



Hector's and Māui Dolphin Threat Management Plan 2020

Department of Conservation Te Papa Atawhai and
Fisheries New Zealand Tini a Tangaroa



Department of
Conservation
Te Papa Atawhai



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Te Kāwanatanga o Aotearoa
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Introduction

Background

Hector's dolphin (*Cephalorhynchus hectori*) was gazetted in 1999 as a threatened species under the Marine Mammals Protection Act 1978 (MMP Act). In 2002, the species was divided into two subspecies based on genetic and morphometric differences: Hector's dolphin (*C. h. hectori*), which occurs primarily in South Island waters, and Māui dolphin (*C. h. maui*), which is found in the waters off the northwest coast of the North Island. Both subspecies are endemic to Aotearoa New Zealand, meaning they are only found in Aotearoa New Zealand's waters, and together represent one of the world's rarest dolphin species.

In response to public and government concern about the effect of human-induced deaths on these dolphins, a Hector's and Māui Dolphin Threat Management Plan (TMP) was developed in 2007¹ to provide an overarching framework that identifies human-induced threats to Hector's and Māui dolphins and strategies to mitigate those threats to ensure the dolphins' long-term survival.

Management of the dolphins under the TMP is led by the Department of Conservation (DOC) and Fisheries New Zealand. The partnership between these agencies reflects their respective roles and responsibilities – it is DOC's role and responsibility to manage the populations overall, and it is Fisheries New Zealand's role and responsibility to manage the effects of fishing-related mortality.

The TMP operates on a 'subpopulation' scale, meaning it differentiates between the two subspecies and recognises the east, west, north and south coasts of the South Island as separate Hector's dolphin subpopulations, consistent with genetic evidence. Although there have also been sporadic sightings of animals off the east coast of the North Island, there is not enough information to assign them to a subpopulation or enough evidence to suggest that there is a resident population in this region.

Te Tiriti o Waitangi / Treaty of Waitangi

The New Zealand Government has a legislative accountability to actively engage with iwi, hapū and whānau to acknowledge Te Tiriti o Waitangi / the Treaty of Waitangi. Under section 4 of the Conservation Act 1987, DOC must give effect to this Treaty; and under section 5 of the Fisheries Act 1996, all decision-makers must act in a manner consistent with the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, which must be interpreted to best further the agreements in the 1992 Fisheries Deed of Settlement.²

Māori play a critical role in the marine environment, both as a Treaty partner and because of their diverse range of rights and interests, including cultural and commercial rights under Treaty settlements (including those relating to fisheries) and rights under the Marine and Coastal Area (Takutai Moana) Act 2011.

¹ Department of Conservation 2007: Hector's and Maui's Dolphin Threat Management Plan: draft for public consultation. Department of Conservation, Wellington. 298 p. www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/hectors-and-maui-dolphin-threat-management-plan-2007.pdf

² www.govt.nz/assets/Documents/OTS/Fisheries-settlement/Fisheries-Deed-of-Settlement-23-Sept-1992.pdf

Whānau, hapū, and iwi have strong connections with the moana (sea) and, as kaitiaki (guardians), have a strong interest in the management and wellbeing of the natural world. Marine mammals have always been closely linked to Māori life, serving as guides and protectors during the ancestors' waka (canoe) journeys to Aotearoa New Zealand, as well as a source of food, carving materials and tools. Tribal stories, carvings and place names describe the close connections between people and Hector's and Māui dolphins.

Relationships, responsibilities and practices can be sustained when iwi, hapū and whānau exercise rangatiratanga (authority) and carry out kaitiakitanga (guardianship). The TMP includes goals and objectives to work towards achieving this and is a first step towards finding better ways to work together.

Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy (ANZBS)³ sets a direction for active protection of the unique role that Treaty partners, whānau, hapū, iwi and Māori organisations play in the regeneration of biodiversity and mātauranga (traditional knowledge) both as rangatira and kaitiaki, and in partnership with the Crown. The ANZBS provides the overall strategic direction for biodiversity in Aotearoa New Zealand for the next 30 years, including the implementation of the goals and objectives of the TMP.

Status of Hector's and Māui dolphins

Hector's dolphin is currently classified as Nationally Vulnerable in the New Zealand Threat Classification System (NZTCS),⁴ with an estimated population size of around 15,700 individuals. The most recent available information on the abundance and distribution of Hector's dolphins shows that there are approximately 9,700 dolphins on the east coast, 5,500 on the west coast and 300 on the south coast of the South Island. The subpopulation on the north coast of the South Island is poorly understood, and there are no reliable data to estimate population trends for Hector's dolphins at the scale of any of these subpopulations.

A 2020–21 survey estimated that there were around 54 individual Māui dolphins over 1 year of age in the survey area, confirming the species' Nationally Critical⁵ status under the NZTCS. Although population trends are uncertain, this subspecies is vulnerable to any deaths due to its very small population size.

³ Department of Conservation 2020: Te Mana o Te Taioa – Aotearoa New Zealand Biodiversity Strategy. Department of Conservation, Wellington. 72 p. www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/

⁴ Baker, C.S.; Boren, L.; Childerhouse, S.; Constantine, R.; Van Helden, A.; Lundquist, D.; Rayment, W.; Rolfe, J. 2019: Conservation status of New Zealand marine mammals, 2019. *New Zealand Threat Classification Series* 29. Department of Conservation, Wellington. 22 p.

⁵ Ibid.

Threats to Hector's and Māui dolphins

These dolphins face a range of human-induced threats, both fishing and non-fishing related. Some of these threats are a direct cause of dolphin deaths, such as set net and trawl fishing and toxoplasmosis (a parasitic disease originating in cats that spreads to the sea in terrestrial run-off). Other non-lethal threats may have a more indirect negative impact on the population (eg by reducing reproductive success).

Other human-induced threats to these dolphins include:

- noise produced by seismic surveying
- seabed mining
- dolphin watching and vessel traffic
- oil spills
- other pollution and sediment run-off
- coastal development
- infectious diseases other than toxoplasmosis
- climate change.

These other threats may affect the dolphins through various overlapping direct and indirect mechanisms, including injury, disease, disturbance, noise, habitat modification, impacts on prey distribution and abundance, reduced foraging success, displacement, and habitat fragmentation. The severity of impacts can vary depending on the context and scale, as well as a range of interrelated factors (eg location, spatial extent, size of operation, technology and timing).

Of these threats, commercial and recreational set netting, trawling, toxoplasmosis, seismic surveying, and seabed mining are actively managed under the TMP. The other threats listed above are mostly managed under other existing regulatory regimes that are generally considered appropriate for managing those risks to Hector's and Māui dolphins (eg Resource Management Act 1991, Marine Mammals Protection Regulations 1992).

Revising the TMP

The Māui dolphin portion of the 2008 TMP was reviewed in 2012. A full review of the TMP then commenced in 2018, which included:

- revising the vision and long-term goals
- establishing clear and quantifiable objectives to better measure success over time
- assessing the effectiveness of the management measures in place to reduce human-induced threats against the objectives
- providing direction on future research and monitoring needs.

There has been extensive research on Hector's and Māui dolphins since the mid-1980s. The recent development of a new multi-threat risk assessment process allows decision-makers to better assess the relative importance and spatial distribution of key threats to the subpopulations and how those threats could be mitigated.⁶

A public consultation document was released in 2019 and Ministerial decisions and implementation of the current management measures took effect in 2020.

Further consultation on fisheries measures in the South Island

While announcing decisions on new fisheries measures, the Government noted its intention to consult on an extension of the set net ban around Banks Peninsula, the use of trawl gear restrictions to avoid dolphin interactions, and a proposed management approach to use in the event of captures in areas not closed to set net or trawl fishing. Fisheries New Zealand will undertake this review in 2021/22.⁷

Vision, goals and objectives

Vision

The vision of the Hector's and Māui dolphin TMP is that:

New Zealand's Hector's and Māui dolphin populations are resilient and thriving throughout their natural range.

Goals

The long-term goal of the TMP is that:

Hector's and Māui dolphin subpopulations are thriving or increasing, supported by an enduring, cohesive and effective threat management programme across New Zealand.

Underpinning this are four medium-term goals.

- 1. Ensure that known human-induced threats are managed within levels that allow subpopulations to thrive and recover:** There is a range of human-induced threats that may have adverse effects on the dolphins. This goal is intended to help ensure that those threats are managed at levels that allow the subpopulations to collectively achieve the overall desired outcome expressed in the vision statement.
- 2. Engage all New Zealanders in Hector's and Māui dolphin conservation:** There is a need to engage the public of Aotearoa New Zealand to help understand and, where possible, support the management of human-induced threats to the dolphins. This goal will drive objectives around the ongoing use of stakeholder forums; transparency and accessibility to information on the plan and its performance; education about the dolphins and the threats facing them; and what the public can do to support threat management.

⁶ www.doc.govt.nz/our-work/protecting-species/protecting-marine-species/our-work-with-maui-dolphin/hectors-and-maui-dolphin-threat-management-plan/reviews/

⁷ www.mpi.govt.nz/fishing-aquaculture/sustainable-fisheries/protecting-marine-life/protecting-hectors-and-maui-dolphins/

3. **Understand how tangata whenua wish to exercise kaitiakitanga of Hector's and Māui dolphins:** DOC and Fisheries New Zealand will work with tangata whenua to enable them to strengthen their participation in efforts to understand the threats to the dolphins and better protect them, based on mātauranga Māori values and concepts.
4. **Improve knowledge of poorly understood threats to support long- and medium-term goals, which are effectively targeted, measurable and time-bound:** Some human-induced threats to the dolphins are poorly understood. Agencies will identify and resource new research and monitoring to improve our understanding of the nature and extent of those threats.

Population outcomes

Setting population outcomes helps to further define medium-term goal 1, as these establish the maximum acceptable impact level for each human-induced threat for each subpopulation.

Population outcomes also help to drive objectives to manage specific threats.

The following population outcomes are sought for these subspecies.

- **Māui dolphin:** *Human impacts are managed to allow the population to increase to a level at or above 95% of the maximum number of dolphins the environment can support. A population outcome of 95% means that human-induced deaths need to be as near as practicable to zero.*
- **Hector's dolphin:** *Human impacts are managed to allow the population to increase to a level at or above 90% of the maximum number of dolphins the environment can support. Since the Hector's dolphin population is much larger than the Māui dolphin population, the acceptable level of impact can be higher while still allowing the population to increase to a very high proportion of the maximum number of dolphins the environment can sustain. This allows a balance between rebuilding the Hector's dolphin population and the socioeconomic impacts of measures that have been put in place to do so.*

Objectives

Where possible, objectives have been set for the medium-term goals to allow for more specific, measurable and/or time-bound outputs to be assessed.

Regular reports will document progress against these objectives and set out relevant performance measures.

Fisheries management objectives

1. Ensure that dolphin deaths arising from fisheries threats do not:
 - exceed the maximum number of human-induced deaths that could occur to achieve the applicable population outcome with 95% certainty⁸
 - cause localised depletion
 - create substantial barriers to dispersal or connectivity between subpopulations.

⁸ The maximum number of human-induced deaths that could occur while achieving the associated population outcome is also referred to as the population sustainability threshold (PST).

2. Allow localised Hector's dolphin populations to recover to and/or remain at or above 80% of their unimpacted status (ie if fishing was not occurring) with 95% certainty.

Toxoplasmosis management objective

3. Reduce the loading of *Toxoplasma* parasites in the marine environment so that the number of dolphin deaths attributable to toxoplasmosis is near zero.

Management objectives for other human-induced non-fishing threats

4. Ensure that adverse effects on the dolphins from other human-induced threats are avoided or minimised.

This objective may be met through, among other things, interventions under the:

- **Marine Mammals Protection Act 1978**
- **Marine Mammals Protection Regulations 1992**
- **Resource Management Act 1991**
- **Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.**

Engagement objectives

5. Ensure that New Zealanders are aware of and can identify Hector's and Māui dolphins.
6. Improve public understanding of the reasons and processes to report dolphin sightings.
7. Improve public understanding of the reasons and processes to report live strandings and beachcast dolphin carcasses.
8. Improve public understanding of how threats from activities that can cause human-induced effects on the dolphins are being managed.
9. Empower whānau, hapū and iwi to exercise kaitiakitanga for Hector's and Māui dolphins, and incorporate mātauranga Māori into the TMP.

Research objectives

10. Improve information on the cause of death of beachcast dolphins.
11. Improve understanding of diseases impacting Hector's and Māui dolphins.
12. Improve information on dolphin distribution and movements.
13. Improve information on the distribution of dolphin prey.
14. Continue to monitor population size, trends and factors important to population growth for Māui and Hector's dolphins.
15. Improve information on fisheries impacts.
16. Improve estimation of dolphin subpopulation statuses and trends.
17. Review the 5-year research plan annually.

Fishing protection measures

Of the fishing-related threats to Hector's and Māui dolphins, set nets have historically represented the biggest threat. Hector's dolphins have also been caught in trawl nets, but this happens less often.

Set net and trawling measures, implemented under the Fisheries Act 1996, are in place around the North and South Islands to reduce the threat of fishing-related mortality to these dolphins.

North Island fisheries measures

Extensive restrictions on where trawl and set net gear can be operated, monitoring requirements, and a fishing-related mortality limit are in place.

Set net closures

The use of commercial and recreational set net gear is restricted under the:

- [Fisheries \(Auckland and Kermadec Areas Commercial Fishing\) Regulations 1986](#)
- [Fisheries \(Central Area Commercial Fishing\) Regulations 1986](#)
- [Fisheries \(Amateur Fishing\) Regulations 2013](#).

The current set net closures are illustrated in Appendix 1, Figure A1.1.

Trawl closures

The use of trawl gear is restricted under the:

- [Fisheries \(Auckland and Kermadec Areas Commercial Fishing\) Regulations 1986](#)
- [Fisheries \(Central Area Commercial Fishing\) Regulations 1986](#).

The current trawl closures are illustrated in Appendix 1, Figure A1.2.

Other fishing restrictions

The use of commercial drift nets (of any size and irrespective of the net being attached to a vessel) is prohibited in all Aotearoa New Zealand waters under the:

- [Fisheries \(Commercial Fishing\) Regulations 2001](#)
- [Fisheries \(Amateur Fishing\) Regulations 2013](#).

Fishing-related mortality limit

While not a primary tool for managing the risk of bycatch of Māui dolphins, a fishing-related mortality limit has been established as a backstop measure. The set net and trawl spatial closures are the principal mechanisms to reduce the risk of bycatch.

The fishing-related mortality limit applies to both recreational and commercial fishers and is set out in the:

- [Fisheries \(Commercial Fishing\) Regulations 2001](#)
- [Fisheries \(Amateur Fishing\) Regulations 2013](#).

The fishing-related mortality limit for Hector's or Māui dolphins within the defined Māui dolphin habitat zone is set at one individual. This habitat zone extends along the mean high-water mark of the west coast of the North Island from Cape Egmont to Cape Reinga / Te Rerenga Wairua, including harbours and offshore to the 12 nautical mile Territorial Sea boundary (Appendix 1, Figure A1.3).

The regulation of a fishing-related mortality limit gives the Minister for Oceans and Fisheries the power to promptly respond to a range of bycatch scenarios and take immediate action if necessary or to ensure that the limit on fishing-related mortality is not exceeded, such as in the unlikely event of a:

- near miss capture
- capture – released alive
- capture – resulting in death
- beachcast incident (where necropsy confirms death was a result of fishing).

The Minister may, by notice in the New Zealand Gazette, prohibit all or any fishing or fishing methods in an area for the purpose of ensuring that the limit on fishing-related mortality is not exceeded.

The notice would include the specifics of any closure (the method(s) and area(s) to which it applies) and when it will begin.

Regulated fishing monitoring requirements

Regulations for on-board cameras on commercial fishing vessels are contained in the:

- **Fisheries (Electronic Monitoring on Vessels) Regulations 2017.**

Since 1 November 2019, on-board cameras have been required on any set net or trawl vessel (≥ 8 m and ≤ 29 m in registered length) that:

- operates in the defined monitoring area that is fisheries statistical areas 040–042, 045 and 046 (Appendix 1, Figure A1.3); and
- operated in that area between 1 October 2017 and 30 September 2018.

South Island fisheries measures

Set net closures

The use of commercial and recreational set net gear is restricted under the:

- **Fisheries (Challenger Area Commercial Fishing) Regulations 1986**
- **Fisheries (South-East Area Commercial Fishing) Regulations 1986**
- **Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986**
- **Fisheries (Amateur Fishing) Regulations 2013.**

The current set net closures are illustrated in Appendix 1, Figure A1.4.

Trawl closures

The use of trawl gear is restricted under the:

- **Fisheries (Auckland and Kermadec Areas Commercial Fishing) Regulations 1986**
- **Fisheries (Central Area Commercial Fishing) Regulations 1986.**

The current trawl closures are illustrated in Appendix 1, Figure A1.5.

Non-fishing protection measures

Toxoplasmosis action plan

DOC's toxoplasmosis action plan⁹ proposes:

- research to investigate knowledge gaps
- research to investigate solutions to reduce or eliminate the transfer of *Toxoplasma* parasites into the marine environment
- trial solutions to reduce or eliminate the transfer of *Toxoplasma* parasites into the marine environment.

The action plan reflects consultation to date and is based on existing scientific evidence, but it will inevitably evolve and change as information gaps are filled and experience is gained finding and testing solutions.

Marine mammal sanctuaries

Five marine mammal sanctuaries have been set up under the Marine Mammals Protection Act 1978 to protect Hector's and Māui dolphins (see Appendix 1, Figure A1.6).

- **West Coast North Island Marine Mammal Sanctuary**
- **Clifford and Cloudy Bay Marine Mammal Sanctuary**
- **Banks Peninsula Marine Mammal Sanctuary**
- **Catlins Coast Marine Mammal Sanctuary**
- **Te Waewae Bay Marine Mammal Sanctuary**

Seismic surveying

Seismic surveying is prohibited in the five marine mammal sanctuaries with the following exemptions.

- **Existing permits under the Crown Minerals Act 1991**, and any subsequent permit related to an existing permit
- Urgent hazard assessments
- Decommissioning of infrastructure

⁹ www.doc.govt.nz/nature/pests-and-threats/diseases/toxoplasmosis-and-hectors-and-maui-dolphin/toxoplasmosis-action-plan/

- ‘Level 3’ category seismic surveys as per the seismic surveys code of conduct
- Nationally significant activities that have received approval from the Minister of Conservation and the Minister of Energy and Resources

Any seismic survey that qualifies for an exemption listed above is required to comply with the [2013 Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations](#).

Seabed mining

Seabed mining is prohibited within the five marine mammal sanctuaries with an exemption for existing permits under the Crown Minerals Act 1991 and any subsequent permit related to an existing permit.

Tourism

Tourism is managed through permitting conditions applied under the Marine Mammals Protection Regulations 1992.

Research

DOC and Fisheries New Zealand have developed a 5-year research plan¹⁰ to identify and resource new research, undertake monitoring to improve our understanding of the nature and extent of any poorly understood threats, and ensure existing management measures are achieving the goals and objectives of the TMP.

The research plan will be reviewed and updated annually.

Assessment, performance and reporting

DOC and Fisheries New Zealand will report annually on the effectiveness and performance of the protection measures and framework in place against the goals and objectives of the TMP.

Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy

The ANZBS provides the overall strategic direction for biodiversity in Aotearoa New Zealand for the next 30 years. It gives overarching direction and guidance to related strategies and work programmes, including the Hector’s and Māui Dolphin TMP.

Four of the five outcomes in the strategy align directly with the vision, goals and objectives of this TMP.

- **Outcome 2:** Indigenous species and their habitats across Aotearoa New Zealand and beyond are thriving
- **Outcome 3:** People’s lives are enriched through their connection with nature

¹⁰ Department of Conservation; Fisheries New Zealand 2021: Hector’s and Māui dolphin research strategy 2021. Department of Conservation, Wellington. 17 p. www.doc.govt.nz/globalassets/documents/conservation/native-animals/marine-mammals/maui-hectors-dolphins/2021-hectors-and-maui-5-year-research-plan.pdf

- **Outcome 4:** Treaty partners, whānau, hapū and iwi are exercising their full role as rangatira and kaitiaki
- **Outcome 5:** Prosperity is intrinsically linked with a thriving biodiversity

Acknowledgements

The development and review of this TMP would not have been possible without the significant work previously undertaken in the Hector's and Māui dolphin space. DOC and Fisheries New Zealand acknowledge the expertise, knowledge and contribution of many parties to our understanding of Hector's and Māui dolphins and the threats they face.

Appendix 1: Maps

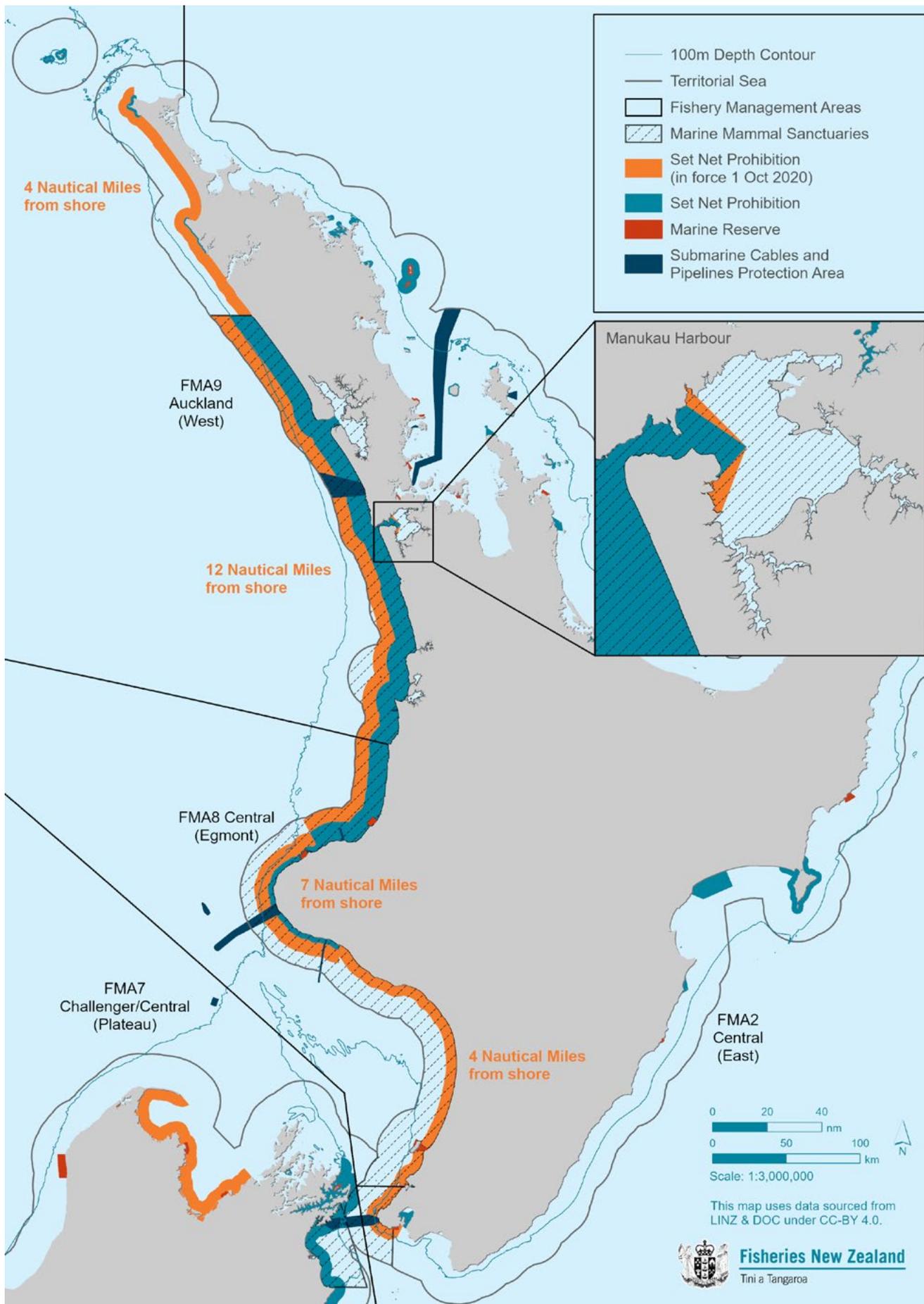


Figure A1.1. Commercial and recreational set net prohibition areas off the west coast of the North Island.

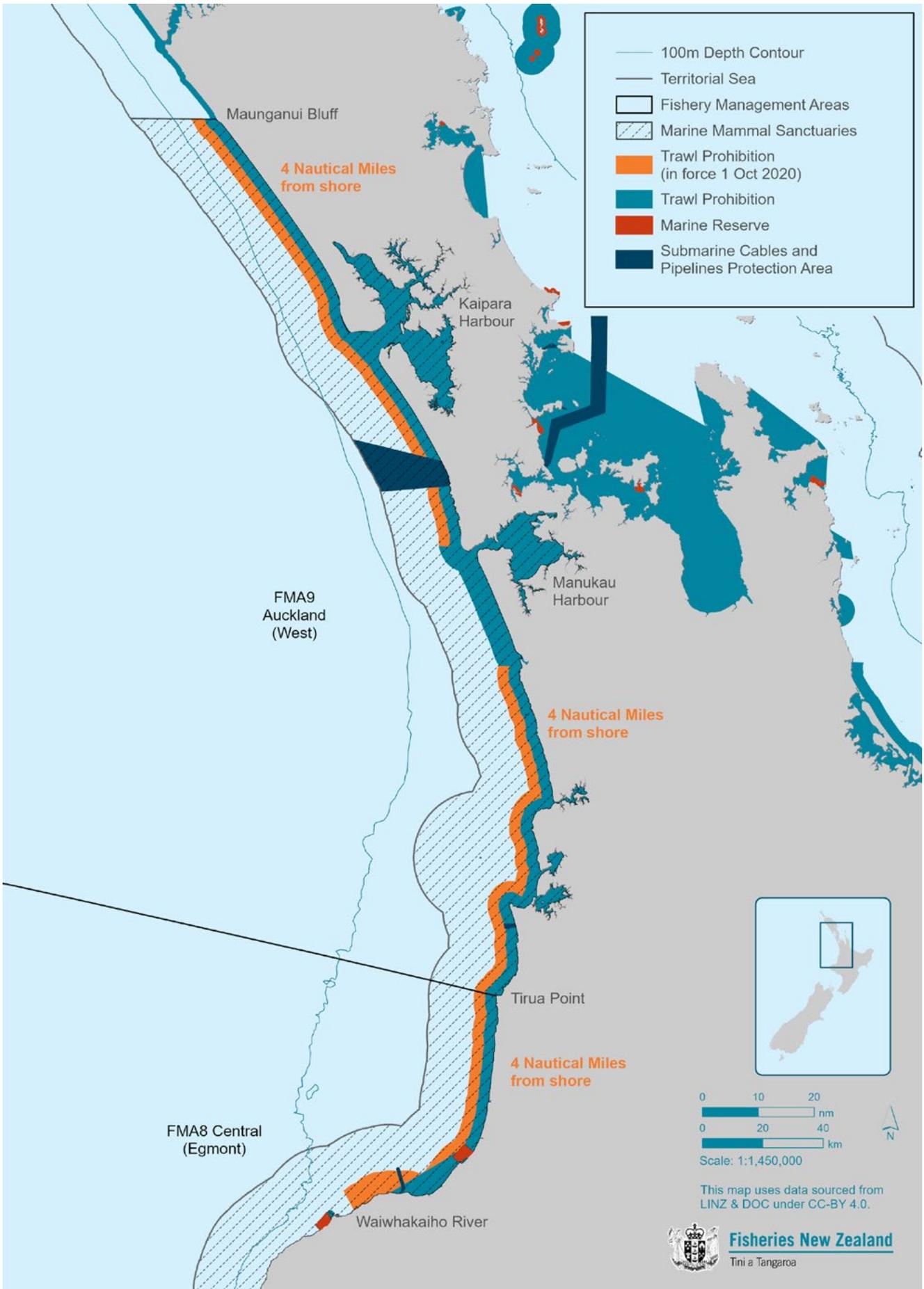


Figure A1.2. Commercial trawl prohibition areas off the west coast of the North Island.

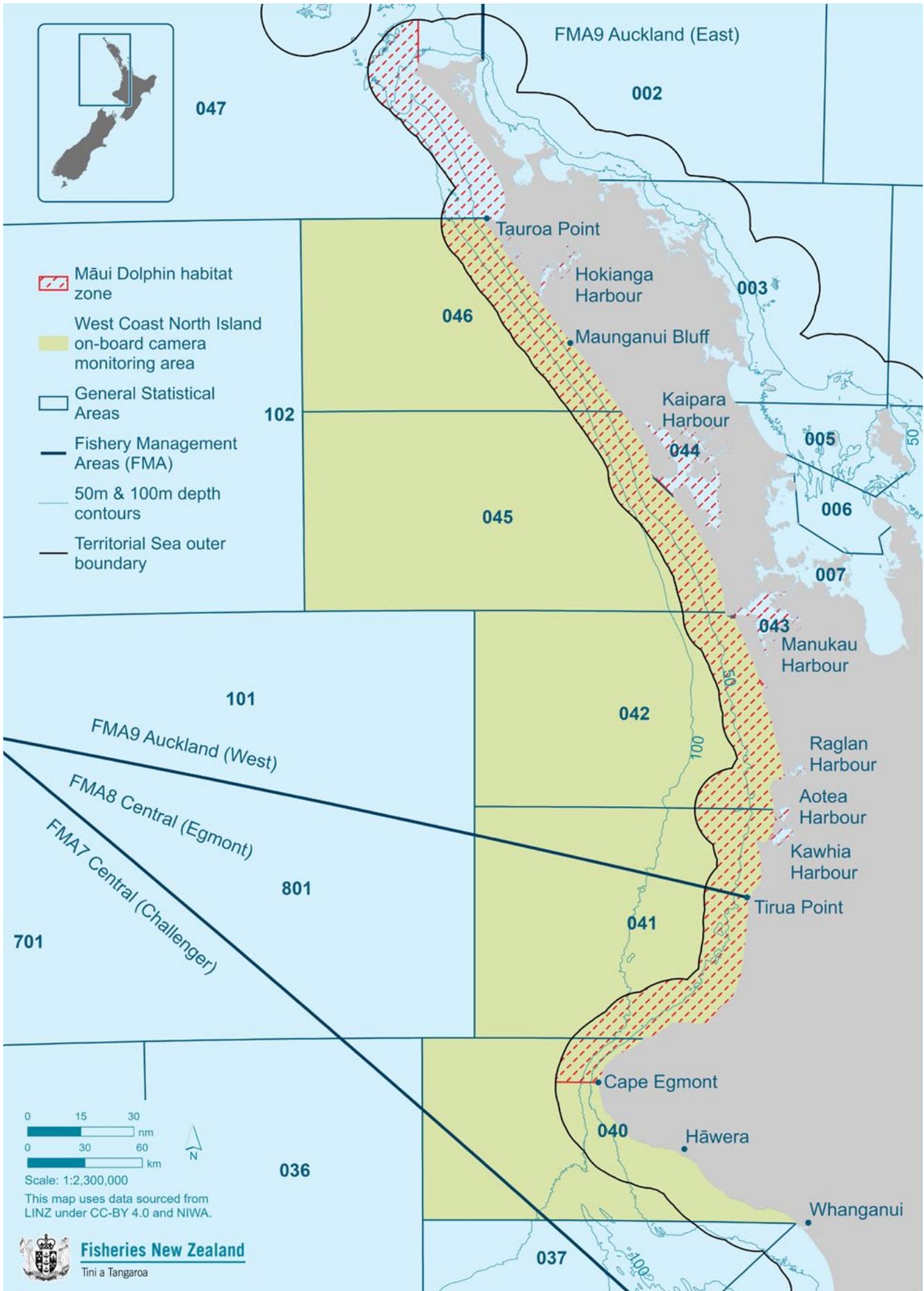


Figure A1.3. The defined Māui dolphin habitat zone within which the fishing-related mortality limit of one Māui or Hector’s dolphin applies to recreational and commercial fishing. Also shown is the West Coast North Island on-board camera monitoring area (fisheries statistical areas 040, 041, 042, 045 and 046).

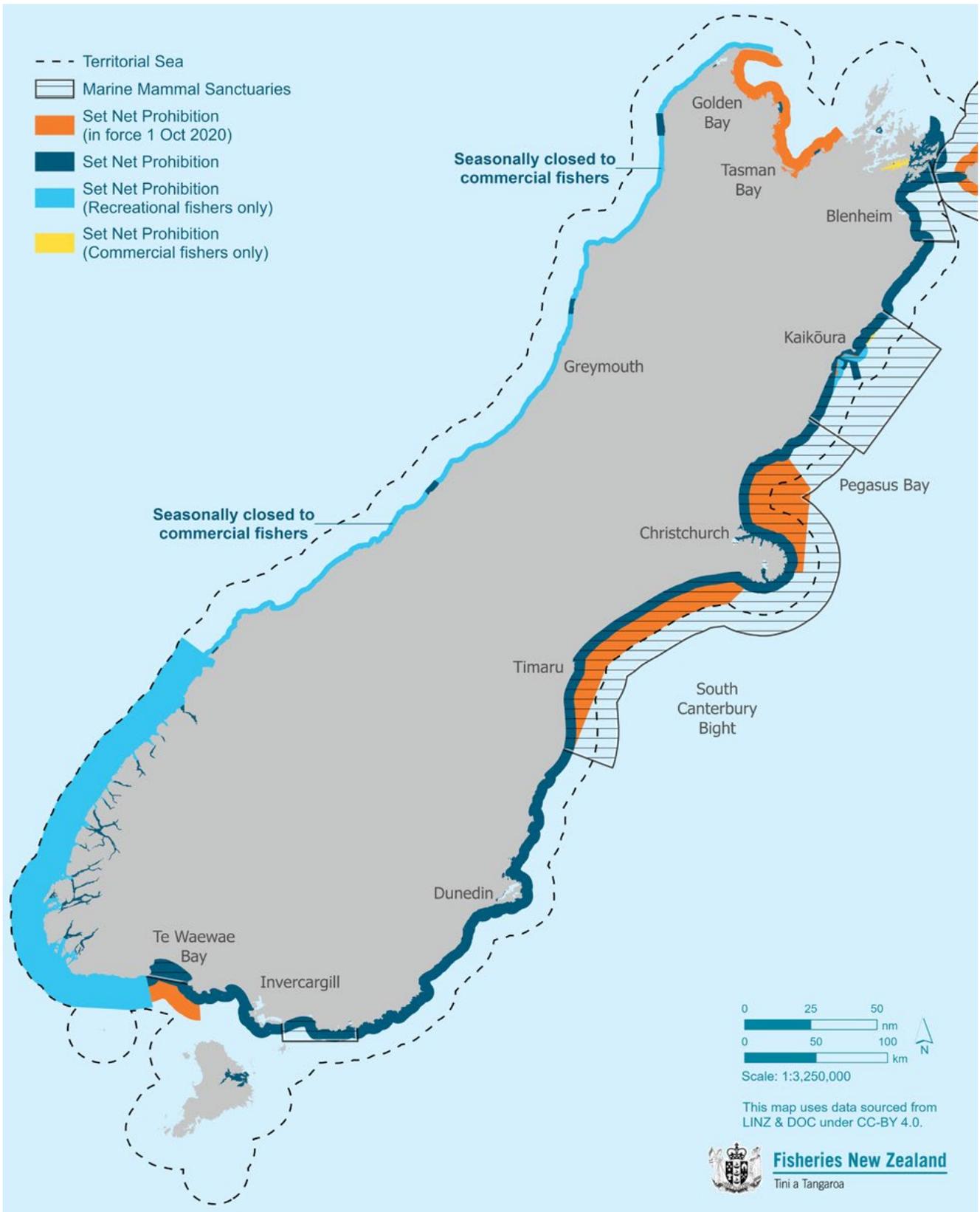


Figure A1.4 Commercial and recreational set net prohibition areas off the South Island.

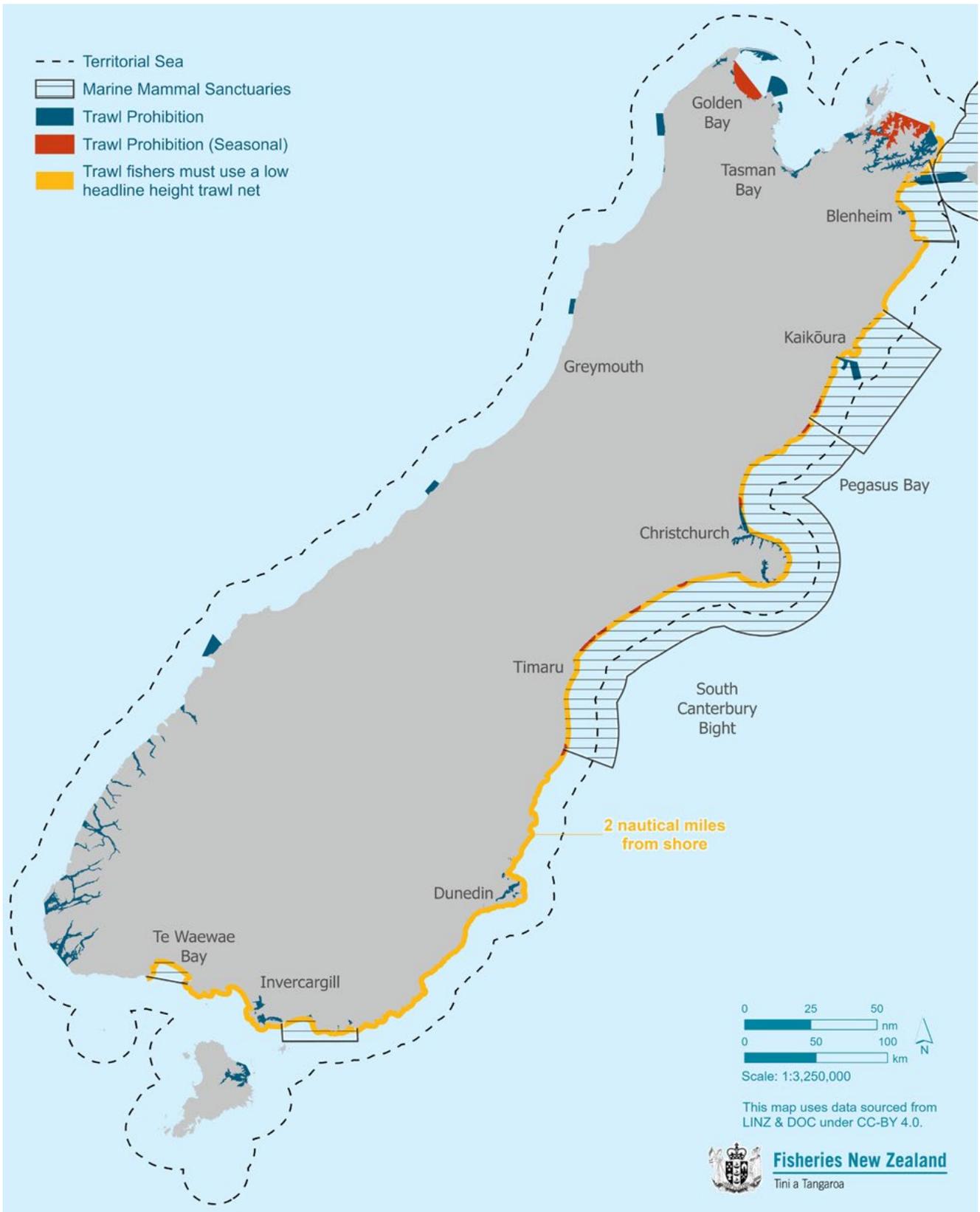


Figure A1.5. Commercial trawl restriction and prohibition areas off the South Island.



Figure A1.6. Marine mammal sanctuaries established to protect Hector's and Māui dolphins.