposal for a marine reserve at site D1. The proposed marine reserve extends over areas of offshore reef that are seasonally important rock lobster (*Jasus edwardsii*) fishing grounds. Kāi Tahu are concerned that prohibiting commercial fishing on these grounds would impact on their people, particularly those members of the Moeraki, Otakou and Puketeraki Rūnaka whose families are involved in rock lobster fishing, processing and export.

The Ministers of Conservation and Fisheries are interested in the views of submitters about how the marine reserves proposed for site D1 (Te Umu Koau Marine Reserve) could be progressed to balance these concerns against marine protection objectives.

3.5 Implications for current users and other groups

Section 5(6) of the Marine Reserves Act states that in deciding whether or not any objection to this application should be upheld, the Minister of Conservation shall:

> ... uphold the objection if [she] is satisfied that declaring the area a marine reserve would—
>
> (a) interfere unduly with any estate or interest in land in or adjoining the proposed reserve:
>
> (b) interfere unduly with any existing right of navigation:
>
> (c) interfere unduly with commercial fishing:

(d) interfere unduly with or adversely affect any existing usage of the area for recreational purposes:

(e) otherwise be contrary to the public interest.

This section of the application considers these matters while summarising the potential implications of the proposed marine reserves for current users and other groups. Individuals and groups such as these are fully entitled to participate in the public process for these marine reserve applications. As mentioned above, DOC has particular obligations to administer the Marine Reserves Act in such a way as to give effect to the principles of the Treaty of Waitangi.

A desire to minimise the adverse effects of the proposed MPAs and kelp protection area on existing users was an important consideration of the Forum's deliberations and is reflected in this application (ie based on their recommendations). See the recommendations report for more information.[28]

3.5.1 Estate or interest in the land in or adjoining the proposed reserves

Adjoining landowners

Adjoining landowners have been identified and will be notified of the application for marine reserves as required under the Marine Reserves Act. Adjoining landowners have also had opportunities to contribute to the site selection via the forum process.

Mining and exploration interests

One active exploration permit is in place over a section of the proposed Papanui Marine Reserve, which equates to 0.1% of the area covered by the exploration permit. The active permit's expiry date is November 2021.

There are no other current minerals permits or applications located in or within 100 m of the proposed marine reserves.

Once a marine reserve is declared under the Marine Reserves Act, the 'land' to which marine reserve status applies is automatically added to Schedule 4 of the Crown Minerals Act 1991.[29] Section 61(1A) of the Crown Minerals Act prevents the Minister from accepting an application for an access arrangement over land listed in Schedule 4 unless one of the exceptions in section 61(1A) apply.

Other authorisations and interests

There are no other known estates or interests in the land that might be affected by the proposed marine reserves.

[28] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

[29] www.legislation.govt.nz/act/public/1991/0070/latest/DLM242536.html

3.5.2 Navigation

It is noted that the Minister of Transport has a concurrence role for the proposed marine reserves in which the effects on navigation may be further assessed and considered.

Maritime New Zealand (MNZ) has been consulted in relation to vessel activity within the proposed reserves. MNZ agrees that there are no issues relating to channel markers, dredging and buoys and that, because there is no intention to place reserve boundary markers in the water, it is unlikely that the proposed marine reserves would interfere unduly with navigation and anchoring.

3.5.3 Commercial fishing

In addition to the Minister of Conservation's decision regarding whether there would be undue interference with commercial fishing, the Minister of Fisheries has a concurrence role for these proposed marine reserves in which the effects on commercial fishing may be further assessed and considered.[30]

Three of the forum members represented the fishing industry. Nine commercial fishing stakeholder organisations[31] made a joint submission to the Forum's consultation, and other commercial fishing organisations and individual fishers also took the opportunity to contribute to the forum process through submissions and discussions.

While fishing interests were considered in the recommendations, the proposed marine reserves would have varying levels of impact on commercial mixed finfish, eel, koura/rock lobster and pāua (*Haliotis* spp.) fisheries. The estimated levels of commercial catch that would be displaced are shown in Table and more detail for each individual site is provided in section 4. While displacement does not equate to the actual impact on the fishery, it does provide an indication of the relative effect that the sites may have on the industry.

It is considered that the Forum used the best available information from Fisheries New Zealand and other sources to formulate the recommendations on which this application is substantially based. The assessment of adverse impacts is limited by the fisheries return data, as these do not allow the actual tonnage of species that are commercially taken from each proposed marine reserve area to be determined. Since 2007/08, commercial fishers operating vessels 6–28 m in length have reported the coordinates of the start position of each trawl, longline (except tuna) and setnet in latitude and longitude.[32] However, since the resolution (radius) of a start position is 1 NM and the direction from the start position is not recorded, catch/effort data incorporate a degree of uncertainty regarding the precise locations of commercial fishing operations.

Table A1.2. Estimated average annual catch (kg) that would be affected by establishment of the marine reserves based on annual catches from the 2007/08 to 2016/17 fishing years obtained from the CatchMapper

[30] The Minister of Fisheries is required to make his/her decision independently and will focus particularly on those matters that are within their portfolio, namely commercial, recreational and customary fishing and the effects of the marine reserve upon those matters.

[31] The nine fishing organisations were Southern Inshore Fisheries Management Company Ltd, PauaMAC5 Inc., Otago Rock Lobster Industry Association, CRA8 Management Committee Inc., New Zealand Rock Lobster Industry Council, Paua Industry Council, Fisheries Inshore New Zealand, New Zealand Federation of Commercial Fishermen Inc. and Kina Industry Council Inc.

[32] Fisheries (Reporting) Regulations 2017.
http://legislation.govt.nz/regulation/public/2017/0154/latest/whole.html

database (www.mpi.govt.nz/dmsdocument/29675-aebr-2018200-forecasting-quantity-of-displaced-fishing-part-2-catchmapper-mapping-eez-catch-and-effort). Free on board (FOB) export value estimates (NZ$) are based on export prices for the 2017 calendar year (rounded to the nearest $100). Only fish stocks with a combined total export value of $10,000 are shown. Note that commercial eeling is not accounted for in this table as information at the scale of individual estuaries and/or catchments is not collected by Fisheries New Zealand. QMA refers to the quota management area.

	% QMA landings affected								
Fish stock	Waitaki (B1)	Te Umu Koau (D1)	Papanui (H1)	Ōrau (I1)	Okaihae (K1)	Hākinikini (M1)	Total affected catch (kg)	Total % QMA landings affected	Total export value (NZ$)
Koura/rock lobster (*Jasus edswardsii*)		20.67		0.08	0.17	2.37	19,948	23.29	2,068,328
Blue cod (*Parapercis colias*)	0.01	1.59	1.94	0.39	0.07	0.03	6849	4.03	102,726
Flatfish	0.01	0.21	0.02	0.02	0.01	0.19	6478	0.46	41,264
Arrow squid (*Nototodarus sloanii, N. gouldi*)	< 0.01	< 0.01	0.72	0.02			6649	0.74	28,460
Red gurnard (*Chelidonichthys kumu*)	0.06	0.23	0.01	0.01	< 0.01	0.01	3439	0.32	24,179
Hāpuku/bass (*Polyprion oxygeneios / P. americanus*)	0.02	0.31	0.06	0.07	< 0.01	0.20	1858	0.66	20,860
Elephant fish (*Callorhinchus milii*)	0.06	0.22	0.04	0.01	< 0.01	0.01	3731	0.34	19,550
Pāua (*Haliotis iris, H. australis*)	0.02	0.33				0.02	306	0.37	16,739
Octopus (*Pinnoctopus cordiformis*)		3.54	0.54	0.09	0.03	0.26	1503	4.46	16,355
Rig (*Mustelus lenticulatus*)	0.09	0.03	0.36	< 0.01		< 0.01	2261	0.48	15,244
School shark (*Galeorhinus galeus*)	0.02	0.04	0.50	< 0.01			2076	0.56	10,605

3.5.4 Recreational purposes

Recreational fishing

In addition to the Minister of Conservation's decision regarding whether there would be undue interference with recreational use of the areas, the Minister of Fisheries has a concurrence role for these proposed marine reserves in which the effects on recreational fishing may be further assessed and considered.

DOC and Fisheries New Zealand provided advice about recreational fishing to the Forum and the Ministers of Conservation and Fisheries, and it is considered that the forum recommendations (which are very similar to these marine reserve proposals) minimise the adverse impacts on existing recreational fishers while meeting the requirements of the MPA policy.

This is particularly evident where nearby areas that are used by recreational fishers have been excluded from the proposed marine reserves while maintaining the integrity of the proposed protection. Nevertheless, some sites would have a greater effect on recreational fishers than others, as described in section 4.

Other recreation

Recreational activities that involve the extraction or disturbance of marine life or alterations to their habitats would be prohibited or restricted in the proposed marine reserves. However, activities involving the observation (including the viewing and photography) of marine life would be allowed and encouraged.

It is proposed that some existing recreational activities that otherwise may be an offence under the Act may continue without being inconsistent with the purpose of the reserves. For all of the proposed marine reserves, these include:

- the non-commercial gathering of beach stones, non-living shells and driftwood from the foreshore of each proposed marine reserve using only hand-held (non-mechanical) methods
- driving on the foreshore by the most direct formed route to launch or retrieve a vessel
- anchoring vessels.

3.5.5 Scientific interests

Scientific interests are particularly relevant to the provisions of the Marine Reserves Act. Any individual or group wishing to take marine life for the purpose of conducting scientific research in the proposed marine reserves would require the prior approval of the DG of Conservation under section 11(b) of the Marine Reserves Act as well as any necessary approvals under section 97 of the Fisheries Act.

It is considered that the six proposed marine reserves would provide some new opportunities for scientific research. However, all scientific research activities in the proposed reserves would have to be consistent with the purposes and principles of the Marine Reserves Act and the management objectives of the reserves.

3.5.6 Other public interests

It is proposed that driving on the foreshore would be prohibited in all six marine reserves except in the case of launching or retrieving a vessel, for access by any lifeguard or emergency services acting in the course of their duty, or for management activities.

The DG of Conservation is not aware of any other public interests, including social, economic, environmental, community, scientific or educational interests, that the proposed marine reserves may affect.

3.6 Justification

3.6.1 Meeting the purpose of the Marine Reserves Act

The purpose of the Marine Reserves Act is set out in section 3(1), which states (emphasis added):

> It is hereby declared that the provisions of this Act shall have effect for the purpose of preserving, as marine reserves 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**.

3.6.2 For the scientific study of marine life

The scientific study of marine life is of national importance because it is currently difficult to evaluate the state of New Zealand's marine and coastal biodiversity due to only very limited information being available. The proposed marine reserves would provide opportunities to undertake scientific study to improve our understanding of the structure and functioning of the marine environment, which is consistent with the purpose of studying marine life. Scientific studies in the proposed areas would also contribute to a better understanding of how the impacts of human use and development on marine environments can be managed.

A wide variety of scientific studies could be undertaken in the proposed reserve areas. Possible topics of interest include:

- studying population dynamics and community structures over a wide range of habitats in relatively undisturbed marine environments – this represents a significant opportunity, as other mainland New Zealand marine reserves do not include such a wide range of habitats throughout an entire biogeographic region
- surveying and monitoring marine environments and biological processes – this would expand on previous studies in the southeast region and could include assessments of intertidal larval settlement and patch dynamics, inshore fishery trawl surveys, and biological inventories.
- using the proposed reserves as control areas against which changes elsewhere could be measured and assessed.

Pressures on the marine environment are widespread and we generally have a poor understanding of the capacity of the marine environment to withstand these. By removing these pressures, we can protect some areas from the risk of unknowingly pushing habitats and ecosystems towards irreversible change while gaining an understanding of how habitats and ecosystems operate in the absence of pressures.

3.6.3 Criteria

To qualify for marine reserve status, the proposed area must contain at least one of the section 3(1) criteria that are highlighted in bold in section 3.6.1 above (ie underwater scenery, natural features or marine life). It may contain any or all of these features in combination. In addition, one of the descriptive criteria (ie distinctive quality, typical, beautiful or unique) must apply to one or more of these features. It should be noted that to meet the requirements of section 3(1), it is not necessary for all listed features and descriptions to be present.

It is considered that this application meets the requirements under section 3(1) of the Act for each of the six proposed marine reserves for the reasons set out below and explained in more detail for each individual site in section 4.

Underwater scenery, natural features, or marine life

The proposed reserves contain a wide variety of natural features and marine life, as indicated in the individual site descriptions (see section 4).

... of such distinctive quality

Together, the six sites combine to represent the distinct natural history of the Otago region. The seascapes and coastlines have a high degree of natural character, with a number of iconic and distinctive ecosystems present – for example, the giant kelp forests north of the Otago Peninsula and the bryozoan thickets offshore.

... or so typical

The MPA policy habitat classification identified 22 coastal habitats in the southeast region, which are expected to reflect the patterns of biodiversity. Together, the six proposed reserves represent 17 of these habitat types that typify the region. In addition, the sites include examples of important ecological areas, such as giant kelp forests, bryozoan thickets, and tidal lagoon and beach stream estuary types.

... or beautiful

While beauty is a subjective criterion, arguably the coastlines associated with the proposed reserves and the distinctive features of the sites are considered beautiful.

... or unique

Only limited information is available about the southeast region, with relatively few dedicated marine surveys having been undertaken at a regional scale. However, much more information is available for some localities that tend to be the focus of scientific studies, often due to the ease of access. Based on the best available information, the proposed sites do contain features that are unique.

... that their continued preservation is in the national interest

The Marine Reserves Act is an enabling statute that provides for areas to be set aside for scientific study. It is a matter of national interest that MPAs, including marine reserves, are set aside for the protection of marine biodiversity. This is also outlined in the NZBS, which has an objective to

'protect a full range of natural marine habitats and ecosystems to effectively conserve marine biodiversity, using a range of appropriate mechanisms, including legal protection'.[33]

The MPA policy on which these marine reserve proposals are based is a key component of the Government's commitment to ensuring that New Zealand's marine biodiversity is protected by establishing a network of MPAs that is comprehensive and representative of its marine habitats and ecosystems.

The proposed reserves will protect a range of marine habitats, allowing marine life to be preserved and providing relatively undisturbed areas that are rich in natural values for scientific study and for current and future generations of people to enjoy.

Although the purpose of the Act is specific to scientific study rather than biodiversity protection, it is considered that biodiversity protection is a valid consideration in terms of the benefit to the public. The proposed marine reserves would contribute to New Zealand's international commitment to protecting biodiversity and would enhance its reputation.

While it is acknowledged that certain impacts would occur, particularly in terms of extractive uses, the Forum accounted for existing users as far as practicable. In keeping with the NZBS and MPA policy, and in consideration of the Act, the areas that are included in this application have been selected to minimise the adverse effects on users while maintaining the integrity of the network and its value to scientific study.

The phrase 'interfere unduly' in section 5(6) of the Act refers to an effect that is unjustified or unwarranted in the circumstances.[34] It is not consistent with the Act to separate out the considerations of effects on users from the benefits to public interest. In determining whether or not an effect of the marine reserve is 'undue', the significance of the effect must be weighed against the benefits – that is, it is necessary to look at the wider aspects of public interest. It is acknowledged that there will be adverse effects on some existing users, but it is considered that the benefits to other values on balance warrant the creation of the reserves. As such, the preservation of each area in itself and as a network is in the national interest.

3.6.4 Meeting other legislative requirements

The Crown's obligations to give effect to the principles of the Treaty of Waitangi under section 4 of the Conservation Act 1987 and the impacts of the proposals on tangata whenua are detailed in sections 2.2 and 3.4.

Under section 4(1) of the Marine Reserves Act, no area for which any lease or licence under the Marine Farming Act 1971[35] is in force can be declared a marine reserve.[36] Furthermore, under

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[33] NZBS, Objective 3.6, p. 67. www.doc.govt.nz/globalassets/documents/conservation/new-zealand-biodiversity-strategy-2000.pdf

[34] As considered by the Court of Appeal in *CRA3 Industry Association Inc v Minister of Fisheries* [2001] 2 NZLR 345.

[35] www.nzlii.org/nz/legis/hist_act/mfa19711971n29163/

[36] In the Aquaculture Reform (Repeals and Transitional Provisions) Act 2004, all existing Marine Farming Act leases and licences were deemed to be 'coastal permits' under the Resource Management Act 1991. www.legislation.govt.nz/act/public/2004/0109/latest/DLM324738.html

section 4(2) of the Act, no area within the jurisdiction of a local authority that is exercising the previous jurisdiction of a harbour board can be declared a marine reserve without the authority's consent. With respect to this application, no marine farming lease or licence has been issued for any part of the proposed reserves and no part of the proposal falls within the jurisdiction of a harbour board.

In accordance with section 4(4) of the Marine Reserves Act, the establishment of the proposed marine reserves would not have any effect on the application of the regime contained in the Crown Minerals Act 1991[37] or the Continental Shelf Act 1964.[38]

One active exploration permit is in place over part of the proposed Papanui Marine Reserve, which equates to 0.1% of the area covered by the exploration permit. The active permit's expiry date is November 2021. There are no other current minerals permits or applications located in or within 100 m of the proposed marine reserves.

Depending on the circumstances, a minerals or exploration permit does not, in itself, authorise any person to enter land (that he or she does not own) and carry out mining operations. Under the Crown Minerals Act, areas that are declared to be a marine reserve will automatically become part of Schedule 4 of the Crown Minerals Act. Pursuant to section 54(a), a person who holds a permit that relates to the common marine and coastal area and is listed in Schedule 4 may only exercise the permit if that person has obtained an access arrangement. Section 61(1A) significantly limits the types of activities in respect of which an access arrangement may be considered in these circumstances.

In addition, under section 4(5) of the Marine Reserves Act, the Minister of Mines (with the Minister of Conservation's concurrence) can make the right to do anything in a marine reserve by virtue of a mining interest[39] subject to the Act by notifying the holder of the interest. If such notice is given, that mining interest shall then be subject to the Act and exercised in accordance with the Act. If there was any intention to limit or prevent existing or future mining interests[40] from being exercised in any newly established marine reserve, then the notification process provided for under section 4(5) should be carried out.

In addition to the considerations set out in section 3.5 in relation to commercial fisheries, the Minister of Conservation must seek concurrence from the Minister of Fisheries to establish a marine reserve. The Act also stipulates that any person who is authorised to fish under section 3(3)(a) must still comply with any conditions imposed and the Fisheries Act and regulations where it is not inconsistent with those conditions.

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[37] Although this section refers to the Petroleum Act 1937, Coal Mines Act 1979, Mining Acts 1926 and 1971 and the Iron and Steel Industry Act 1959, these Acts have been repealed. Therefore, the Crown Minerals Act 1991 should be substituted for those Acts and should be read into section 4(4).

[38] www.legislation.govt.nz/act/public/1964/0028/latest/whole.html

[39] Refer to section 2 of the Marine Reserves Act for a definition of 'mining interest', noting that the repealed Acts in this subsection should be read as a reference to the Crown Minerals Act.

[40] Noting that future mining interests would be subject to the access limitations that arise from the land's inclusion in Schedule 4.

3.6.5 Community support

It is considered that this application has a substantial level of community support and acceptance, due in part to the extensive and inclusive process that was followed by the Forum and government agencies. The forum process enabled the levels of community support to be gauged and the application to be shaped in response to community input.

As detailed in the Forum's recommendations report, there were a large number of submissions to the Forum's consultation document. An independent summary of submissions[41] showed a considerable degree of support for the proposals, which were generally similar to the present application. The summary of submissions also raised issues that were later taken into account by the Forum when preparing their final recommendations to the Ministers of Conservation and Fisheries.

While substantial support was indicated by the submissions, there was also generally widespread opposition from the commercial and recreational fishing sectors.

It is expected that any remaining concerns will be expressed and taken into account through the statutory process of this application.

3.7 Proposed management

3.7.1 Level of protection

Since all of the proposed sites would be marine reserves, it is generally proposed that no taking or disturbance of marine life (other than for approved scientific and management purposes) would be permitted. This is in keeping with section 3(2) of the Marine Reserves Act, which states that:

> ... marine reserves shall be so administered and maintained under the provisions of this Act that—
>
> (a) they shall be preserved as far as possible in their natural state
>
> (b) the marine life of the reserves shall as far as possible be protected and preserved
>
> (c) the value of the marine reserves as the natural habitat of marine life shall as far as possible be maintained ...

However, it is proposed that the Orders in Council that establish these reserves make provision for certain activities to continue within specified locations. The activities that would and would not be affected by each of the proposed marine reserves are set out in the tables in section 4. The reasons for these provisions are to allow the maintenance of existing rights and authorities that have potentially significant but nevertheless acceptable effects on the marine life and habitats within the proposed marine reserves.

In all other circumstances, visitors will be encouraged to explore and enjoy the reserves above and below the water without disturbing, damaging or removing any natural features.

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[41] Opus 2017: South-East Marine Protection Forum: summary of submissions. Opus International Consultants Ltd, Christchurch. 365 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/final-sempf-sos-30-june-2017.pdf

Of particular note, all forms of fishing will be generally prohibited unless authorised under the Marine Reserves Act (eg scientific collecting under permits and/or permitted via Gazette notice or Order in Council). As far as it is consistent with the purposes of the Act, undertaking wānaka (which may include the sampling and strategic take of marine life for the purpose of enhancing mātauraka and retaining the generational connection with the rohe moana) could be expressly provided for.

3.7.2 Co-management and generational review

These management options are described above in sections 3.4.2 and 3.4.3 and are subject to further engagement.

3.7.3 Boundary identification

Land-based markers could be used to mark some of the coastal boundaries. Some signage is likely to be developed, especially where it will help to inform people about the reserves and encourage regulatory compliance. However, it is not feasible to mark all of the boundaries of the proposed marine reserves for two main reasons.

a) The land terrain and use may prohibit establishing markers.

b) The offshore boundaries are too exposed to make the use of moored buoy markers practical.

Provision of the latitude and longitude coordinates of the boundary corners of each proposed reserve would enable boats equipped with Global Positioning System (GPS) devices to accurately determine the boundaries. The information that is required to determine the reserve boundaries would be made available to a wide range of visitors (eg boat operators and walkers).

DOC would arrange for the reserve boundaries to be defined on a survey office plan. Land Information New Zealand and the office of the Navy hydrographer would be requested to include the boundaries in the relevant navigation charts. The boundaries of the reserves would also be included in the Nautical Almanac if the reserves are gazetted.

3.7.4 Compliance and enforcement

Compliance and enforcement activities would be overseen by DOC pursuant to the Marine Reserves Act, the Order in Council and any management plan that is prepared specifically for each marine reserve. As well as formal compliance monitoring and enforcement by relevant agencies, DOC would encourage the support and involvement of local residents and users to help ensure public compliance with the provisions of the reserves. As mentioned above, Kāi Tahu has suggested that Kāi Tahu rangers be introduced, with appropriate powers to undertake day-to-day management, monitoring and compliance work across the network.

3.7.5 Monitoring and scientific research

Monitoring and scientific research in the proposed marine reserves would be important for a number of reasons and should be effectively planned and coordinated. Organisations such as universities, Crown Research Institutes, government agencies and individuals may conduct scientific research in marine reserves provided they first obtain the necessary approvals from the DG of Conservation.

Appropriately designed, scientifically robust assessments of biodiversity and key species would be vital for assessing the effectiveness of the reserves in terms of meeting ecological objectives and social and Kāi Tahu expectations.

A research and monitoring plan for the reserves would include provision for informing the 25-yearly generational review referred to in section 3.4.3. Medium-term assessments to review how well the reserves are meeting their management objectives would also be included to measure the ecological, cultural, social and economic effects of the reserves.

3.7.6 Education and interpretation

Marine reserves are places where people can experience the benefits of a protected marine environment first-hand. DOC would provide opportunities for the public to learn about the marine life and habitats of the marine reserves through publications, interpretative signs and, where appropriate, public talks, displays and media features.

Educational initiatives that are in keeping with the purpose of the marine reserves would be encouraged. Information would be gathered and disseminated to highlight the natural values of the proposed reserves, including those sites that are remote and less accessible (eg Papanui Marine Reserve).

3.8 Summary

This application seeks to establish six marine reserves (covering a total of 1267 km^2) within the southeast region of the South Island of New Zealand. The proposed marine reserves would give full protection to a series of habitat types, marine life and natural features that are considered so typical, beautiful or unique that their continued preservation is in the national interest.

The proposed marine reserves would enhance the existing protection of the region's natural and scientific values. Subject to further statutory consultation, it is considered that this application satisfies the requirements of the Marine Reserves Act 1971 and would make an important contribution to the establishment of a national marine reserve network incorporating representative examples of the full range of habitats and ecosystems that are found in New Zealand's marine environment.

DOC considers that the proposed marine reserves are of a size that would protect a wide range of marine habitats and ecosystems, while also minimising impacts on existing users of the marine environment and Treaty settlement obligations.

Each of the proposed marine reserve sites is described in section 4 below.

4 Application sites

4.1 Waitaki Marine Reserve

4.1.1 Site location

The boundaries for this site start approximately 2 km south of the Waitaki River and extend 14.8 km south along the coast to just north of Landon Creek. The reserve would extend from MHWS to approximately 8 km offshore, roughly aligning with the 20-m depth contour. The location, including coordinates, are shown in Fig. A1.2.

The site is consistent with the proposed site B1 in the Forum's recommendations report.[42]

[42] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

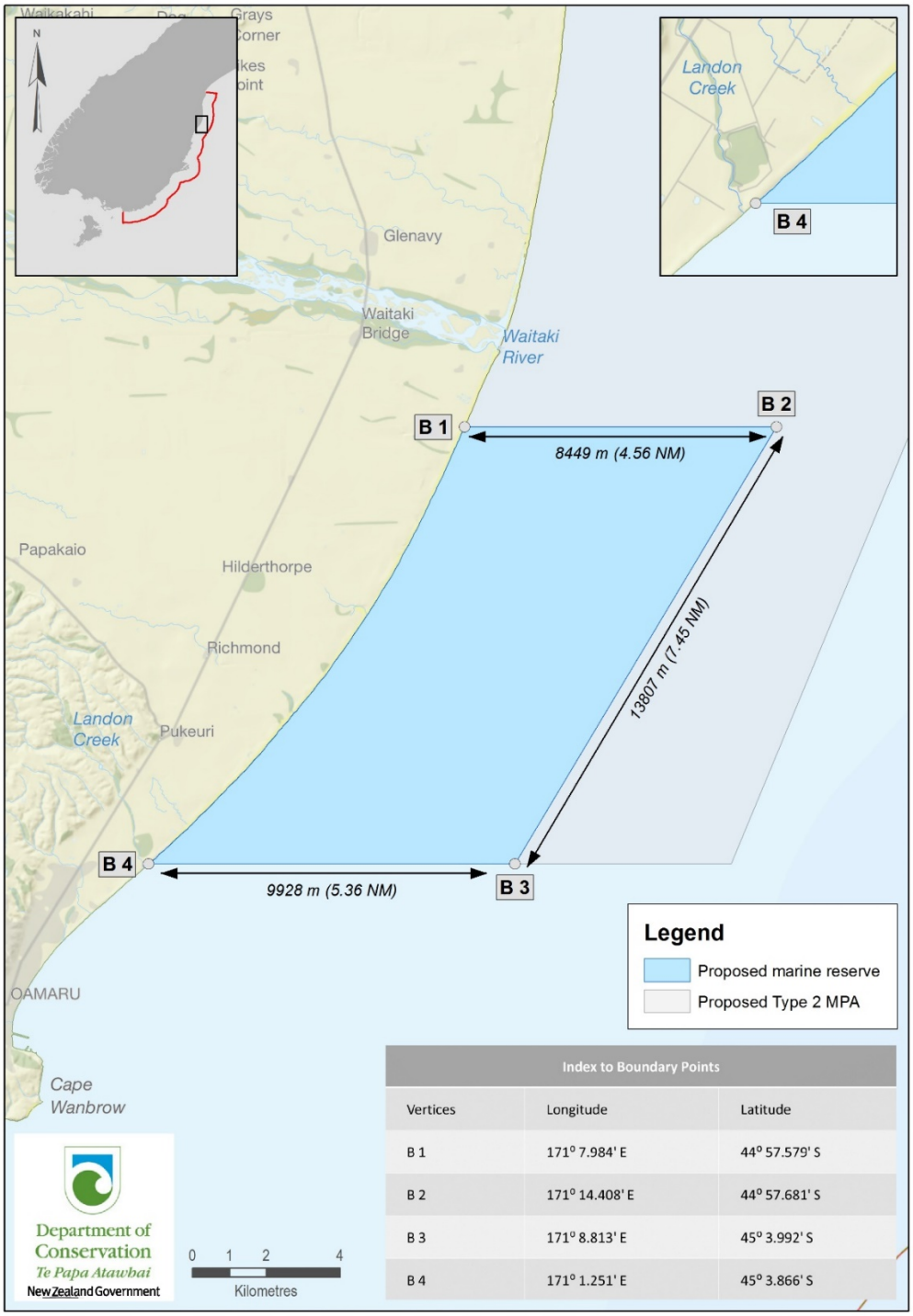

Figure A1.2. Locations of the proposed Waitaki Marine Reserve and the adjacent Type 2 marine protected area (MPA).

4.1.2 Why this site is important

River mouths are known for their productivity and the mouth of the Waitaki River is no exception, with the waters here being believed to hold some regionally **unique, natural features** due to the influence of fresh water and river sediments on the marine environment. Although it has not yet been studied, anecdotal evidence indicates that the cobble and gravel substrate found in this area

supports several biogenic habitats of high biodiversity value, such as kelp and rhodolith (hard, calcified red algae) beds. Furthermore, the large shoals of the juvenile form of squat lobster (*Munida gregaria*) that can accumulate in the frontal systems of the river plume in late spring and summer testify to this river's contribution to a much wider ecological system.

This site would protect a representative portion of moderately exposed and deep gravel habitats and the associated marine life that is **typical** of the North Otago and South Canterbury coast. This is the only marine reserve that would protect these habitat types and is therefore considered important to include in a representative network of protected sites.

The area covered by the reserve is a known foraging area for wildlife, including penguins and Otago shags (*Phalacrocorax chalconotus*) at Cape Wanbrow.

It is therefore considered that the protection of the natural features and marine life of this site is consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.1.3 How this site would contribute to the network

This site would contribute to a comprehensive and representative network of protected sites in the southeastern South Island by protecting gravel beach and shallow gravel and mud habitats that are typical of this section of coast. The reserve would provide links with other proposed protected areas to the north and south of this location. Appendix 4 provides the full list of habitats that have been identified in the region and shows the contribution this site would make to the network of protected sites.

4.1.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.3 would be prohibited in the proposed Waitaki Marine Reserve.

Table A1.3. Activities that would be prohibited in the proposed Waitaki Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$21,491 (4.8 tonnes) per year. The biggest displacement of fishing (in terms of export value) would be experienced by the red gurnard (*Chelidonichthys kumu*), elephant fish (*Callorhinchus milii*) and rig (*Mustelus lenticulatus*) (*Mustelus lenticulatus*) commercial fisheries, for each of which < 1 tonne per year would be expected to be displaced. Additional information, including information about all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited. Based on available information, the establishment of this site as a marine reserve would not be likely to have major impacts on recreational fishing opportunities as most recreational fishing in this general area occurs at the mouth of the Waitaki River, which is excluded from the reserve.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1a) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or

	petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.
Vehicle access over the foreshore	Driving over the intertidal area (foreshore) would be prohibited.

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.1.5 Activities that are unlikely to be affected

Activities that are likely to take place at the site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.4.

Table A1.4. Activities that are unlikely to be affected by establishment of the proposed Waitaki Marine Reserve.

Activity	Details
Kōiwi tākata	The retrieval of kōiwi tākata that are unearthed in the reserve by natural or other means would not be restricted by the establishment of the reserve.
Access	Access to the marine reserve, or sites within the marine reserve, would not be affected by the designation of the marine reserve (with the exception of vehicle access across the foreshore of the reserve).
Fossicking	The non-commercial gathering of beach stones, non-living shells and driftwood on the foreshores of each proposed marine reserve using only hand-held (non-mechanical) methods would be permitted.
Anchoring	No restrictions on anchoring are proposed.
Existing resource consents	• Bore construction consents: RM13.454.01, RM17.059.01, RM18.384.01 • Compliance certificate: 2007.C16. • Discharge to air permits: 2002.656, 2004.163, 2005.287, 2006.199, 2006.284, 2009.424, RM13.162.01, RM15.358.01, RM17.246.01, 2002.704, 2005.303, 2005.605, 2005.77, 2006.198, 2008.089, 2008.227, RM13.058.01, RM17.246.01. • Discharge to land permits: 2002.704, 2005.303, 2005.605, 2005.77, 2006.198, 2008.089, 2008.227, RM13.058.01, RM14.057.01, RM14.253.01, RM15.100.01, RM18.451.01, 98419, 98519, 98520, 98521.V1. • Discharge to water permit: 2002.655. • Divert water permit: 2007.653. • General/structure land use consent: RM15.283.01. • Groundwater take permits: 98523, 2374, RM15.283.02, 2001.989, 2001.A06.V1, 2008.338.V1, 2010.221.V1, RM13.376.01.V1, RM14.038.01, RM15.076.01, RM18.064.01, RM18.119.01.
Transit	No restrictions on transit through the marine reserve are proposed.

4.1.6 Summary

The establishment of a marine reserve at this site would provide for the protection of representative habitats that would be of value for the scientific study of marine life. It is

considered that the marine reserve would be likely to have a relatively low impact on fishing interests (commercial, customary and recreational).

Given the value of the marine reserve and the relatively low potential impact, it is considered that it would not unduly interfere with existing uses and that it would be in the national interest to establish this reserve.

4.1.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[43]

4.2 Te Umu Koau Marine Reserve

4.2.1 Site location

The proposed boundaries for Te Umu Koau Marine Reserve start approximately 100 m north of the mouth of Stony Creek and extend south to a point approximately 400 m south of the mouth of Pleasant River. The reserve would extend from MHWS to a straight-line outer boundary that ranges between 10 and 12 km offshore, approximately out to the 40-m depth contour. The reserve would include the Stony Creek and Pleasant River estuaries up to the coastal marine area boundary. The location, including coordinates, is shown in Fig. A1.3.

This site is consistent with the proposed site D1 in the Forum's recommendations report,[44] except that an additional section of Pleasant River estuary is also now included. This part of the estuary was not initially included in the Forum's recommendation due to an outdated coastal boundary but was re-established as part of the estuary in 2009/09 through the removal of a groyne. Therefore, since the intent of the recommendation was to protect the entire estuary, this section has now been included in the marine reserve.

[43] http://seasket.ch/iwDLVg_bHB

[44] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

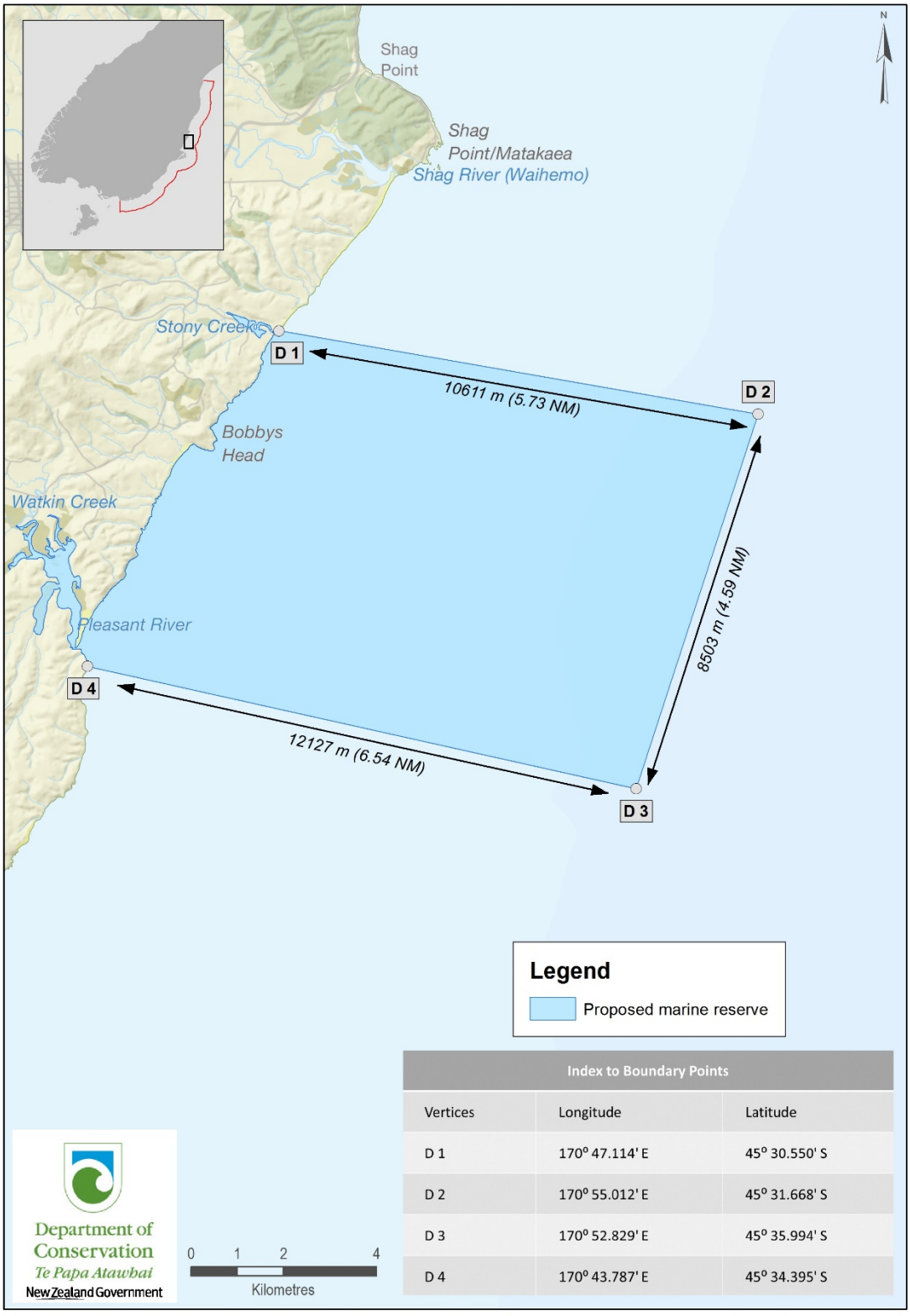

Figure A1.3. Location of the proposed Te Umu Koau Marine Reserve.

4.2.2 Why this site is important

This site is an exposed sedimentary section of coastline that supports an extensive *Macrocystis* kelp forest habitat that dominates offshore sandstone and limestone platform reefs and is

bordered by two estuaries that are representative of this coastline. Kelp forests provide some of the most spectacular **underwater scenery** for divers, and the reefs within this site have a **distinctive quality** and natural **beauty**.

Kelp forests have been likened to terrestrial forests in their structure and ability to support many other species and are one of the most productive habitat types in the world. The population structure of *Macrocystis* kelp forests is wave-dominated, with the kelp growing at depths of up to 20 m and reaching full size and reproductive maturity within 2 years. At this age, individual kelp are likely to be removed by the drag forces of breaking waves during storms, following which the light reaching the seabed will stimulate the growth of new *Macrocystis* plants, driving the diversity of algae species that is associated with this habitat type.

This dominant and ecosystem-defining **natural feature** is of outstanding value and contributes significantly to the biodiversity of the region. As with most of Otago's rocky, wave-exposed coasts, the area that is exposed at low tide (the sublittoral fringe) is dominated by rimurapa/bull kelp (*Durvillaea antarctica*) and the seaweed *Xiphophora gladiata*.

Kelp forests also provide important habitat for koura/rock lobster (particularly the settling puerulus larvae), blue cod (*Parapercis colias*) and greenbone (butterfish; *Odax pullus*).

Pleasant River is a tidal lagoon salt marsh habitat that is considered **typical** of tidal lagoons on this part of the coast, as well as having **natural features** of recognised **beauty**. The *Dunedin City District Plan* defines the edge of the Pleasant River estuary as an Area of Significant Conservation Value, describing it as having succulent herb swamp, mud flat, salt rush and reed swamp, regional significance, and a high degree of wetland **naturalness**.[45] It is also listed in Schedule 9 of the *Regional Plan: Water for Otago* as a regionally significant wetland,[46] and there is community support to restore the estuary.

An important bird area has been identified at Bobbys Head (the English name for Te Umu Koau).[47] Colonies of spotted shags (*Stictocarbo punctatus*) and tītī/sooty shearwaters (*Puffinus griseus*) have been reported at this site, and hoiho/yellow-eyed penguins (*Megadyptes antipodes*) breed there.

The diverse and iconic **natural features**, **marine life** and species associated with the coastline make this area inarguably of **distinctive quality**, **typical** and **beautiful**.

Te Umu Koau Marine Reserve would encompass many different habitats in close proximity to each other (including rare examples of volcanic rock reefs, estuaries, kelp forests, exposed reef shelves, sea caves and seaweed gardens), providing an opportunity to protect several habitats in a single reserve. The proposed marine reserve area is considered to have exceptionally high value in terms of the protection of ecosystem processes across habitats.

This area is the only proposed marine reserve to represent deep reef and estuarine habitats in the Otago region, and the deep reef at this site is considered **typical** of the deep reefs associated with

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[45] http://www.dunedin.govt.nz/__data/assets/pdf_file/0018/147330/Schedule-25.4-Areas-of-Significant-Conservation-Value.pdf

[46] www.orc.govt.nz/media/5795/regional-plan_-water-for-otago-updated-to-1-july-2018-schedules.pdf

[47] Forest and Bird 2018: Important bird areas for New Zealand seabirds. www.forestandbird.org.nz/resources/important-bird-areas-new-zealand-seabirds

this section of the coast. The diverse range of habitats contained in a single reserve would enhance connectivity between shallow and deep reef habitats and across sand and reef habitats.

As well as including features that are considered typical of the north Otago coast, this site also includes several **unique** features. Therefore, it is considered that the protection of the underwater scenery, natural features and marine life at this site is consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.2.3 How this site would contribute to the network

This site would contribute to a comprehensive and representative network of protected sites in the southeastern South Island by protecting seven broad-scale habitat types: subtidal and intertidal reef habitats, subtidal and intertidal soft-sediment habitats, two biogenic habitats (giant kelp forest and seagrass), and an estuarine environment.

This reserve has the highest degree of representativity (number of habitats represented) among the proposed marine reserves in this application. The connectivity that would be present across estuarine, shallow coastal and deep habitats in a single reserve would be unique and highly desirable.

Appendix 4 provides a complete list of the habitats that have been identified within the region and shows the contribution this site would make to the network of protected sites.

4.2.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.5 would be prohibited in the proposed Te Umu Koau Marine Reserve.

Table A1.5. Activities that would be prohibited in the proposed Te Umu Koau Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be approximately NZ$2 million (40.6 tonnes) per year. Of this, $1.84 million would be attributed to the displacement of koura/rock lobster (*Jasus edwardsii*) (17.7 tonnes), with Fisheries New Zealand estimating that 20.7% of the catch in CRA7 (the quota management area within which this site falls) occurs in this area. Commercial eeling occurs in the Stony Creek and Pleasant River estuaries, which would be prohibited under the proposal. Additional information that was used in forming the application, including information on all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited. Limited information is available on the use of this site for recreational fishing, but it is likely that the area is used for floundering, whitebaiting, trout fishing, collecting pāua (*Haliotis* spp.), and targeting reef fishes and koura/rock lobster. However, the adverse effects on overall recreational opportunities would likely be low as other suitable locations are available nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.

Discharge of firearm	The discharging of any firearm (as defined in the Marine Reserves Act) would be prohibited. This would prohibit game shooting from the Stony Creek and Pleasant River estuaries.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.
Vehicle access over the foreshore	Driving over the intertidal area (foreshore) would be prohibited.

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.2.5 Activities that are unlikely to be affected

Activities that are likely to take place at the site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.6.

Table A1.6. Activities that are unlikely to be affected by establishment of the proposed Te Umu Koau Marine Reserve.

Activity	Details
Kōiwi tākata	The retrieval of kōiwi tākata that are unearthed in the reserve by natural or other means would not be restricted by the establishment of the reserve.
Access	Access to the marine reserve, or sites within the marine reserve, would not be affected by the designation of the marine reserve, with the exception of vehicle access across the foreshore of the reserve.
Fossicking	The non-commercial gathering of beach stones, non-living shells and driftwood on the foreshores of the proposed marine reserve using only hand-held (non-mechanical) methods would be permitted.
Anchoring	No restrictions on anchoring are proposed.
Existing resource consents	• Dam water permits: 2008.007, 2008.009, 2008.011. • Discharge to water permits: 2008.571, 2008.575, 2008.579. • Surface water take permit: 2008.008.V1.
Transit	No restrictions on transit through the marine reserve are proposed.

4.2.6 Summary

The habitats contained within the proposed Te Umu Koau Marine Reserve are representative of the habitats that occur from north of the Otago Peninsula to Oamaru. The combination of deep and shallow reef and sand, estuarine, and biogenic (kelp and seagrass) habitats make the site unique along the coast. This site is also the only location that would protect deep reef (ie deeper than 30 m) habitat within the southeast region.

Impacts on commercial fishing

It is acknowledged that the establishment of a marine reserve at this site would be likely to have an effect on the commercial fishing sector, particularly the koura/rock lobster fishery in CRA7.[48]

Fisheries New Zealand estimates that 20.7% (17.7 tonnes) of the current annual catch of koura/rock lobster that is taken within CRA7 would be displaced by the establishment of this proposed marine reserve. This level of displacement has the potential to cause localised depletion over the remaining areas of fished habitat, at least in the short term.

If localised depletion occurs or if fishers expend more effort to catch koura/rock lobster for some other reason (eg reduced access to their preferred fishing grounds), there is the potential for a reduced catch per unit effort (CPUE) to be reflected in a decreased total allowable commercial catch (TACC) the following year. The magnitude of this decrease, should it occur, and the length of time over which any reduction would remain is difficult to estimate due to the complexity of the CRA7 fishery.

Establishing an area that would allow for some level of recovery for koura/rock lobsters (as an important component of the ecosystem) would be of significant ecological value. Although it is unknown how the stock associated with the reefs in the reserve would respond to protection and how the stock would respond at a greater fishery scale, this is of scientific interest.

Costs and benefits

It should be noted that it is not possible to adequately and effectively protect the habitats covered by this site (particularly the shallow and deep rocky reef habitats) at any other location along the coast without having an effect on commercial fishing interests. It is considered that the Forum took the entire coast into account, including existing uses and values, in formulating their recommendations and that this locality provides a balance between protection and the level of impact on existing users. This is consistent with the MPA policy under which the Forum operated.

The values associated with this site in terms of scientific purposes and the inclusion of specific habitats in a representative network of protected sites are considered to be highly significant.

In determining whether an effect of the marine reserve is 'undue', the significance of the effect must be weighed against the benefits – that is, it is necessary to consider the wider aspects of public interest. Although adverse effects on some existing users could be expected, on balance it is considered that the benefits to other values warrant the creation of the reserve. As such, the designation of this reserve is in the national interest and would not unduly affect existing users.

4.2.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[49]

[48] CRA7 is the quota management area for koura/rock lobster in which this site is located.

[49] http://seasket.ch/iMWRh5ubHl

4.3 Papanui Marine Reserve

4.3.1 Site location

This site covers the area from a water depth of 60–80 m to and including the head of Papanui Canyon. It starts approximately 6 km from the coast at Cape Saunders and extends to the 12-NM territorial sea limit. The location, including coordinates, is shown in Fig. A1.4.

This site is identical to the proposed site H1 in the Forum's recommendations report.[50]

[50] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

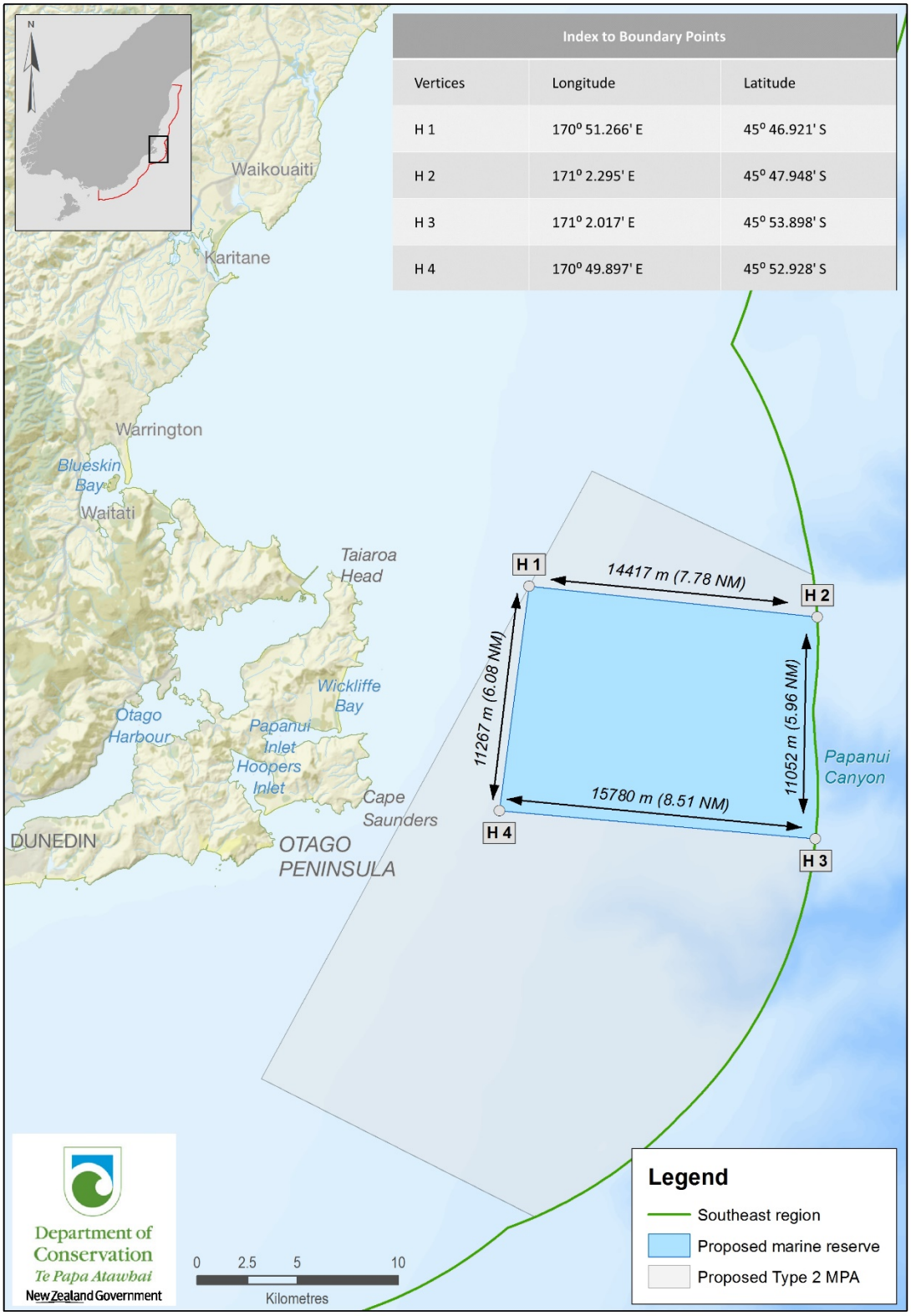

Figure A1.4. Locations of the proposed Papanui Marine Reserve and the adjacent Type 2 marine protected area (MPA).

4.3.2 Why this site is important

The biodiversity of the marine area around the Otago Peninsula is strongly influenced by the southland current, the Otago Peninsula and undersea canyons, which together create a **unique** oceanographic environment that supports a diverse variety of marine life.

This area is one of only a few on the east coast of the South Island and one of only two in the southeast region where canyons extend substantially within the 12-NM territorial sea. The habitats associated with these canyons are likely to be **typical** of the canyon habitats of the east coast of the South Island and are biologically diverse, providing habitats for brittle stars, sea stars, gastropods, bivalves, shrimps, hermit crabs, bryozoans, sponges and quill worms, among others. The canyons are also hotspots for seabirds and whales, including upokohue/long-finned pilot whales (*Globicephala melas*) and parāoa/sperm whales (*Physeter macrocephalus*), making this site **unique** along the region's coastline.

The bryozoan thicket habitat that occurs at depths of 70 m or more is a major natural feature that has been identified off the Otago Peninsula. While bryozoans have been found in and around the canyon heads and at many other localities along the southeast coast, the area off the Otago Peninsula is the only location where thickets are known to occur. Thickets are distinct biogenic habitat-forming structures on the seafloor that provide habitat for a diverse community of invertebrates (eg sponges, anemones, worms, crabs, snails, sea stars and sea squirts) and many species of fishes.

Bryozoans are also referred to as 'lace corals' due to their intricate structures and formations and arguably create some of the most **beautiful** seafloor structures and underwater scenery. The Forum considered that the bryozoan thickets off the Otago coast met the definition in the MPA policy as 'outstanding, rare, distinctive or internationally or nationally important marine habitats and ecosystems'.

The canyon area is known to be a foraging area for numerous high-trophic-level predators, which include whakahao/New Zealand sea lions (*Phocarctos hookerii*), kekeno/New Zealand fur seals (*Arctocephalus forsteri*) and hoiho/yellow-eyed penguins.

As such, it is considered that the protection of the underwater scenery, natural features and marine life at this site is consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.3.3 How this site would contribute to the network

This site would contribute to a comprehensive and representative network of protected sites in the southeastern South Island by protecting three broad-scale deep, soft-sediment habitat types and one biogenic habitat (bryozoan thickets). Appendix 4 provides a full list of the habitats that have been identified within the region and shows the contribution this site would make to the network of protected sites.

4.3.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.7 would be prohibited in the proposed Papanui Marine Reserve.

Table A1.7. Activities that would be prohibited in the proposed Papanui Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$122,000 (21 tonnes) per year. The biggest displacement of fishing (in terms of export value) would be experienced by the blue cod (*Parapercis colias*; 3.2 tonnes), arrow squid (*Notodarus* spp.; 6.4 tonnes) and rig (*Mustelus lenticulatus*; 1.7 tonnes) commercial fisheries, which are estimated to represent 1.9%, 0.7% and 0.4%, respectively, of the quota management landings. Additional information that was used in forming the application, including information on all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited. The establishment of a marine reserve at this site would be likely to have some impact on recreational fishing. However, the adverse effects on overall recreational opportunities would likely be minimal as the generally preferred recreational destination at Saunders Canyon would remain available.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site. A proportion of a current petroleum exploration permit marginally overlaps the reserve (approximately 18 km^2 or 0.1% of the full exploration block), which has an expiry date of 2021. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.3.5 Activities that are unlikely to be affected

Activities that are likely to take place at this site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.8.

Table A1.8. Activities that are unlikely to be affected by establishment of the proposed Papanui Marine Reserve.

Activity	Details
Access	Access to the marine reserve, or sites within the marine reserve, would not be affected by the establishment of the marine reserve.
Anchoring	No restrictions on anchoring are proposed.
Transit	No restrictions on transit through the marine reserve are proposed.

4.3.6 Summary

The waters to the east of the Otago Peninsula are defined by a unique set of oceanographic conditions due to the mixing of coastal, subtropical and subantarctic waters and the upwelling of deep, nutrient-rich waters that is likely to occur through the various canyons that are found along the continental shelf. These conditions support a rich diversity of habitats and associated ecosystems.

Bryozoan thickets represent an important biogenic habitat in this area that supports a diverse invertebrate community and juvenile fishes. It is considered that the bryozoan thickets off the Otago Peninsula meet the definition of 'outstanding, rare, distinctive or internationally or nationally important marine habitat and ecosystems', and this marine reserve would afford full protection to 30% of the known distribution of habitat-forming bryozoans in this area.

The values associated with this site are highly significant both for scientific purposes and for the inclusion of specific habitats in a representative network of protected sites. As such, the establishment of this marine reserve would not unduly interfere with existing users, would be in the national interest and is considered to be consistent with the Marine Reserves Act.

4.3.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[51]

[51] http://seasket.ch/i0JBrDeHrB

4.4 Ōrau Marine Reserve

4.4.1 Site location

The proposed Ōrau Marine Reserve stretches from Harakeke Point in the north to Saint Clair point (saltwater pool) in the south. It extends from MHWS to approximately 3.1 km south-southeast of Saint Clair point, passing through the breaking reef just west of White Island (Ponuiahine). The location, including coordinates, are shown in Fig. A1.5.

This site is consistent with the proposed site I1 in the Forum's recommendations report.[52]

[52] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

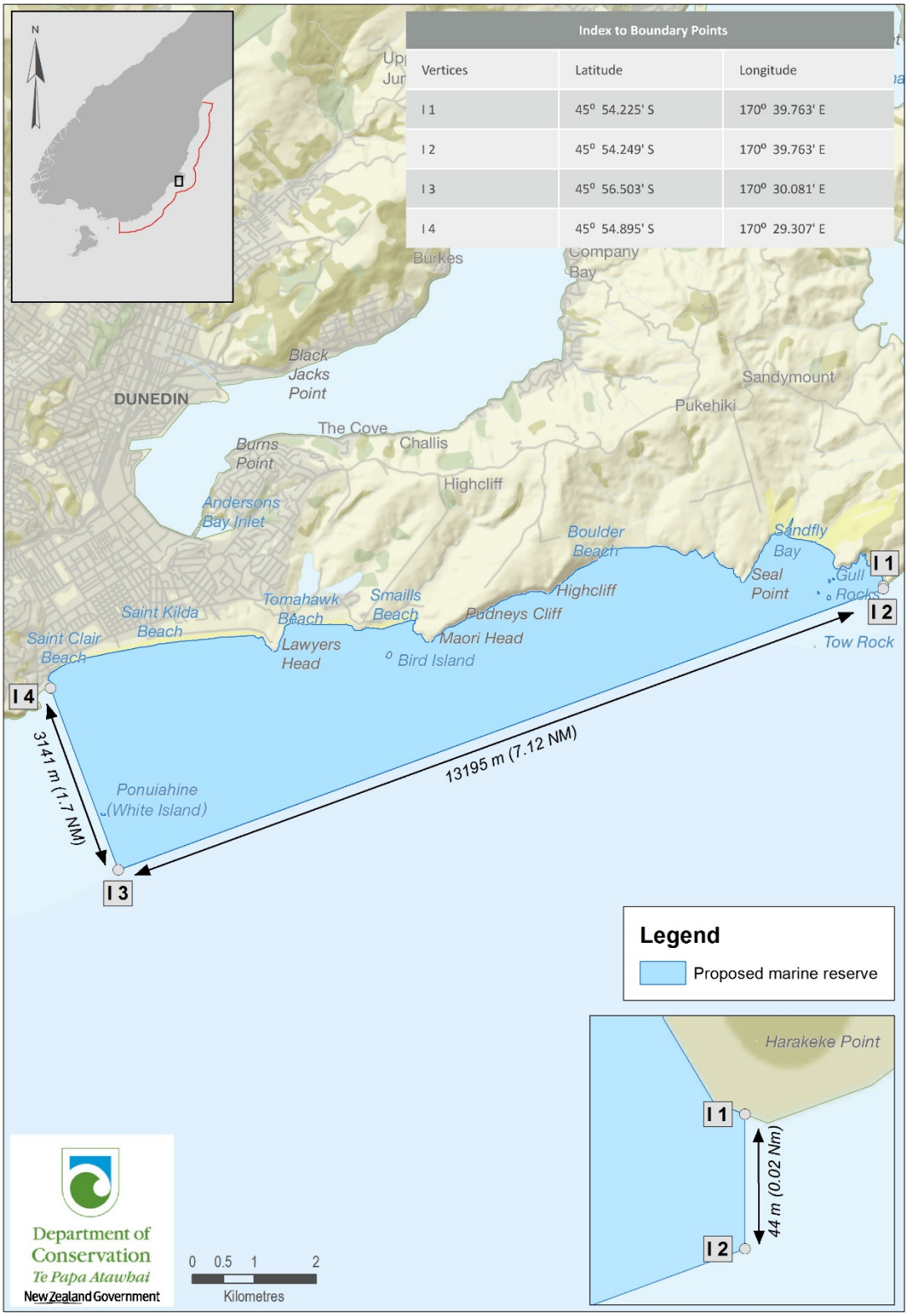

Figure A1.5. Location of the proposed Ōrau Marine Reserve.

4.4.2 Why this site is important

The natural features at this site include exposed volcanic rock shorelines with cliffs and wave-washed platforms interspersed with sandy or boulder beaches, making for a **beautiful** and inspiring coastline. Small rocky islets and offshore rock stacks create unique habitats beyond the surf zone, and Lion Rock off Sandfly Bay has a dive-through cave.

The intertidal and coastal habitats at this site are very exposed to southerly swells, and this is reflected in the nearshore habitats. Rocky reefs are dominated by forests of bull kelp (*Durvillaea* spp.) in the shallows and a diverse understorey of other seaweeds beneath. Koura/rock lobster and a diverse range of reef fishes, including blue moki (*Latridopsis ciliaris*), trumpeter (*Latris lineata*) and greenbone (butterfish) are found on reefs in this area.

At the northern end of the proposed reserve, shallow algae-dominated reefs extend to deep reef habitats where strong currents enable the formation of impressive and **beautiful** encrusting communities of filter-feeding invertebrates (eg sponges and ascidians). Tow Rock, which is a pinnacle on the most extensive of these deep reef habitats, is not included in the reserve due to the significant cultural, commercial and recreational values associated with it.

This area would be representative and **typical** of a southern exposed rocky shoreline.

A special feature of this area is the significant population of hoiho/yellow-eyed penguins, some of which forage inshore but many of which feed 20 km or more out to sea. Other seabirds, including tītī/sooty shearwaters, fairy prions (*Pachyptila turtur*) and kororā/little blue penguins (*Eudyptula minor*), burrow or find crevices to shelter in along this coast.

Kekeno/New Zealand fur seals haul out along this coast, but their main breeding rookeries are north of the proposed area. Whakahao/New Zealand sea lions frequent Sandfly Bay from August to November before the larger males head south to breed in the subantarctic islands, and more secluded spots are becoming increasingly important for the small number of females that give birth here in late December. Sandfly Bay Conservation Area, Sandfly Bay Wildlife Refuge and Boulder Beach Conservation Area are important areas that are protected for the benefit of marine wildlife on shore, so extending protection out to sea would be a valuable addition.

This site includes a number of **unique features** as well as those that are considered **typical** of the region south of Taiaroa Head. As such, it is considered that the protection of the underwater scenery, natural features and marine life of this site are consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.4.3 How this site would contribute to the network

Ōrau Marine Reserve would contribute to a comprehensive and representative network of protected sites in the southeastern South Island by protecting six broad-scale habitat types (including intertidal and subtidal rocky reef and soft-sediment habitats) and one of only two boulder beaches in the region. As such, the site is particularly important for adequately representing exposed shallow sand and exposed rocky reef in the network. Appendix 4 provides a full list of the habitats that have been identified within the region and shows the contribution this site would make to the network of protected sites.

4.4.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.9 would be prohibited in the proposed Ōrau Marine Reserve.

Table A1.9. Activities that would be prohibited in the proposed Ōrau Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$27,300 (2.6 tonnes) per year, which represents 0.1% of the export value of the southeast region. However, Fisheries New Zealand notes that the estimated average commercial catch for each fishing method by fishery is less than 1 tonne per year, so the impact on the commercial fishing sector would likely be relatively low. Additional information that was used in forming this application, including information on all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited. This area is valued by recreational fishers, particularly for pāua (*Haliotis* spp.) and blue cod (*Parapercis colias*). While there would be an effect on some types of fishing (particularly shore-based fishing), the adverse effects on overall recreational opportunities would likely be moderated by the availability of other suitable locations nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited.
Vehicle access over the foreshore	The use of vehicles over the intertidal area of the marine reserve would be an offence, with some exceptions for vessel launching, emergency services or management. Consistency with Dunedin City Council's Reserves and Beaches Bylaw 2017‡ is intended.

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

‡ www.dunedin.govt.nz/__data/assets/pdf_file/0020/132581/10-Reserves-and-Beaches-Bylaw-2017-and-Maps.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.4.5 Activities that are unlikely to be affected

Activities that are likely to take place at the site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.10.

Table A1.10. Activities that are unlikely to be affected by establishment of the proposed Ōrau Marine Reserve.

Activity	Details
Kōiwi tākata	The retrieval of kōiwi tākata that are unearthed in the reserve by natural or other means would not be restricted by the establishment of the reserve.
Access	Access to the marine reserve, or sites within the marine reserve, would generally not be affected by the designation of a marine reserve. However, use of vehicles over the intertidal area would be prohibited, except in the case of launching or retrieving a vessel, for access by any lifeguard or emergency services acting in the course of their duty, or for management activities.
Fossicking	The non-commercial gathering of beach stones, non-living shells and driftwood on the foreshores of the proposed marine reserve using only hand-held (non-mechanical) methods would be permitted.
Anchoring	No restrictions on anchoring are proposed.
Existing resource consents	• Coastal discharge permits: 2001.084, 2002.623, 2002.624, RM11.313.10. • CMA use permits: 2001.085, 2002.478, 2002.482, 2002.573, 2002.621, 2006.509, 2006.534, 2010.256, 2010.257, RM13.428.01, RM13.428.02, RM13.428.05, RM13.428.04, RM14.309.07, RM14.309.05, RM14.309.08, RM18.381.01. • Discharge to air permits: 2002.626, RM13.428.06, RM15.142.01. • General/structure land use permit: RM13.428.03. • Compliance certificate: RM13.428.07.
Transit	No restrictions on transit through the marine reserve are proposed.

4.4.6 Summary

The habitats that are contained within the proposed Ōrau Marine Reserve are representative of the habitats south of Taiaroa Head through to The Catlins. The combination of deep and shallow reef and sand habitats make the site unique along the coast. The reserve would incorporate several beaches and rocky headlands, as well as a number of rock stacks and islands.

It is acknowledged that the establishment of a marine reserve at this site would be likely to have an impact on the recreational fishing sector, particularly for shore-based fishing, but it is important to note that eliminating adverse effects on existing users is not possible if effective protection is to be established. Therefore, it needs to be determined whether the restrictions would unduly affect recreational fishing interests.

The values associated with this site in terms of scientific purposes and the inclusion of specific habitats in a representative network of protected sites are considered to be highly significant.

In determining whether an effect of the marine reserve is 'undue', the significance of the effect must be weighed against the benefits – that is, it is necessary to look at the wider aspects of public interest. It is acknowledged that there would be adverse effects on some existing users, but it is considered that the benefit to other values on the balance warrants the creation of the reserve. As such, the designation of this reserve is in the national interest and would not unduly impact on existing users.

4.4.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[53]

[53] http://seasket.ch/OOri-p_brl

4.5 Okaihae Marine Reserve

4.5.1 Site location

This site surrounds Green Island (Okaihae)and extends from MHWS (or to the boundary of the nature reserve) to approximately 1 km to the north, west and east of the island and 1.3 km south of the island. The location, including coordinates, of the proposed marine reserve is shown in Fig. A1.6.

This site is consistent with the proposed site K1 in the Forum's recommendations report.[54]

[54] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

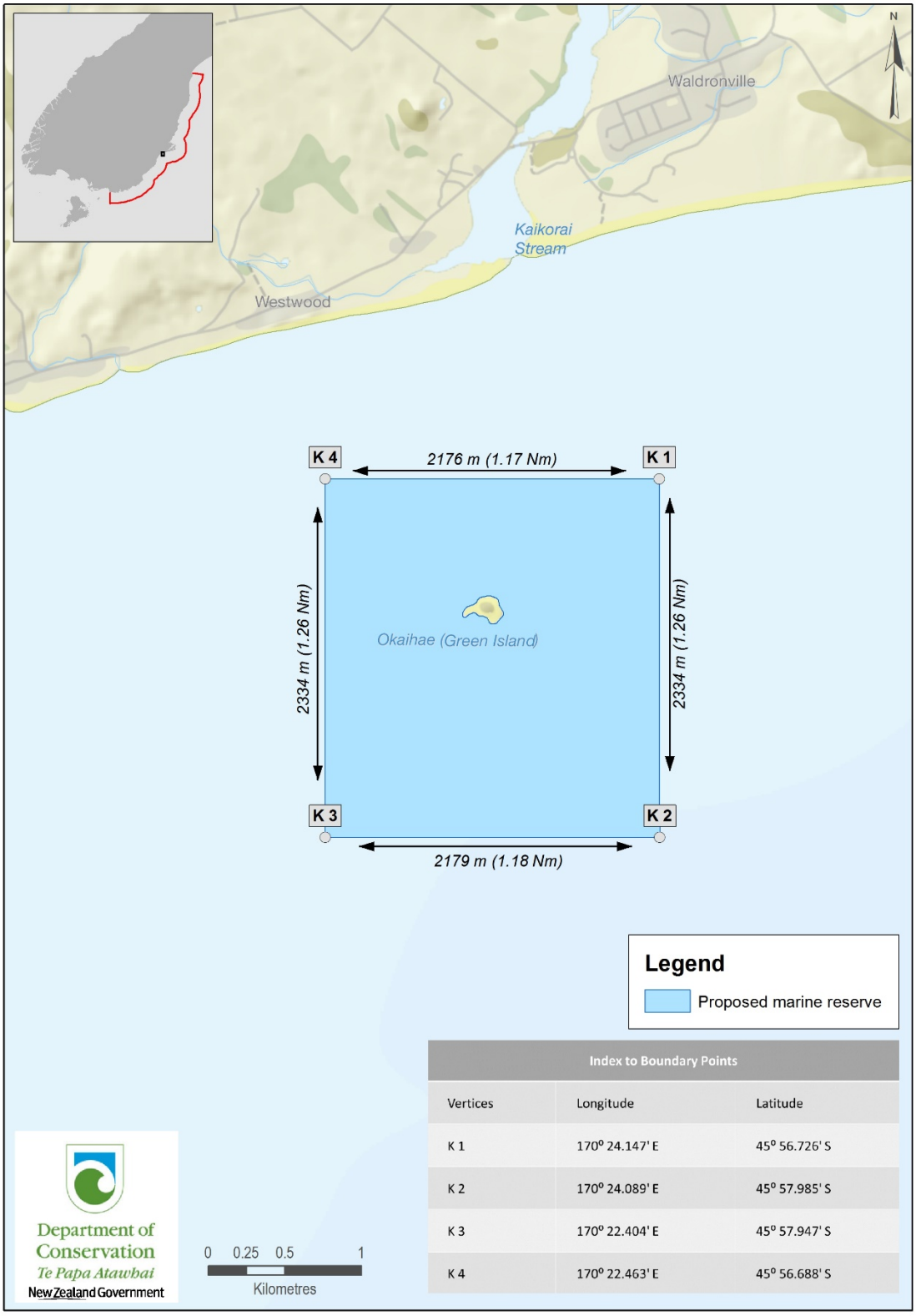

Figure A1.6. Location of the proposed Okaihae Marine Reserve.

4.5.2 Why this site is important

As an offshore island on the coast that is already a nature reserve, Green Island (Okaihae) is a **unique**, **beautiful** and inspiring setting. The rocky reefs include forests of bull kelp (*Durvillaea* spp.) in the shallows with an understorey of seaweed species beneath, which provides habitat for koura/rock lobster and many reef fish species, such as moki, trumpeter and greenbone (butterfish). According to anecdotes, hāpuku/grouper (*Polyprion oxygeneios*) were also once commonly found on the Green Island reefs.

A number of seabird species live on the island, including tītī/sooty shearwaters, kororā/little blue penguins, tarāpunga/red-billed gulls (*Larus novaehollandiae*), fairy prions, hoiho/yellow-eyed penguins, little pied shags (*Phalacrocorax melanoleucos brevirostris*) and Otago shags. It is also frequently visited by kekeno/New Zealand fur seals and whakahao/New Zealand sea lions.

Anecdotally, the marine environment around Green Island has undergone a considerable decline in species diversity and abundance in the last few decades. The island is surrounded by a reasonable extent of offshore reef at diveable depths. While the proposed marine reserve is small, the protection of habitats in this area is likely to lead to measurable changes in its biodiversity, and the area could also act as a source of replenishment for invertebrates and fishes on the low-relief reefs. Green Island has the potential to be an iconic place with the existing nature reserve extending through to the marine reserve.

The island and surrounding marine environment is a **unique** feature off the Otago coast and, as such, it is considered that the protection of the underwater scenery, natural features and marine life of the site are consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.5.3 How this site would contribute to the network

Okaihae Marine Reserve would contribute to a comprehensive and representative network of protected sites in the southeastern South Island by protecting four broad-scale habitat types (intertidal and subtidal reefs, and subtidal deep and shallow sand habitats). This site would also contribute to the adequate representation of exposed habitat types within the network. Appendix 4 provides a full list of the habitats that have been identified within the region and shows the contribution this site would make to the network of protected sites.

4.5.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.11 would be prohibited in the proposed Okaihae Marine Reserve.

Table A1.11. Activities that would be prohibited in the proposed Okaihae Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the proposed marine reserve to be NZ$19,000 (0.7 tonnes) per year, which represents 0.06% of the export value of the southeast region. The koura/rock lobster (*Jasus edwardsii*) fishery makes up an estimated $15,500 of this displacement. The impact on the commercial fishing sector of this site would likely be relatively low. Additional information that was used in forming this application, including information on all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited.

Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.5.5 Activities that are unlikely to be affected

Activities that are likely to take place at this site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.12.

Table A1.12. Activities that are unlikely to be affected by establishment of the proposed Okaihae Marine Reserve.

Activity	Details
Kōiwi tākata	The retrieval of kōiwi tākata that are unearthed in the reserve by natural or other means would not be restricted by the establishment of the reserve.
Access	Access to the marine reserve would not be affected by the designation of the marine reserve. However, it should be noted that Green Island is a nature reserve and landing is prohibited.
Anchoring	No restrictions on anchoring are proposed.
Transit	No restrictions on transit through the marine reserve are proposed.

4.5.6 Summary

The habitats that are contained within the proposed Okaihae Marine Reserve contribute to the representation of habitats south of Taiaroa Head through to The Catlins. Although this would be a small reserve, it would enclose an entire island and reef system and so should be effective in maintaining and restoring the marine life and providing opportunities for scientific study.

It is acknowledged that the establishment of this site would be likely to have some impact on the recreational fishing sector, but it is important to note that eliminating adverse effects on existing users is not possible if effective protection is to be established. Therefore, it needs to be determined whether the restrictions would unduly affect recreational fishing interests. While there would be an effect on fishing, the adverse effects on overall recreational opportunities would likely be moderated by the availability of other suitable locations nearby.

The values associated with this site in terms of scientific purposes and the inclusion of specific habitats in a representative network of protected sites are considered to be highly significant.

In determining whether or not an effect of the marine reserve is 'undue', the significance of the effect must be weighed against the benefits – that is, it is necessary to look at the wider aspects of public interest. It is acknowledged that there would be adverse effects on some existing users, particularly recreational fishers, but it is considered that the benefit to other values on balance warrants the creation of the reserve. As such, the designation of this reserve is in the national interest and would not unduly impact on existing users.

4.5.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[55]

[55] http://seasket.ch/Og8fzHerbR

4.6 Hākinikini Marine Reserve

4.6.1 Site location

This proposed marine reserve begins 0.8 km north of Akatore Creek and extends south along the coastline for approximately 6.5 km to just north of Watsons Beach. It extends from MHWS and out to approximately 0.6 to 1.3 km offshore. The location, including coordinates, of this proposed marine reserve is shown in Fig. A1.7.

This site is consistent with the proposed site M1 in the Forum's recommendations report[56] with minor adjustments to the boundaries.

[56] www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

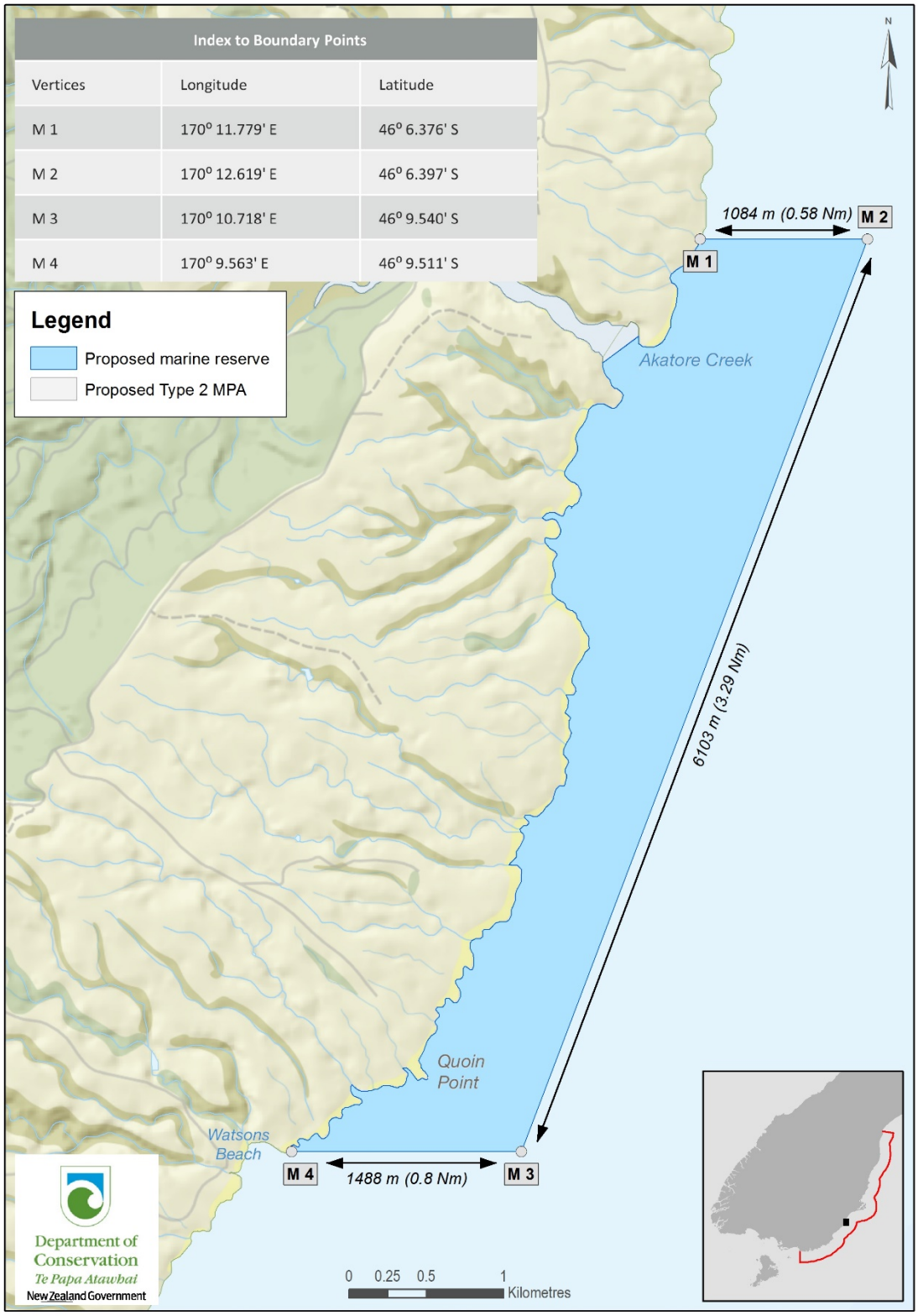

Figure A1.7. Locations of the proposed Hākinikini Marine Reserve and the adjacent Type 2 marine protected area (MPA).

4.6.2 Why this site is important

The site includes a **unique** exposed section of Otago Schist wave-cut platforms interspersed with sand beaches, which are a combination of modern fine- to medium-grained quartz sands and much coarser quartz sand that is believed to have originated from the erosion of the geological 'Taratu Formation'. The platforms include rock pools, crevices and gutters, providing for many micro-habitats along the intertidal zone and forming a **beautiful** and rugged coastline. Mussel beds of *Perna canaliculis* and *Mytilus galloprovincialis* extend subtidally finding space between the bull kelp (*Durvillaea* spp.).

At Quoin Point there is a breeding rookery of kekeno/New Zealand fur seals, and whakahao/New Zealand sea lions are increasingly observed hauling out on some of the beaches here.

There has been speculation that the water along this coastline was once sufficiently clear to allow *Macrocystis* kelp beds to form offshore, which is supported by the presence of small, stunted *Macrocystis* in rock pools along the coast.

Hākinikini Marine Reserve would provide an example of exposed intertidal and shallow rocky reef that is **typical** of the exposed Otago coastline. It would also improve the connectivity between the two other exposed rocky shore marine reserves (Ōrau and Okaihae), as well as providing connectivity with the estuarine habitats in the proposed Whakatorea Type 2 MPA and the opportunity for scientific study. Such replication, connectivity and provision of the opportunity for scientific study are important considerations in creating a network of protected areas.

This site includes a number of **unique** features as well as those that are considered **typical** of the region south of Taiaroa Head. As such, it is considered that the protection of the underwater scenery, natural features and marine life of this site would be consistent with the Marine Reserves Act in that they are so '**typical**, or **beautiful**, or **unique** that their continued preservation is in the **national interest**'.

4.6.3 How this site would contribute to the network

Hākinikini Marine Reserve would contribute to a comprehensive and representative network of protected sites in the southeastern South Island, in particular by protecting exposed intertidal and subtidal rocky reef habitats. Appendix 4 provides a full list of the habitats that have been identified within the region and shows the contribution this site would make to the network of protected sites.

4.6.4 Activities that would be affected

Under the Marine Reserves Act, the activities listed in Table A1.13 would be prohibited in the proposed Hākinikini Marine Reserve.

Table A1.13. Activities that would be prohibited in the proposed Hākinikini Marine Reserve.

Activity	Details
Commercial fishing	All commercial fishing would be prohibited. Based on 2017 values, Fisheries New Zealand estimates the export value of potentially displaced commercial catches from the site to be NZ$239,300 (7 tonnes) per year, which represents 0.7% of the export value of the southeast region. The fisheries that would most likely be affected are the koura/rock lobster (*Jasus edwardsii*) and flatfish trawl fisheries, for which approximately 2.37% and 0.10%, respectively, of their quota management area catches occur at this site.

	Additional information that was used in forming this application, including information on all affected fisheries, can be found in the Forum's recommendations report* and the agency advice to Ministers.†
Recreational fishing	All recreational fishing would be prohibited. This area is used by recreational fishers; particularly for pāua (*Haliotis* spp.) fishing. While there would be an effect on some types of fishing, particularly shore-based fishing, the adverse effects on overall recreational opportunities would likely be moderated by the availability of other suitable locations nearby.
Customary fishing	Customary fishing would generally be prohibited but exceptions may be made to allow Kāi Tahu to take or disturb marine life for wānaka. Any such exceptions would need to be expressly provided for and be consistent with the purpose of the Marine Reserves Act 1971.
Mining and petroleum exploration	All mining and petroleum exploration would be prohibited with the possible exception of the activities listed in section 61(1A) of the Crown Minerals Act 1991. No mining currently occurs at this site and no active petroleum permit or open block offers are present. Foregone benefits from future potential mining or petroleum extraction in the area would not be significant as the area is not believed to hold any significant deposits of Crown minerals.
Extraction of any material for commercial use	All commercial extractive activities would be prohibited. No current extraction of material is known to occur within the site.

* www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

† www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-joint-agency-advice.pdf

Any other use that is not permitted by the Marine Reserves Act and not explicitly allowed for in the Order in Council would be prohibited in this marine reserve.

4.6.5 Activities that are unlikely to be affected

Activities that are likely to take place at the site but are not considered to be inconsistent with the purpose of the reserve at their current levels of intensity are detailed in Table A1.14.

Table A1.14. Activities that are unlikely to be affected by establishment of the proposed Hākinikini Marine Reserve.

Activity	Details
Kōiwi tākata	The retrieval of kōiwi tākata that are unearthed in the reserve by natural or other means would not be restricted by the establishment of the reserve.
Access	Access to the marine reserve, or sites within the marine reserve, would not be affected by the designation of the marine reserve.
Fossicking	The non-commercial gathering of beach stones, non-living shells and driftwood on the foreshore of the proposed marine reserve using only hand-held (non-mechanical) methods would be permitted.
Anchoring	No restrictions on anchoring are proposed.
Existing resource consents	• Discharge consents: 95426, 95427.
Transit	No restrictions on transit through the marine reserve are proposed.

4.6.6 Summary

The habitats that occur in the proposed Hākinikini Marine Reserve are representative of the habitats south of Taiaroa Head to The Catlins. While establishment of this marine reserve would be likely to have some impact on recreational fishing, it is important to note that eliminating

adverse effects on existing users is not possible if effective protection is to be established. Therefore, it needs to be determined whether the restrictions would unduly affect recreational fishing interests.

The values associated with this site in terms of scientific purposes and the inclusion of specific habitats in a representative network of protected sites are considered to be high. As such, it is considered that the establishment of a marine reserve at this site is consistent with the Marine Reserves Act in that it would not unduly interfere with existing users and would be in the national interest.

4.6.7 More information

Additional information can be found in the Forum's recommendations report and in the online mapping tool SeaSketch.[57]

Annex 1: Copy of formal notice of intention

Notice of intention to apply for marine reserves on the southeast coast of the South Island – Recommencement of Public Consultation

Public consultation on proposed marine reserves was initiated on 17 February 2020 and withdrawn on 9 April 2020 due to New Zealand's emergency response to the global COVID-19 pandemic. The Department of Conservation is now recommencing public consultation and invites public feedback on the proposed marine reserves, which are unchanged from those consulted on in February 2020. Full details are provided below.

In May 2019, the Ministers of Conservation and Fisheries announced that statutory processes would begin to establish six marine reserves under the Marine Reserves Act 1971 and five Type 2 marine protected areas and a kelp harvesting prohibition area under the Fisheries Act 1996. Together, these would create marine protected areas on the southeastern coast of the South Island similar to network 1 as recommended by the South-East Marine Protection Forum Roopu Manaaki ki te Toka. The identification system used by the forum (e.g. B1) alongside the proposed name of each marine reserve is provided below.

Pursuant to section 5 of the Marine Reserves Act 1971 and section 48 of the Marine and Coastal Area (Takutai Moana) Act 2011, the Director-General of Conservation hereby gives notice of his intention to apply for Orders in Council declaring marine reserves in six areas of sea and foreshore in the southeast South Island, with their proposed names, as follows:

1. **Waitaki Marine Reserve** (B1). The proposed marine reserve boundary starts approximately 2 km south of the Waitaki River mouth and extends south for 14.8 km (8 NM). The site includes the coastal marine area from MHWS and extends offshore 8 km (4.3 NM). Area: 101.3 km^2.

[57] http://seasket.ch/Ogc8Ke-XX5

2. **Te Umu Koau Marine Reserve** (D1). The proposed marine reserve boundary starts approximately 100 m north of the mouth of Stony Creek and extends south to a point approximately 400 m south of the mouth of Pleasant River. It includes Bobbys Head and the entirety of Stony Creek and Pleasant River estuaries. The reserve extends from MHWS to a straight line outer boundary that ranges between 10 km and 12 km offshore. Area: 96 km^2.

3. **Papanui Marine Reserve** (H1). The proposed marine reserve boundary starts approximately 6 km out from Cape Saunders and extends north approximately 11 km. It then extends to the 12 NM territorial sea limit, incorporating Papanui Canyon. Area: 167 km^2.

4. **Ōrau Marine Reserve** (I1). The proposed marine reserve boundary extends from Harakeke Point on the Otago Peninsula 17.8 km to the outer point of Saint Clair. It includes Lawyers Head, Māori Head, Seal Point and the waters surrounding Gull Rocks from MHWS. The seaward boundary extends from Harakeke Point to approximately 1 km to the south of the breaking reef to the west of Ponuiahine (White Island). The area does not include Tow Rock. Area: 28.8 km^2.

5. **Okaihae Marine Reserve** (K1). The proposed marine reserve encompasses Okaihae/Green Island, extending approximately 1 km to the north, west and east of the island, and 1.3 km to the south. Area: 5 km^2.

6. **Hākinikini Marine Reserve** (M1). The proposed marine reserve boundary begins approximately 0.8 km north of the entrance to Akatore Creek and extends south along the coastline for approximately 6.5 km to the northern point of Watsons Beach. It extends from MHWS to approximately 0.6 to 1.3 km offshore. Area: 5.9 km^2.

A map of the proposed marine reserves, a consultation document with more information about the areas (including the formal application for the marine reserves) and a link to make an objection or submission are all available at this website: https://survey.publicvoice.co.nz/s3/semp-consultation.

More information can also be found on the DOC website: https://www.doc.govt.nz/our-work/south-eastern-south-island-marine-protection/. DOC is currently investigating the possibility of running live online question and answer sessions with the public. Details will be provided on the DOC website.

To register for regular email updates on the SEMP consultation please email: semp@doc.govt.nz.

Note: Fisheries New Zealand is concurrently running a consultation process on five proposed Type 2 marine protected areas and a kelp harvesting prohibition in the same area (all using the Fisheries Act). The consultation document contains maps and information about these proposed areas.

Printed copies of the consultation document and map are also available for viewing at Department of Conservation offices in Christchurch, Dunedin and Invercargill; visitor centres in Dunedin and Wellington; and public libraries in Waimate, Oamaru and Balclutha during office hours. A map of the proposed marine reserves can be viewed outside the DOC office in Geraldine.

You can request a hard copy of the consultation document (including a formal application for the marine reserves) by emailing: semp@doc.govt.nz.

Any person, whānau, hapū and iwi or organisation who wishes to object to Orders in Council being made that establish the marine reserves, may do so by specifying the grounds of the objection in writing and submitting them to the Director-General of Conservation at https://survey.publicvoice.co.nz/s3/semp-consultation. If you are unable to provide an online submission, you can post it to the postal address below.

Under the Marine and Coastal Area (Takutai Moana) Act 2011, any whānau, hapū or iwi exercising kaitiakitanga in a part of the common marine and coastal area affected by the proposed reserves, have a right to participate in the process and provide their views. The Minister of Conservation must have particular regard to the views of affected whānau, hapū and iwi when considering the proposed marine reserves. To exercise that right, whānau, hapū or iwi who exercise kaitiakitanga in a part of the common marine and coastal area covered by the marine reserve proposals must advise the Director-General of Conservation that they are affected and provide their views on those proposals using the website above. If you are unable to provide an online submission via https://survey.publicvoice.co.nz/s3/semp-consultation, you can post it to the postal address below.

All objections, submissions and advice must be provided by 3 August 2020 (being two months from the date of first publication of this notice – 3 June 2020).

This notice of intention to apply for marine reserves is given by the applicant (the Director-General of Conservation) whose address is:

Proposed southeast marine protection network
Department of Conservation
Conservation House
PO Box 10420
Wellington 6143
New Zealand

Director-General of Conservation

New Zealand Government

Appendix 2:
Crown and Māori relationship

Treaty principles

The following Treaty principles are most relevant to the proposed marine protected areas (MPAs).

- **Partnership – mutual good faith and reasonableness:** The Crown and Māori must act towards each other reasonably and in good faith. These mutual duties of reasonableness and good faith describe the nature of the relationship between the Crown and Māori and are the core of what has been described as the Treaty partnership. This principle is about how the Crown should behave towards Māori and Māori towards the Crown.
- **Informed decision-making:** The Crown and Māori need to be well informed of each other's interests and views. When exercising the right to govern, Crown decision-makers need to be fully informed. For Māori, full information needs to be provided in order to contribute to the decision-making process. This is closely connected to the principles of good faith and active protection. Consultation is a means of achieving informed decision-making.
- **Active protection:** The Crown must actively protect Māori interests that are retained under the Treaty as part of the promises made in the Treaty for the right to govern. This includes the promise to protect tino rangatiratanga and taonga. Active protection requires informed decision-making and judgement as to what is reasonable in the circumstances.
- **Redress and reconciliation:** The Treaty relationship should include processes to address differences of view between the Crown and Māori. The Crown must preserve its capacity to provide redress for proven grievances that result from a failure to uphold the promises made in the Treaty. Māori and the Crown should demonstrate reconciliation as grievances are addressed.

Ngāi Tahu Claims Settlement Act 1998

Taonga species

Schedules 97 and 98 of the Ngāi Tahu Claims Settlement Act 1998[58] set out taonga species. These schedules list a number of seabirds, marine mammals, shellfish and fish species, as well as a species of kelp. The list of taonga species that was agreed on with the Crown does not include some species that have been brought into the commercial quota management system, meaning that these schedules do not provide an exhaustive list of taonga species that are of importance to Kāi Tahu. It should also be noted that all native species are treasured by Kāi Tahu.

Sections 288 and 298 of the Ngāi Tahu Claims Settlement Act are intended as an acknowledgement by the Crown of the cultural, spiritual, historic and traditional associations of

[58] www.legislation.govt.nz/act/public/1998/0097/latest/DLM429090.html

Kāi Tahu with the taonga species listed in the Act. The Ministers of Conservation and Fisheries have the following obligations (in relation to these taonga species).

- To advise and consult with Te Rūnanga o Ngāi Tahu.
  - Under section 304(1) of the Ngāi Tahu Claims Settlement Act, the Minister of Conservation must consult with, and have particular regard to the advice of, Te Rūnanga o Ngāi Tahu in its capacity as an advisory committee.
  - Under section 303 of the Act, the Minister of Fisheries must consult with Te Rūnanga o Ngāi Tahu in its capacity as an advisory committee to recognise and provide for the association of Kāi Tahu with the taonga fish species, which is consistent with the overall objectives of the Fisheries Act 1983[59] and the Fisheries Act 1996.[60]
- To recognise and provide for the association of Kāi Tahu with the taonga species.

Such obligations arise:

- for the Minister of Conservation when reviewing any relevant conservation management strategy reviews or any non-statutory actions pertaining to taonga species, or when making policy decisions concerning the protection, management, use or conservation of a taonga species
- for the Minister of Fisheries when making policy decisions concerning the protection, management, use or conservation of the taonga species within the Kāi Tahu claim area.

The southeast region wholly adjoins the coastline of the takiwā of Ngāi Tahu Whānui as defined by the Te Rūnanga o Ngāi Tahu Act 1996.

The marine, coastal and estuarine species included in Schedules 97 and 98 that are likely to occur within the proposed MPAs are listed in Appendix 5.

Statutory acknowledgements

The Ngāi Tahu Claims Settlement Act includes statutory acknowledgements for:

- Te Tai o Arai Te Uru (the Otago Coastal Marine Area; Schedule 103)
- the 'Waitaki River', including the river mouth
- the Clutha River/Mata-Au, including the river mouth.

[59] www.legislation.govt.nz/act/public/1983/0014/latest/DLM66582.html

[60] www.legislation.govt.nz/act/public/1996/0088/latest/DLM394192.html

Appendix 3: Catch and export value estimation methods

Catch estimation methods

Commercial fishing catches were estimated based on the average of annual catches taken over 10 consecutive fishing years (2007/08 to 2016/17 inclusive). The information was sourced from fishing catch effort and landings returns reported to Fisheries New Zealand. Species catch weights for each proposed marine protected area (MPA) were estimated based on the area of the mapped fishing events that intersected with each proposed area for protection. There are limitations to the fisheries data that were used in the assessment largely due to the scale at which the data are reported, so these should be regarded as estimates only (see section 6.6 of the recommendations report of the South-East Marine Protection Forum Roopu Manaaki ki te Toka [61]).

Export value estimation methods

The export value of each displaced commercial fishery is based on 2017 data and reflects the value of export goods, including raw materials, processing, packaging, storage and transportation up to the point where the goods are about to leave the country as exports. It does not include storage, export transport or insurance costs to get the goods to the export market. There is uncertainty regarding the matching of some species and processed states, and the prices derived may only represent a portion of the total exports of that species. Therefore, export values should be regarded as estimates.

[61] South-East Marine Protection Forum 2018: Recommendations to the Minister of Conservation and the Minister of Fisheries: Recommendations towards implementation of the Marine Protected Areas Policy on the South Island's south-east coast of New Zealand. Department of Conservation, Wellington. 314 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/semp/sempf-recommendations-report.pdf

Appendix 4: Habitats in the southeast region and at each site

The area (in km^2) of each habitat type that occurs in each of the proposed marine reserves and Type 2 marine protection areas (MPAs) is shown in Table A4.1. The information is based on the best available information and is in accordance with the *Marine Protected Areas: policy and implementation plan*[62] and the *Marine Protected Areas: classification, protection standard and implementation guidelines*.[63]

[62] Department of Conservation; Ministry of Fisheries 2005: Marine Protected Areas: policy and implementation plan. Department of Conservation and Ministry of Fisheries, Wellington. 25 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-policy-and-implementation-plan/

[63] Ministry of Fisheries; Department of Conservation 2008: Marine Protected Areas: classification, protection standard and implementation guidelines. Ministry of Fisheries and Department of Conservation, Wellington. 53 p. www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/marine-protected-areas/marine-protected-areas-classification-protection-standard-and-implementation-guidelines/

Table A4.1. Total area of each habitat type in the southeast region of the South Island of New Zealand and in each of the proposed marine reserves and Type 2 marine protection areas (MPAs).

			Deep habitats > 30 m					Exposed habitats (generally south of the Otago Peninsula)					
	Coastline length (excluding estuaries)	Area (km^2)	Deep water sand > 200 m	Deep gravel	Deep mud	Deep reef	Deep sand	Exposed boulder beach	Exposed intertidal reef	Exposed sandy beach	Exposed shallow gravel	Exposed shallow reef	Exposed shallow sand
Total of habitat in region			73.1	1102.2	128.2	163.4	4785.8	0.03	7.2	6.3	6.5	90.9	547.1
Proposed marine reserves													
Waitaki (B1)	14.8	101.0											
Te Umu Koau (D1)	10.4	96.0		0.1	9.5	7.3	37.6						
Papanui (H1)	0.0	173.0	18.2	20.9			128.8						
Ōrau (I1)	19.5	28.7		0.7			7.1	0.02	0.4	0.6	0.2	2.4	17.2
Okaihae (K1)	0.7	5.0					1.6		0.0			0.2	3.2
Hākinikini (M1)	9.3	5.9							0.6	0.0		2.7	2.5
Total proportion in marine reserves			18.2	21.7	9.5	8.1	233.3	0.02	1.5	0.9	0.2	9.3	35.3
(% of region)			25.0	2.0	7.4	4.9	4.9	80.30	20.8	13.5	3.5	10.3	6.4
Proposed Type 2 MPAs													
Tuhawaiki (A1)	40.6	158.0											
Moko-tere-a-torehu (C1)	19.2	254.0		16.7							1.1		
Kaimata (E1)	-	632.0	52.7	47.2		0.4	348.8						
Whakatorea (L1)	-	0.3											
Tahakopa (Q1)	-	0.7											
Total proportion in Type 2 MPAs			52.7	63.9		0.4	348.8				1.1		
(% of region)			72.1	5.8		0.2	7.3				17.1		

			Moderate exposed habitats (generally north of the Otago Peninsula							Sheltered habitats (generally west of the Otago Harbour)			
	Coastline length (excluding estuaries)	Area (km²)	Moderate gravel beach	Moderate intertidal reef	Moderate sandy beach	Moderate shallow gravel	Moderate shallow mud	Moderate shallow reef	Moderate shallow sand	Sheltered intertidal reef	Sheltered sandy beach	Sheltered shallow reef	Sheltered shallow sand
Total of habitat in region			3.2	5.2	6.4	901.8	132.9	116.8	768.3	0.4	1.0	4.5	25.9
Proposed marine reserves													
Waitaki (B1)	14.8	101.0	0.4			87.1	13.8						
Te Umu Koau (D1)	10.4	96.0		0.2	0.2		10.1	29.0	0.8				
Papanui (H1)	0.0	173.0											
Ōrau (I1)	19.5	28.7											
Okaihae (K1)	0.7	5.0											
Hākinikini (M1)	9.3	5.9											
Total proportion in marine reserves			0.4	0.2	0.2	87.1	23.9	29.0	0.8				
(% of region)			13.2	3.6	3.2	9.7	18.0	24.8	0.1				
Proposed Type 2 MPAs													
Tuhawaiki (A1)	40.6	158.0	1.9	0.0		33.0	44.4	2.7	75.4				
Moko-tere-a-torehu (C1)	19.2	254.0	0.7			195.6	19.7		20.5				
Kaimata (E1)	-	632.0											
Whakatorea (L1)	-	0.3											
Tahakopa (Q1)	-	0.7											
Total proportion in Type 2 MPAs			2.5	0.0		228.6	64.1	2.7	96.0				
(% of region)			77.8	0.2		25.3	48.2	2.3	12.5				

			Estuarine	Biogenic habitats		
	Coastline length (excluding estuaries)	Area (km²)	Total estuarine	Giant kelp forest	Bryozoan habitat	Seagrass
Total of habitat in region			90.6	18.0	431.0	7.2
Proposed marine reserves						
Waitaki (B1)	14.8	101.0				
Te Umu Koau (D1)	10.4	96.0	1.1	5.9		?*
Papanui (H1)	0.0	173.0			129.0	
Ōrau (I1)	19.5	28.7				
Okaihae (K1)	0.7	5.0				
Hākinikini (M1)	9.3	5.9				
Total proportion in marine reserves			1.1	5.9	129.0	?*
(% of region)			1.2	32.8	29.9	
Proposed Type 2 MPAs						
Tuhawaiki (A1)	40.6	158.0				
Moko-tere-a-torehu (C1)	19.2	254.0				
Kaimata (E1)	-	632.0			276.0	
Whakatorea (L1)	-	0.3	0.3			
Tahakopa (Q1)	-	0.7	0.7			
Total proportion in Type 2 MPAs			1.0		276.0	
(% of region)			1.1		64.0	

* Habitat known to be present but not mapped.

Appendix 5:
Taonga species

The taonga (taoka) species that are included in Tables A5.1 and A5.2 are those that are listed in Schedule 97 (and provided for in sections 287 to 296) of the Ngāi Tahu Claims Settlement Act 1998.[64] In addition, the taonga fish and shellfish species that are listed in Schedule 98 (customary fisheries) are also included. Important customary freshwater fisheries such as tuna, kanakana/lamprey and inaka/whitebait, have not been captured in Schedule 98, but all have an important component of their life cycle at sea.

Tables A5.1 and A5.2 indicate the taonga species that are considered likely to occur within (or in the immediate vicinity of) each of the six proposed marine reserves and the five Type 2 MPAs, respectively.

Taonga species are recognised in the Ngāi Tahu Claims Settlement Act and provide a pou that represents the special relationship the Kāi Tahu iwi has with native wildlife in its takiwā. Many of the listed species are present in or near the areas proposed for protection. Some areas provide significant foraging habitat for these species, and adjacent coastal land may provide breeding habitat for seabirds and marine mammals in addition to being home to kā tamariki o Tane. The coast is an important interface between the domains of Takaroa (God of the sea) and Tane (God of the forests and birds), with important stories of this relationship being told through taonga species such as the sand-binding sedge pīkao (*Ficinia spiralis*).

Some sites in the network are of particular importance to many of the listed taonga species. These lists have been included in recognition of Kāi Tahu's special relationship with New Zealand's native species and to ensure the visibility of this special relationship throughout the process of establishing a network of protected sites in the southeast region. However, we also acknowledge that the lists are not a complete representation of that relationship, and any lists of this nature will be subject to updates and corrections over time.

Notes:

1. In the following tables, ✓ indicates those taonga species that are considered to breed within or immediately adjacent to the site, or to be enduringly present there, while (✓) indicates those taonga species that are considered to occur intermittently within the site.
2. The information in these tables is based on the best available information about the habitats and species that are present at each site and the known southeast coast habitats and distributions of the taonga species listed. In some cases, the species may not have been specifically recorded within the site. A more authoritative list could be acquired by undertaking targeted surveys of the different species and groups of plants and animals.

[64] www.legislation.govt.nz/act/public/1998/0097/latest/DLM429090.html

Table A5.1. Taonga species that are present at the proposed marine reserve sites.

Species	Proposed marine reserve					
	Waitaki	Te Umu Koau	Papanui	Orau	Okaihae	Hakinikini
Mammals						
Kekeno/New Zealand fur seal (*Arctocephalus forsteri*)	(✓)	(✓)	(✓)	✓	✓	✓
Whakahao*/New Zealand sea lion (*Phocarctos hookerii*)	(✓)	(✓)	(✓)	✓	(✓)	✓
Rāpoka/leopard seal (*Hydrurga leptonyx*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Ihupuku/southern elephant seal (*Mirounga leonina*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Paikea/humpback whale (*Megaptera novaeangliae*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Parāoa/sperm whale (*Physeter macrocephalus*)			(✓)			
Tohorā/southern right whale (*Balaena australis*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Birds						
Karoro/southern black-backed gull (*Larus dominicanus*)	✓	(✓)	(✓)	✓	✓	✓
Kōau/shags†	✓	✓	(✓)	✓	✓	✓
Kororā/little blue penguin (*Eudyptula minor*)	(✓)	✓	✓	✓	✓	
Kōtare/kingfisher (*Halcyon sancta*)				(✓)		(✓)
Kōtuku/white heron (*Egretta alba*)	(✓)	(✓)		(✓)		
Kuaka/bar-tailed godwit (*Limosa lapponica*)		(✓)				(✓)
Pākura/pūkeko/swamp hen (*Porphyrio porphyrio*)			(✓)	(✓)		(✓)
Pārera/grey duck (*Anas superciliosa*)			(✓)	(✓)		
Poaka/pied stilt (*Himantopus himantopus*)	✓	✓		✓	(✓)	✓
Tara/terns (*Sterna* spp.)	(✓)	✓	(✓)	✓	(✓)	✓
Hoiho/yellow-eyed penguin (*Megadyptes antipodes*)	(✓)	✓	(✓)	✓	✓	(✓)
Tawaki/Fiordland crested penguin (*Eudyptes pachyrhynchus*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Pokotiwha/Snares crested penguin (*Eudyptes robustus*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Tītī‡	(✓)	(✓)	(✓)	✓	✓	(✓)
Toroa/albatrosses and mollymawks (*Diomedea* spp.)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Plants						
Rimurapa/bull kelp (*Durvillaea antarctica*)		✓	✓	✓	✓	✓
Pīkao/golden sand sedge (*Ficinia spiralis*)						
Wīwī/rushes (all indigenous *Juncus* spp. and *J. maritimus*)	✓	✓		✓		✓

Species	Proposed marine reserve					
	Waitaki	Te Umu Koau	Papanui	Orau	Okaihae	Hakinikini
Fishes and invertebrates **Schedule 98**						
Kāeo/sea tulip (*Pyura pachydermatum*)	✓	✓	✓	✓	✓	✓
Koeke/common shrimp (*Paleamon affinis*)				✓		✓
Kōkopu/hawai/giant bully (*Gobiomorphus gobioides*)	✓	✓				
Paraki/ngaiore/common smelt (*Retropinna retropinna*)	✓	✓		✓	✓	✓
Piripiripohatu/torrentfish (*Cheimarrichthys fosteri*)	✓					
Taiwharu/giant kōkopu (*Galaxias argenteus*)		✓				✓
Pipi/kākahi (*Paphies australe*)		✓				
Tuaki/hākiari/kuhakuha/pūrimu/surfclams (*Dosinia anus, Paphies donacina, Mactra discors, Mactra murchsoni, Spisula aequilateralis, Basina yatei* or *Dosinia subrosa*)	✓	✓		✓	✓	✓
Tuatua (*Paphies subtriangulata, P. donacina*)	✓	✓		✓		✓
Waikaka/pūpū/mudsnails (*Amphibola crenata, Turbo smaragdus, Zediloma* spp.)	✓	✓				

* Names that were listed in the schedule in association with the New Zealand sea lion were whakahao and rāpoka. Since rāpoka is also known to refer to leopard seal (*Hydrurga leptonyx*), this species is also included in our consideration of marine mammal taonga that are occasionally present in this area.

† According to Schedule 97 of the Ngāi Tahu Settlement Act 1998, 'kōau' includes the black shag (*Phalacrocorax carbo*), pied shag (*P. various various*) and little shag (*P. melanoleucos brevirostris*). Other important shag species present at these east coast sites include spotted shags (*Stictocarbo punctatus*) and Otago shags (*Leucocarbo chalconotus*), so these have also been considered here for completeness.

‡ According to Schedule 97 of the Ngāi Tahu Settlement Act 1998, 'tītī' comprises the following seabird species: sooty shearwater/muttonbird (*Puffinus griseus*), Hutton's shearwater (*Puffinus huttoni*), common diving petrel (*Pelecanoides urinatrix*), South Georgian diving petrel (*Pelecanoides georgicus*), Westland petrel (*Procellaria westlandica*), fairy prion (*Pachyptila turtur*), broad-billed prion (*Pachyptila vittata*), white-faced storm petrel (*Pelagodroma marina*), Cook's petrel (*Pterodroma cookie*) and mottled petrel (*Pterodroma inexpectata*).

Table A5.2. Taonga species that are present at the proposed Type 2 marine protected area (MPA) sites.

Species	Proposed Type 2 MPA					
	Tuhawaiki	Moko-tere-a-torehu Koau	Kaimata	Whakatorea	Thakopa	Arai Te Uru
Mammals						
Kekeno/New Zealand fur seal (*Arctocephalus forsteri*)	(✓)	(✓)	(✓)			(✓)
Whakahao*/New Zealand sea lion (*Phocarctos hookerii)*	(✓)	(✓)	(✓)	(✓)	✓	(✓)
Rāpoka/leopard seal (*Hydrurga leptonyx*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Ihupuku/southern elephant seal (*Mirounga leonina*)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)
Paikea/humpback whale (*Megaptera novaeangliae*)	(✓)	(✓)	(✓)			(✓)
Parāoa/sperm whale (*Physeter macrocephalus*)		(✓)	(✓)			
Tohorā/southern right whale (*Balaena australis*)	(✓)	(✓)	(✓)			(✓)
Birds						
Karoro/black-backed gull (*Larus dominicanus*)	✓	(✓)	(✓)	✓	✓	✓
Kōau/shags†	✓	(✓)	(✓)	✓	✓	✓
Kororā/little blue penguin (*Eudyptula minor*)	(✓)	(✓)	(✓)	✓	✓	✓
Kōtare/kingfisher (*Halcyon sancta*)				✓	✓	(✓)
Kōtuku/white heron (*Egretta alba*)	(✓)			(✓)	(✓)	
Kuaka/bar-tailed godwit (*Limosa lapponica*)				(✓)	(✓)	
Pākura/pūkeko/swamp hen (*Porphyrio porphyrio*)	(✓)			(✓)	(✓)	
Pārera/grey duck (*Anas superciliosa*)				(✓)	(✓)	
Poaka/pied stilt (*Himantopus himantopus*)	✓			✓	✓	
Tara/terns (*Sterna* spp.)	(✓)	(✓)	(✓)	✓	✓	✓
Hoiho/yellow-eyed penguin (*Megadyptes antipodes*)	(✓)	(✓)	(✓)			(✓)
Tawaki/Fiordland crested penguin (*Eudyptes pachyrhynchus*)	(✓)	(✓)	(✓)			(✓)
Pokotiwha/Snares crested penguin (*Eudyptes robustus*)	(✓)	(✓)	(✓)			(✓)
Tītī‡	(✓)	(✓)	(✓)			(✓)
Toroa/albatrosses and mollymawks (*Diomedea* spp.)	(✓)	(✓)	(✓)			(✓)
Plants						
Rimurapa/bull kelp (*Durvillaea antarctica*)						✓
Pīkao/golden sand sedge (*Ficinia spiralis*)						✓
Wīwī/rushes (all indigenous *Juncus* spp. and *J. maritimus*)	✓			✓	✓	

Species	Proposed Type 2 MPA					
	Tuhawaiki	Moko-tere-a-torehu Koau	Kaimata	Whakatorea	Thakopa	Arai Te Uru
Fishes and invertebrates **Schedule 98**						
Kāeo/sea tulip (*Pyura pachydermatum*)	✓	✓	✓			✓
Koeke/common shrimp (*Paleamon affinis*)				✓	✓	✓
Kōkopu/hawai/giant bully (*Gobiomorphus gobioides*)				✓	✓	
Paraki/ngāiore/common smelt (*Retropinna retropinna*)				✓	✓	✓
Piripiripohatu/torrentfish (*Cheimarrichthys fosteri*)						
Taiwharu/giant kokopu (*Galaxias argenteus*)				✓	✓	
Pipi/kākahi (*Paphies australe*)				✓	✓	
Tuaki/hākiari/kuhakuha/pūrimu/surfclams (*Dosinia anus, Paphies donacina, Mactra discors Mactra murchsoni, Spisula aequilateralis, Basina yatei* or *Dosinia subrosa*)	✓			✓	✓	✓
Tuatua (*Paphies subtriangulata, P. donacina*)	✓			✓	✓	✓
Waikaka/pūpū/mudsnails (*Amphibola crenata, Turbo smaragdus, Zediloma* spp.)	✓			✓	✓	✓

* Names that were listed in the schedule in association with the New Zealand sea lion were whakahao and rāpoka. Since rāpoka is also known to refer to leopard seal (*Hydrurga leptonyx*), this species is also included in our consideration of marine mammal taonga that are occasionally present in this area.

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