Fisheries New Zealand
Tini a Tangaroa

Annual Operational Plan for Deepwater Fisheries 2020/21

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Contents

Page

1 Overview

New Zealand's deepwater and middle-depth fisheries (deepwater fisheries) predominantly occur in waters beyond the 12 nautical mile (NM) limit of the territorial sea, out to, and beyond, the 200 NM limit of New Zealand's Exclusive Economic Zone (EEZ). Deepwater fisheries contributed approximately $NZ 870 million in FOB[1] export earnings during the 2019 calendar year.[2] In 2019, five deepwater fish species (hoki, squid, ling, jack mackerel and orange roughy) were amongst the ten largest export-earning seafood species (including those produced via aquaculture). Together, these five species represent 33% of seafood export volume and accounted for approximately NZ $676 million in FOB export earnings.

The management of New Zealand's deepwater fisheries is a collaborative arrangement between Fisheries New Zealand and the commercial fishing industry, represented by Deepwater Group Ltd (DWG). This arrangement enables the Management Objectives to be achieved by drawing on the combined knowledge, experience, capabilities, and perspectives of both organisations. All stakeholders are engaged in the management of our deepwater fisheries through the Deepwater Fish Plan Advisory Group (FPAG) which meets twice a year. The FPAG is an engagement forum for stakeholders (industry and eNGO representatives) to meet with Fisheries New Zealand. Input from tangata whenua occurs at the iwi fisheries forums.

Within the portfolio of deepwater fisheries, fish stocks have been categorised into three tiers (Table 1). Tier 1 fisheries are high volume and/or high value fisheries and are usually targeted. They are important earners of export revenue, which is reflected in the high quota value associated with these species. Tier 2 fisheries are typically less valuable fisheries that are only target fisheries at certain times of the year, or that are taken as non-target catch of Tier 1 stocks. Tier 3 comprises non-target species that are not managed through the quota management system (QMS).

[1] FOB - Free on board. The value of export goods, including raw material, processing, packaging, storage and transportation up to the point where the goods are about to leave the country as exports. FOB does not include storage, export transport or insurance cost to get the goods to the export market

[2] Export value based on export statistics available on the Seafood New Zealand website. For some species (e.g. jack mackerel and barracouta), the value includes all stocks, including those managed in an Inshore Fisheries Plan. Export value is not available for some deepwater species as species-specific information is not collected by Stats NZ.

Table 1: Categorisation of deepwater fish stocks

Deepwater Stocks [3]		
Tier 1	Hake: all Hoki : all Jack mackerel: JMA 3, JMA 7 Ling: LIN 3 – LIN 7 Orange roughy: all	Oreos: all Scampi: all Southern blue whiting: all Squid: all
Tier 2	Alfonsino: all Barracouta: BAR 4, BAR 5, BAR 7 Black cardinalfish: all Deepwater crabs (CHC/GSC/KIC); all English mackerel: EMA 3, EMA 7 Frostfish: FRO 3 - FRO 9 Gemfish: SKI 3, SKI 7 Ghost shark, dark: GSH 4 – GSH 6 Ghost shark, pale: all Lookdown dory: all	Patagonian toothfish: all Prawn killer: all Redbait: all Ribaldo: RIB 3 - RIB 8 Rubyfish: all Sea perch: SPE 3 – SPE 7 Silver warehou: all Spiny dogfish: SPD 4, SPD 5 White warehou: all
Tier 3	Non-QMS species	

2 Wider Context and Structure

The Annual Operational Plan (AOP) is driven by the National Fisheries Plan for Deepwater and Middle-depth Fisheries 2019 (Deepwater Plan). The first Deepwater Plan was approved in 2010. Between 2016 and 2018 the plan was reviewed, culminating in an updated Deepwater Plan being approved in 2019.[4] At a conceptual level, the Deepwater Plan sits within a hierarchy of fundamental legislation including the Fisheries Act 1996 (the Act) and Treaty of Waitangi obligations to Māori, which provide strategic direction for a range of policy instruments and standards (Figure 1). These legislative requirements and policies help to inform the Deepwater Plan, which in turn sets the direction and objectives for this AOP.

[3] For a number of species, management of some stocks falls under the National Deepwater Plan and the remainder are managed under the National Inshore Finfish Plan.

[4] The updated Deepwater Plan is available here (https://www.mpi.govt.nz/growing-and-harvesting/fisheries/fisheries-management/deepwater-fisheries/)

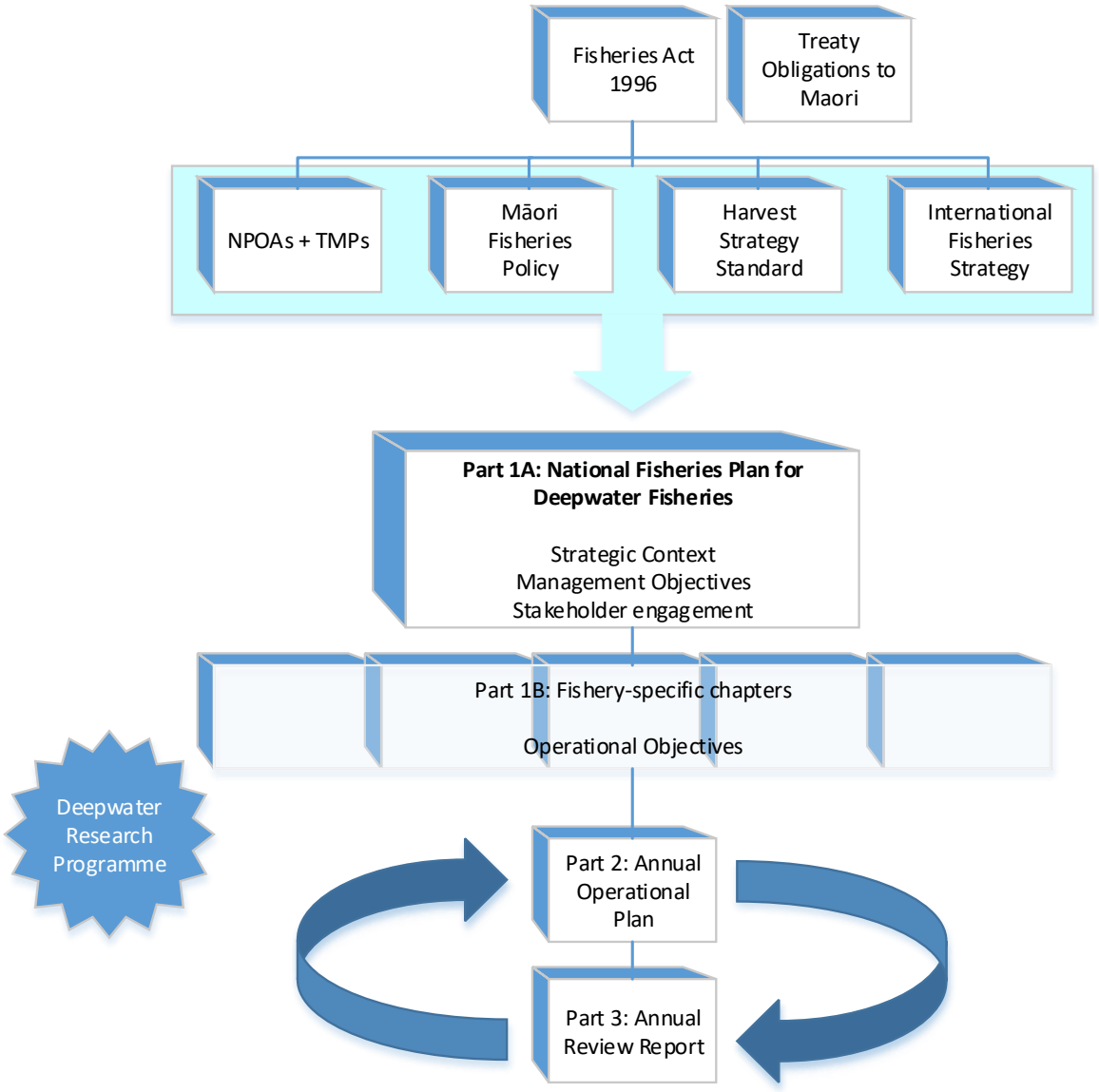

Figure 1. Wider Context and Structure

3 Outcomes

The Deepwater Plan establishes the high level outcomes that are shown in Figure 2. The major part of this document describes these outcomes in more detail and the management measures required to achieve these outcomes, as well as describing how the management measures will meet the higher-level legislative and policy objectives.

Use Outcome: Fisheries resources are used in a manner that provides the greatest overall economic, social, and cultural benefit
Environment Outcome: The capacity and integrity of the aquatic environment, habitats and species are sustained at levels that provide for current and future use
Governance Conditions: Sound governance arrangements that are well specified, transparent, and which support cost-effective and accountable decision-making

Management Objectives (Part 1 A)

Use Outcome	**1**	Ensure the deepwater and middle-depth fisheries resources are managed so as to provide for the needs of future generations
	2	Ensure excellence in the management of New Zealand's deepwater and middle-depth fisheries, so they are consistent with, or exceed, international best practice
	3	Ensure effective management of the deepwater and middle-depth fisheries is achieved through the availability of appropriate, accurate and robust information
	4	Ensure deepwater and middle-depth fish stocks and key bycatch fish stocks are managed to an agreed harvest strategy or reference points
Environment Outcome	**5**	Ensure that maintenance of biological diversity of the aquatic environment and protection of habitats of particular significance for fisheries management are explicitly considered in management
	6	Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the adverse effects of these fisheries on associated or dependent and incidentally caught fish species
	7	Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the adverse effects of these fisheries on the benthic habitat
	8	Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the adverse effects of these fisheries on the long-term viability of endangered, threatened and protected species populations
Governance	**9**	Ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Māori
	10	Ensure there is consistency and certainty of management measures and processes in the deepwater and middle-depth fisheries
	11	Ensure New Zealand's deepwater and middle-depth fisheries are transparently managed

The Deepwater Plan, consists collectively of the three parts shown in Figure 2. Part 1 of the Deepwater Plan sets the objectives to guide the management of New Zealand's deepwater fisheries, consistent with the legislative framework provided by the Act. It is further divided into two parts, Part 1A and Part 1B: Part 1A details the overall strategic direction for New Zealand's deepwater fisheries. Specifically it describes:

1. The wider strategic context that fisheries plans are part of;

2. The description and status of the management objectives that will apply across all deepwater fisheries; and

3. How the Deepwater Plan will be implemented and how stakeholders will be engaged during the implementation phase.

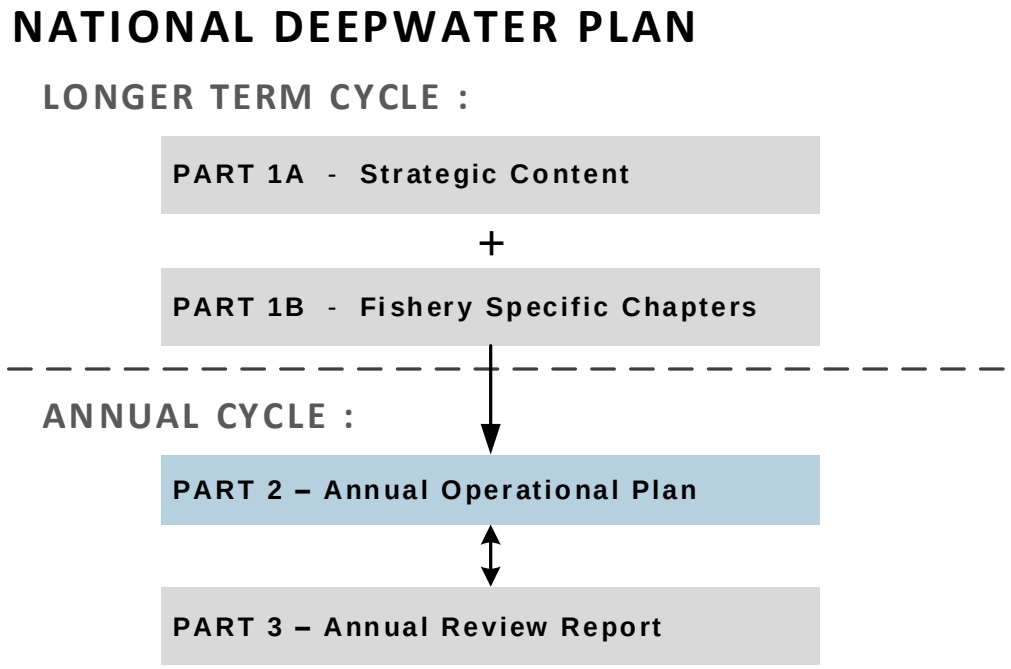

Figure 2: The Deepwater Plan structure highlighting the longer term cycle of Parts 1A and 1B, and the annual cycle of the AOP and Annual Review Report. This document is Part 2 (highlighted in blue).

Part 1A of the Deepwater Plan was approved by the Minister of Fisheries in 2019 under Section 11A of the Fisheries Act 1996. This means that it must be considered each time the Minister makes decisions or recommendations concerning regulation, or control of fishing, or any sustainability measures relating to the stocks managed through the Deepwater Plan. The content of this AOP reflects the management objectives, structure, and content of the Deepwater Plan.

Part 1B comprises the fishery-specific chapters of the Deepwater Plan, which provide greater detail on how deepwater fisheries will be managed at the fishery level, in line with the management objectives. Prior to the 2019 version of the Deepwater Plan being approved, fishery-specific chapters were completed for the hoki, orange roughy, oreo, hake, ling, jack mackerel, and southern blue whiting fisheries[5]. These chapters were

[5] All documents referred to on this page and the following page are available here http://www.mpi.govt.nz/growing-and-harvesting/fisheries/fisheries-management/deepwater-fisheries

not approved by the Minister of Fisheries under Section 11A of the Fisheries Act 1996. However, the Minister's approval will be sought for any fishery-specific chapters developed or updated under the 2019 Deepwater Plan.

The fishery-specific chapters describe Operational Objectives for each of the Tier 1 target fisheries and the key Tier 2 non-target species. These chapters also describe any harvest strategies that have been agreed for the relevant species at the time the chapters were written.

Part 2 of the Deepwater Plan consists of an AOP, which provides the Management Actions scheduled for delivery during the financial year (July 2020 – June 2021), and the Management Services needed for delivery of those Management Actions.

The AOP is primarily an internal planning and prioritisation document so is not approved by the Minister of Fisheries under section 11A of the Act. However, advice will be provided to the Minister regarding any statutory interventions required to regulate deepwater fisheries. The contents and structure of this AOP are described in the following section.

Part 3 of the National Deepwater Plan is the Annual Review Report (ARR), which assesses the progress towards meeting the Operational Objectives, Management Objectives and priorities described in Part 1, through reviewing delivery of the AOP. The ARR also reports on annual performance of deepwater fisheries against the management approach specified in the AOP.

4 The 2020/21 Deepwater Annual Operational Plan (AOP)

This AOP details the Deepwater Fisheries Management Actions and Services that will be implemented during the 2020/21 financial year. Completion of these Management Actions will contribute to meeting the Management Objectives and outcomes described in Part 1 of the Deepwater Plan.

4.1 AOP STRUCTURE

The 2020/21 AOP includes the following sections, described in more detail below:

- Part 2A: Management Actions for 2020/21; and
- Part 2B: Management Services required for 2020/21.

4.1.1 Part 2A: Management Actions for 2020/21

Part 2A details the Management Actions that have been scheduled for completion during the 2020/21 Financial Year. Completion of all these Management Actions will contribute to delivery of the Management Objectives specified in Part 1A, and the fishery-specific Operational Objectives specified in Part 1B, of the Deepwater Plan.

The Management Actions in Part 2A are provided in Table 2 in order of priority, indicated by the number on the left hand side of the table. Table 3 outlines projects and work areas that the Deepwater Fisheries Management Team (Deepwater Team) will contribute towards, but not lead. These projects are led by other teams, either within Fisheries New Zealand or in other Ministry for Primary Industries (MPI) branches. Table 4 outlines the Management Actions delivered by the Deepwater Team that are initiated by the fishing industry.

4.1.2 Part 2B: Management Services Required During the 2020/21 Financial Year

Part 2B details the Fisheries Management Services that will be required to deliver on Management Actions described in Part 2A of this AOP (Figure 3). This section also outlines projects and work areas for which the Deepwater Team will work on and engage with other teams, both within Fisheries New Zealand and across MPI.

New Zealand's deepwater fisheries are managed in collaboration with tangata whenua and stakeholders. Some services are proposed for delivery in collaboration with industry, while in other cases Fisheries New Zealand will provide support to enable industry to deliver them. Detail of the Fisheries Management Services and service support in Part 2B is split according to the key parts of Fisheries New Zealand or MPI, or the relevant external organisations that the Deepwater Team will work with, to deliver the specified services.

Delivery of the 2020/21 AOP will be assessed through the ARR that will be completed in 2022 after the end of the 2020/21 Fishing Year (30 September 2021).

National Deepwater Plan Part 1A	**Fishery-specific chapters Part 1B**	**Annual Operational Plan**	
		Part 2A	**Part 2B**

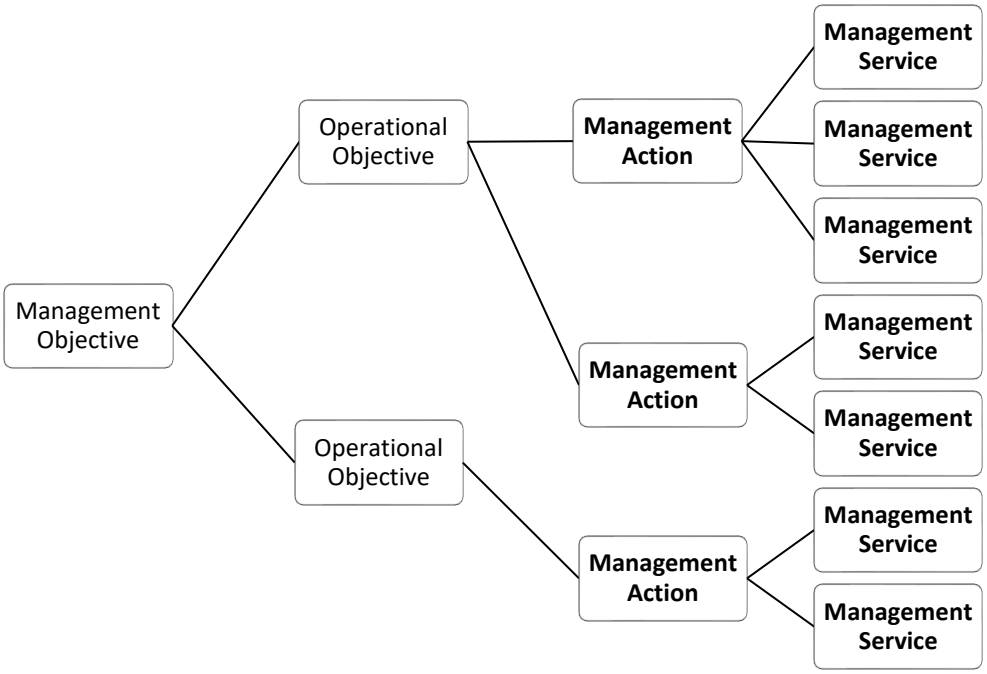

Figure 3: Flowchart of progression from Management Objective to Management Services specified in this Annual Operational Plan

5 Part 2A: Deepwater Fisheries Management Actions for delivery during the 2020/21 financial year

Table 2 – Management actions scheduled for completion during the 2020/21 financial year.

1	**Fisheries Sustainability Controls:** Review catch limits and management settings as required
	Deepwater sustainability decisions consist primarily of reviews to catch limits (TACs and TACCs) and deemed value rates across the fish stocks managed within the Deepwater Plan. These are completed in two rounds, one for stocks managed with a fishing year beginning on 1 October and another for stocks with a fishing year beginning on 1 April. Additionally, conversion factors are subject to ongoing monitoring by comparing observer data to the gazetted conversion factors. If a conversion factor for a certain species and product state is reviewed, the proposal will be consulted on. Changes to conversion factors are Fisheries New Zealand decisions and the process does not have to run to the same timeframes as the annual sustainability rounds.
	Key Actions[6]: Stocks being considered for review: • October 2020: CDL 5, FRO 3, FRO 4, FRO 7, FRO 8, FRO 9, KIN 2, KIN 3, KIN 7, KIN 8, ORH 3B, SCI 1, SWA 3, SWA 4, RBY 4 • April 2021: SBW 6B, GSC • October 2021 (tentative): BAR 4, BAR 5, HAK 1, HOK 1[7], LIN 5, LIN 6, ORH 7B, SCI 3, SWA 3, SWA 4 • Review deemed value rates for deepwater stocks identified as meeting criteria for review
	Action relates to management objectives 1, 2, 3, 4, 9 and 10
2	**Fisheries Planning:** Implement National Deepwater Plan (2019)
	The Implementation of the National Deepwater Plan (2019) for the 2020/21 financial year will include the following core actions.
	Core Actions[8]: • Complete Annual Review Report for 2019/20; • Complete Annual Operational Plan for 2021/22; and • Progress the Deepwater Plan species-specific chapters for Ministerial sign off
	Action relates to all management objectives

[6] Key Actions are major pieces of work, often tied to the AOP fishing year

[7] These stocks are included as results may be presented to the relevant working group during the term of this AOP.

[8] Core Actions are usually undertaken every year (business as usual)

3	**Ministerial Services:** Ensure timely completion of all Ministerial correspondence and communication requests assigned to the Deepwater Team
	The timely completion of all Ministerial correspondence and communication requests is a core government function and will be given priority throughout the year to ensure that all response timeframes are met.
	Core Actions: • Provide quality advice and information to the Minister of Fisheries; • Respond to all Official Information Act requests and government correspondence regarding deepwater fisheries issues in a timely manner.
	Action linked to all management objectives
4	**Engagement:** Engage with tangata whenua and stakeholders in the management of deepwater fisheries
	Engagement with tangata whenua and stakeholders is an integral part of fisheries management. Engagement aims to ensure that deepwater fisheries management information is available and accessible for all stakeholders to enable informed contribution to decision making. Providing opportunity for input and participation in the Deepwater Fisheries Planning process and the ongoing management of deepwater fisheries for tangata whenua, is a key objective of engagement.
	Core Actions: • Maintain an open and transparent management environment by ensuring that all management information is available and accessible on Fisheries New Zealand's website for tangata whenua and stakeholder consideration; • Engage with tangata whenua and stakeholders on environmental and operational issues relating to management of deepwater fisheries through the biannual Fish Plan Advisory Group meetings (FPAG); and • Provide for input and participation of Iwi Fisheries Forums in deepwater fisheries management.
	Action linked to all management objectives

5	**Protected Species Frameworks –** National Plan of Action (NPOA) Seabirds (2020)
	The vision of the NPOA Seabirds (2020) is New Zealanders work towards zero fishing-related seabird mortalities. This Management Action outlines the priority work areas for deepwater fisheries in 2020/21 to implement the NPOA Seabirds (2020). Further detail on the objectives of the NPOA Seabirds (2020), and how the Deepwater Team will support the achievement of those objectives, can be found in Section 8.1 and Table 6.
	Key Actions: • Continue to investigate and implement additional practicable and effective measures to minimise the risk of captures of seabirds based on the outcomes of the project characterising trawl net captures and potential contributing factors; • Work with DWG to develop vessel-specific Protected Species Risk Management Plans for all bottom longline vessels regularly used to target deepwater ling stocks; • Develop an information framework for the storage of data relevant to the DWG seabird liaison programme; • Finalise a template to be used for reporting against the goals and objective of the NPOA-Seabirds (2020); and • Update bottom longline circular (Fisheries Seabird Mitigation Measures – Bottom Longlines Circular 2018) to ensure consistency with relevant Mitigation Standards.
	Action relates to management objective 8
6	**Protected Species Frameworks –** Work collaboratively with the Department of Conservation on implementation of the New Zealand sea lion/rāpoka Threat Management Plan 2017-2022
	The New Zealand sea lion/rāpoka Threat Management Plan 2017-2022 (Threat Management Plan) prioritises management actions to enable the recovery of the sea lion population.[9]
	Key Actions: • Initiate review of the Threat Management Plan with DOC in 2021. **Core Actions:** • Work with DOC to implement the actions in the Threat Management Plan; • Engage with key stakeholders at meetings of both the Threat Management Plan Forum and Advisory Groups in 2020/21; and • Review sea lion management actions for the SBW 6I and SCI 6A fisheries.
	Action relates to management objective 8

[9] The New Zealand sea lion Threat Management Plan is available here (https://www.doc.govt.nz/Documents/conservation/native-animals/marine-mammals/nz-sea-lion-tmp/nz-sea-lion-threat-management-plan.pdf)

7	**Benthic Framework –** Benthic Interactions: Work collaboratively with the Department of Conservation to monitor and measure the nature and extent of benthic interactions with deepwater fishing activity
	The current approach to managing the effects of fishing on deepwater benthic communities is through closure of large areas of the EEZ to bottom trawling. The level of interactions between deepwater vessels and benthic invertebrates is monitored by Fisheries New Zealand observers. The trawl footprint is also monitored each year and reported in the ARR.[10]
	Key Actions: • Support the development of an improved management approach to mitigate any adverse benthic impacts of fishing. • Contribute to research projects focused on characterising benthic impacts and the benthic environment. **Core Actions:** • Monitor the trawl footprint of deepwater fisheries; • Report new areas trawled, and the volume/species (where possible) of selected benthic organisms captured in the ARR; and take management action if required.[11]
	Action relates to management objectives 5, 7 and 8
8	**National Plan of Action Frameworks**
	The NPOA-Sharks (2013)[12] sets out six goals, and accompanying five year objectives, to support the management of sharks. The NPOA Sharks (2013) is likely to be reviewed in 2020/21. This Management Action is focused on achieving the objectives of the NPOA-Sharks (2013), including addressing concerns for at-risk species identified in the risk assessments.[13]
	Key Action: • Lead the review of the NPOA-Sharks (2013), in consultation with other agencies, tangata whenua, and stakeholders. **Core Actions:** • Work collaboratively with the Department of Conservation and Ministry of Foreign Affairs & Trade to implement components of the NPOA-Sharks (2013) relevant to deepwater fisheries; • Finalise review of shark fin prohibition regulations, and implement a process to address any recommended changes; • Ensure fishers are aware of regulatory requirements regarding sharks; and

[10] The most recent trawl footprint report is available here (https://www.mpi.govt.nz/dmsdocument/27546-aebr-193-extent-of-bottom-contact-by-nz-commercial-trawl-fishing-for-deepwater-tier-1-and-tier-2-target-fishstocks-1989-90-to-2015-16)

[11] The species quantities reported in the ARR are primarily those that fishers are required to report on non-fish protected fish species catch reports under the Fisheries (Reporting) Regulations 2017 i.e. corals, sponges and bryozoans

[12] The NPOA-Sharks (2013) is available here (https://fs.fish.govt.nz/Page.aspx?pk=165&tk=554)

[13] The 2017 chondrichthyans risk assessment is available here (https://fs.fish.govt.nz/Page.aspx?pk=113&dk=24619)

	• Ensure that the management of sharks in New Zealand is consistent with the Memorandum of Understanding on the Conservation of Migratory Sharks[14] (CMS Sharks MOU) and other international management instruments.
9	**Deepwater Monitoring:** Deepwater Observer Coverage/sampling requirements
	Observer coverage of deepwater fisheries is planned by financial year. Planning is based on biological sampling requirements, international requirements, percentage-level coverage targets and observer programme capacity. Coverage is monitored throughout the year to ensure information is available to support stock assessments and to understand interactions with protected species. Additional information on observer coverage is available in section 9.
	Core Actions: • Work with vessel operators to ensure quarterly fishing plans that accurately reflect likely fishing activity, are provided to Fisheries New Zealand in a timely manner; • Work with the observer programme to ensure that observers are informed of biological sampling targets and other requirements and debrief after all trips; • Monitor percent coverage levels to ensure adequate and representative coverage is achieved; • Develop the observer coverage plan for the 2021/22 financial year by reviewing and updating sampling targets; and • Contribute towards the redesign of observer forms as necessary.
	Action linked to all Management Objectives
10	**Deepwater Research Planning**
	The research required to manage deepwater fisheries is detailed in the Medium Term Research Plan for Deepwater Fisheries.[15] Some research is contracted on an annual basis, while other research, such as trawl surveys, is contracted as a package.
	Core Actions: • Finalise and agree the Deepwater Fisheries Research Programme for delivery during the 2021/22 Financial Year (including any proposals for industry-led research) before December 2020; • Update the Medium Term Research Plan; and • Support delivery of 2020/21 research for deepwater fisheries.
	Action linked to all Management Objectives

[14] The CMS Sharks website is available here (https://www.cms.int/sharks/en)

[15] Medium Term Research Plan for Deepwater Fisheries is available here https://www.mpi.govt.nz/dmsdocument/21746-medium-term-research-plan-for-deepwater-fisheries-report

11	**Deepwater Monitoring –** Monitor the deepwater fleet's adherence to the range of measures in place to manage the effects of fishing activity on protected species and sharks
	A range of management measures (including DWG non-regulatory initiatives), are employed to reduce the risk of adverse effects on protected species. Measures are described in the following Operational Procedures or Plans:[16] • Marine Mammal Operational Procedure (DWG initiative); • Protected Species Risk Management Plans (trawl and bottom longline) – seabirds (DWG and DOC liaison programmes); • Ling Operational Procedures (bottom longline) – seabirds (DWG initiative); • Shark Operational Procedure (DWG initiative); • Scampi Fisheries Operational Procedure – seabirds and marine mammals (DWG initiative); and • SQU 6T and SBW 6I Operational Plans - sea lions.[17]
	Core Actions: • Audit Protected Species Risk Management Plans against the Mitigation Standards developed to support implementation of the NPOA Seabirds (2020); • Monitor adherence of the deepwater fleet to management measures through Fisheries New Zealand observer coverage; • Report levels of adherence to management measures to stakeholders through the ARR; • Work with DWG to update materials and methods used to educate crew on Operational Procedures and Plans; • Monitor protected species interactions on observed trips via Fisheries New Zealand observer debriefs and the reporting of DWG protected species trigger points; • Support the training, outreach and awareness programme run by the DWG Environmental Liaison Officer; and • Support the DOC liaison officer programme where relevant.
	Action relates to Management Objectives 5, 6, 7, 8 and 11

[16] DWG operational documents can be accessed here (https://deepwatergroup.org/newsresources/op-manual/)

[17] Fisheries New Zealand Operational Plans can be accessed here (https://www.mpi.govt.nz/growing-and-harvesting/fisheries/fisheries-management/deepwater-fisheries/)

12	**Deepwater Monitoring –** Monitor adherence to non-regulatory measures in place to manage Tier 1 deepwater fish stocks at a sub-QMA scale.
	In conjunction with DWG, Fisheries New Zealand has implemented a series of non-regulatory sub-area catch limits in the hoki, orange roughy, and oreo fisheries. In addition, Hoki Management Areas (HMAs) and Hoki Seasonal Spawn Areas (HSSAs) have been developed by industry. The purposes of these areas are to reduce fishing mortality of juvenile hoki in important nursery areas and allow spawning to occur undisturbed at peak times respectively. Measures are described in the following Operational Procedures: • Reporting Operational Procedures; • Orange Roughy & Oreo Operational Procedures; and • Hoki Operational Procedures.
	Core Actions: • Audit fleet adherence to sub-QMA catch limits; • Communicate non-adherence to DWG to encourage implementation; • Audit fleet adherence to HMA and HSSA management measures; and • Report level of adherence to all measures to stakeholders through the ARR.
	Action linked to Management Objectives 2, 3 and 4
13	**Fisheries Management Controls –** Regulatory amendments
	Progressing amendments to secondary legislation, such as regulations, requires: analysis of options, drafting the documents required for the different components of the regulatory process such as the Preliminary Impact and Risk Assessment (PIRA), consultation documents, Regulatory Impact Statement (RIS), and providing advice and decision documents.
	Core Actions: • Progress legislative amendments to make Sea Lion Exclusion Devices (SLEDs) mandatory on tows in SQU 6T; • Investigate addition of pilchard stocks to Schedule 2 of the Fisheries Act 1996 (stocks whose abundance is highly variable); and • Progress any other legislative amendments as required.
	Action linked to Management Objectives 1, 2, 9, 10 and 11

14	**Fisheries Management/Sustainability Controls:** Support existing approaches to market initiatives for New Zealand's deepwater seafood
	Work with DWG to support the requirements of the Marine Stewardship Council (MSC) assessment and certification process. Fisheries New Zealand supports industry to achieve and maintain certification of key deepwater fisheries, and progress Tier 1 deepwater fisheries towards meeting the MSC Standard.[18]
	Core Action: • Provide information for annual surveillance audits of SBW, LIN bottom longline, the HOK, HAK and LIN bottom trawl complex, and ORH fisheries in 2020/21.
	Action linked to Management Objectives 1,2, 10 and 11
15	**Fisheries Sustainability Controls:** Develop and implement specific harvest strategies for Tier 1 species, and management approaches for low information stocks, that enable deepwater and middle-depth fisheries to be economically viable over the long-term
	A Harvest Strategy defines a management target, soft and hard limits, a rebuild strategy, and a harvest control rule for a stock. Often in developing a Harvest Strategy, a Management Strategy Evaluation (MSE) will be undertaken which assesses a range of different management strategies, including those that incorporate economic aspects of the fishery.
	Key Actions: • Support delivery of a MSE for scampi; and • Support review of the ORH MSE and Harvest Control Rule.
	Action linked to Management Objectives 1,2,3, 4, 10 and 11

[18] Information on the status of New Zealand's deepwater fisheries in the MSC programme can be found on DWG's website here: https://deepwatergroup.org/certification/

16	**Digital Monitoring:**
	Fisheries New Zealand has deployed digital technology for the tracking, reporting, and monitoring of commercial fishing. Digital monitoring is made up of: • ER - electronic catch reporting via an e-log book to provide more timely information on commercial catch effort; • GPR - electronic position reporting to verify where and when fishing happened; and • EM - on-board cameras to verify what is being reported.
	Key Actions: • Review relevant sections of electronic reporting circulars that relate to the information fishers are required to report on mitigation use to ensure they remain fit for purpose. **Core Actions:** • Work with the Fisheries New Zealand Digital Monitoring and Data Management teams to monitor the data quality standards and specifications process; • Identify opportunities to use the additional data arising from geospatial position reporting and electronic catch reporting to enhance BAU actions; and • Work with vessel operators to ensure all geospatial position reporting and electronic catch reporting requirements are well understood and implemented consistently.
	Action linked to all Management Objectives

6 Management Actions delivered in conjunction with other directorates within Fisheries New Zealand and MPI

Table 3: Management Actions that are led by other teams within Fisheries New Zealand and within MPI

A	**Input to wider strategic MPI projects** Assist relevant branches within MPI with policy development and provide necessary fisheries management information **LEAD: project dependent (see below)**
	MPI's Policy and Trade branch is leading the Fisheries Change Programme[19], which is an ambitious programme of work to strengthen, and modernise the way we manage fisheries and ensure the sustainability of New Zealand's fisheries. These projects require information, feedback, and review of working documents. The programme has three parts: i. Mandatory electronic catch and position reporting to improve the collection and reliability of fisheries information; ii. Changing fishing rules and policies to make them simpler, fairer and more responsive, while also incentivising better fishing practice; and iii. Improving monitoring and verification capabilities, including the use of on-board cameras, to better observe fishing practice.
	Core Action: • Contribute to policy development as required particularly on Marine Protected Areas and the Fisheries Change Programme.
	Action linked to Management Objectives: various
B	**Research Monitoring and Evaluation** Ensure that all information used in management decisions meets the requirements of the Research and Science Information Standard for New Zealand Fisheries (the Research Standard) **LEAD: Fisheries Science (Stock Assessment and Aquatic Environment)**
	The Deepwater Fisheries Management Team will continue to be closely involved in the monitoring and evaluation of all research projects that relate to deepwater fisheries.
	Core Actions: • Assist the Fisheries Science team to deliver outputs of all 2020/21 research projects as listed in Tables 8-10; and

[19] Information on the Fisheries Change Programme (formerly known as the Future of our Fisheries Programme) is available here (https://www.fisheries.govt.nz/protection-and-response/sustainable-fisheries/strengthening-fisheries-management/fisheries-change-programme/)

	• Assist Fisheries Science to ensure that all science research used to support management of deepwater fisheries is assessed against the Research Standard.[20]
	Action linked to all Management Objectives
C	**Observer Coverage Delivery** **LEAD: Fisheries Monitoring (Observer Programme)**
	Fisheries New Zealand's Observer Programme is responsible for delivering on the observer coverage targets set out in the final 2020/21 Observer Coverage Plan and ensuring that the required biological sampling targets are met. Observer coverage plans, biological sampling targets and other observer tasks are prepared annually for all fisheries. The Deepwater Team will continue to work closely with the Observer Programme to ensure the necessary targets are achieved.
	Core Actions: • Ensure that the Observer Programme is adequately informed of the biological sampling targets and other observer requirements for 2020/21; • Provide training to observer recruits as part of the intake process to ensure that future observers collect data and sample correctly; and • Engage with, and provide feedback to, observers through the observer newsletter and observer catch up sessions. • Monitor delivery and feedback as required.
	Action linked to all Management Objectives
D	**Cost Recovery Process** **LEAD: Corporate Services (Cost Recovery)**
	Assist the Business and Financial Advice Team with the cost recovery processes for 2020/21 and 2021/22. MPI undertakes an annual cost recovery process to recover costs associated with fisheries compliance, registry, research, and observer coverage. There are two stages to the process: (i) undertaking a port price survey and (ii) calculating the levies for each stock.
	Core Actions: • Ensure the Deepwater Team has input into the port price survey process administered by the MPI Finance Team; and • Ensure the cost recovery levy process recovers costs consistent with deepwater observer coverage and research plans, including providing information to support the levy order and 'Unders and Overs' process.[21]
	Action linked to Management Objectives: various

[20] The Research Standard can be accessed here (https://www.mpi.govt.nz/dmsdocument/3692/loggedIn)

[21] In setting levies, the Minister of Fisheries is required to have regard to the costs of services incurred by the Crown in a previous financial year that were either not recovered or were over-recovered.

E	**Compliance monitoring work** **LEAD: Compliance Directorate (Compliance Services Branch)**
	MPI's Compliance Directorate will continue to monitor fishing activity and catch reporting in 2020/21 in relation to whole fleet reporting changes to electronic catch and position reporting, and the VADE model.[22]
	Core Actions • The Fisheries Management Deepwater Team will be involved in discussions with Compliance relating to the priorities for the future monitoring of deepwater fisheries; and at-sea and in-port inspections; • Fisheries Compliance will maintain an investigative response capability for investigating identified breaches; and will advise Fisheries Management of any systemic issues that arise from investigations; and • Fisheries Management and Compliance will assist with issues relating to the interpretation of reporting requirements following implementation of the digital monitoring regime.
	Action linked to Management Objectives: various
F	**Aquaculture & Fisheries Permits:**
	The Aquaculture and Fisheries Permitting Team is responsible for analysis and advice on applications made regarding a range of regulatory tools in the marine and freshwater space. This team is also Fisheries New Zealand's main point of contact with FishServe to ensure the effective delivery of fisheries registry services.
	Core Actions The Fisheries Management Deepwater Team provides: • Advice on registration of Foreign Owned Fishing Vessels (FOVs); • Input into High Seas Permit applications; • Chair and Secretariat functions for the Inter-Agency Fisheries Group (MPI, MNZ and MBIE); and • Input into annual tender of Crown-held ACE for Scampi stocks.
Action linked to all Management Objectives	

[22] Voluntary, Assisted, Directed, Enforced

7 Management Actions Initiated by Industry

Table 4: Management actions that the Deepwater Team will contribute to that are initiated by the fishing industry.

Core Actions for 2020/21:
• Respond to quota owner requests for changes to QMA boundaries or definitions; • Respond to applications for vessel specific conversion factors; • Support development of new fisheries within sustainable limits; • Respond to any requests for special permits that relate to deepwater fisheries; and • Respond to any requests to use innovative trawl gear.

8 National Plans of Action

8.1 NATIONAL PLAN OF ACTION – SEABIRDS (2020)

Image Michael Szabo

8.1.1 Implementation of the National Plan of Action – NPOA Seabirds (2020)

This AOP sets the prioritised actions and services needed to manage the interactions of deepwater fisheries with seabirds. The New Zealand Government's commitment to reducing interactions with fisheries is set out in the NPOA – Seabirds (2020), which is New Zealand's third iteration of a national plan of action. It builds on the achievements of the NPOA Seabirds (2004) and NPOA Seabirds (2013), and responds to lessons learnt from implementing these plans.

The NPOA Seabirds (2020) sets out the New Zealand Government's commitment to reducing fishing-related captures and associated mortality of seabirds. The NPOA Seabirds' (2020) vision is that New Zealanders work towards zero fishing-related seabird mortalities.

Guided by this vision, the NPOA Seabirds (2020) has four goals:

1. Avoiding bycatch — effective bycatch mitigation practices are implemented in New Zealand fisheries
2. Healthy seabird populations — direct effects of New Zealand fishing do not threaten seabird populations or their recovery
3. Research and information — information to effectively manage direct fisheries effects on seabirds is continuously improved
4. International engagement — New Zealand actively engages internationally to promote measures and practices that reduce impacts on New Zealand seabirds

8.1.2 Spatially explicit fisheries risk assessment

Understanding how seabirds and fisheries interact, and what impact this has on seabird population trends, is an ongoing challenge. New Zealand uses the spatially explicit fisheries risk assessment (SEFRA) method to estimate the risk that fisheries pose to protected species, including seabirds, and to prioritise intervention based on risk levels to different populations. SEFRA assesses the risks to seabird populations from direct incidental mortality caused by New Zealand commercial fisheries. SEFRA combines biological information about a seabird population (such as its population size and growth, and its breeding data) and compares this with an estimate of the potential number of fishing-related deaths to calculate the risk of fisheries having an unsustainable impact on the population.

Ongoing population monitoring and biological assessment inform the seabird risk assessment. For seabird species of particular concern, or for species where the data is available, species-specific population models or multi-threat risk assessments may also be used to inform management actions.

The SEFRA method evaluates performance against policy objectives by expressing estimated fisheries-related deaths as a proportion of a predefined 'Population Sustainability Threshold' (PST). PST is the maximum number of annual deaths under which the impacted population size can be expected to recover to and/or stabilise at a particular fraction of the un-impacted population (the current seabird risk assessment uses a population outcome of stabilising after 20 years and reaching 50% of carrying capacity (*K*) after 100 years). In other words, risk is calculated by comparing estimated deaths with the PST. The risk score is expressed as a Bayesian distribution including uncertainty.

8.1.3 2020 Seabird Risk Assessment

The NPOA Seabirds (2020) is underpinned by the outputs from the seabird risk assessment. The seabird risk assessment allows for identification of the seabird species most at risk from commercial fishing, as well as the fisheries that contribute the greatest risk to these species and seabirds more generally. This information is used to prioritise management action to reduce the overall risk that commercial fishing poses to seabirds over time.

A seabird species is considered to be at 'very high' risk from fishing if the mean ratio of fishery-related deaths to the mean PST is higher than 1 or has an upper 95% credible limit above 2. A species is considered to be at 'high risk' from fishing if the mean ratio of fishery-related deaths to the PST is above 0.3 or the upper 95% credible limit is above 1. As the risk assessment is an ongoing process of iterative improvement, and is updated as the methodology improves and when new data and parameter estimates becomes available, risk scores can change over time.

The 2020 seabird risk assessment is based on seabird bycatch and fisheries data to the end of the 2016–17 fishing year. It identified one seabird species (black petrel) as being at a 'very high' risk from fishing and five

seabird species as being at a 'high' risk from fishing (Salvin's albatross, southern Buller's albatross, New Zealand white-capped albatross, Westland petrel and flesh-footed shearwater).[23]

Of the seabird species currently considered to be at a 'very high' or 'high' risk from fishing for which deepwater fisheries contribute more than 10% of the risk, fully quantitative population modelling has been completed for southern Buller's albatross[24], Chatham Island albatross and white-capped albatross. The outcomes of these assessments or species-specific population modelling will be reviewed and considered as part of any management updates.

Seabird capture rates by the large trawl fleet are highest in the southern squid and Chatham Rise or sub-Antarctic middle-depth fisheries. Seabird capture rates are lowest in the deepwater and jack mackerel fisheries. Of the species classed as being at a 'Very High' or 'High' risk from fishing, large trawlers (excluding those targeting scampi) are estimated to contribute 34% of the risk score for Salvin's albatross; 62% of the risk score for southern Buller's albatross; 18% of the risk score for Westland petrel; and 35% of the risk score for white-capped albatross.[25]

Although observer coverage of the scampi trawl fishery is relatively low, the current estimates of seabird interactions in this fishery are thought to be reasonably accurate. This is because the scampi fishery is limited to five small areas (more than 99% of scampi target tows are conducted in these areas) and the observer coverage is relatively representative of the whole fishery. Seabird species known to interact with the scampi trawl fleet include Salvin's albatross and white-capped albatross (primarily on the Chatham Rise and in the sub-Antarctic); flesh-footed shearwaters (in the Bay of Plenty); and white-chinned petrel (in the sub-Antarctic). The 2020 seabird risk assessment estimated that the scampi trawl fleet contributes 12% of the risk score for Salvin's albatross, 6% of the risk score for flesh-footed shearwater and 3% of the risk score for white-capped albatross.

8.1.4 Deepwater Management Approach – Seabirds

In deepwater fisheries, seabird interactions are avoided or mitigated by:

- Mandatory use of seabird scaring devices (>28m trawl vessels and >7m bottom longline vessels) and implementation of seabird mitigation measures (all bottom longline vessels);[26]
- Continued implementation of Mitigation Standards on trawl vessels >28m,all scampi trawlers, and <28m hoki trawlers through vessel-specific Protected Species Risk Management Plans (PSRMPs);[27]
- Auditing of vessel-specific PSRMPs against the Mitigation Standards developed to support the NPOA Seabirds 2020;
- Continued implementation of Mitigation Standards on ling bottom longline vessels via the Ling Bottom Longline Operational Procedures together with ongoing development of PSRMPs;[28]

[23] https://www.mpi.govt.nz/dmsdocument/39407-aebr-237-assessment-of-the-risk-of-commercial-fisheries-to-new-zealand-seabirds-200607-to-201617

[24] https://www.mpi.govt.nz/dmsdocument/11662-aebr-165-2014-demographic-assessment-of-the-snares-islands-population-of-southern-bullers-albatross-diomedea-bulleri-bulleri

[25] Contributions to risk based on hoki, middle depth, squid, scampi, deepwater, ling, hake, southern blue whiting, and jack mackerel trawl total fishery-related deaths estimates. This includes some effort by small trawl vessels.

[26] Regulations require trawlers over 28m in overall length to deploy a seabird scaring device and bottom longliners (above 7m in length) to deploy streamer (tori) lines, restrict offal and fish discharge and either set at night or use an approved line weighting regime Links to these regulations available here (https://www.fisheries.govt.nz/protection-and-response/sustainable-fisheries/managing-our-impact-on-marine-life/seabirds/).

[27] Information on PSRMPs for >28m trawlers, scampi trawlers and <28m hoki trawlers is contained in the Seabird Operational Procedures, Scampi Fisheries Operational Procedures and the Coastal Hoki Trawler Operational Procedures respectively, which are available on the DWG website here (https://deepwatergroup.org/newsresources/op-manual/).

[28] The Ling Bottom Longline Operational Procedures document is also available on the DWG website here

- An ongoing vessel outreach programme, which includes annual (where possible) crew training;[29]
- Ongoing exploration of new or improved mitigation methods; and
- Fisheries New Zealand observers monitoring vessel adherence to PSRMPs and the Ling Bottom Longline Operational Procedures.

PSRMPs outline a set of operational procedures that are specific to each vessel. For trawl vessels, these include controlling the discharge of offal during shooting and hauling, the correct deployment of bird scaring devices, and the removal of 'stickers' between each tow. Contingency plans and reporting requirements for capture events and equipment failures (that may increase bird capture risk), are also included.

Throughout 2020/21, actions in deepwater fisheries to support the NPOA Seabirds will be focused on:

- Ongoing management of the PSRMP process as it applies to trawlers>28m, scampi trawlers <28m, <28m hoki trawlers, and ling bottom longline vessels;
- Auditing PSRMPs against Mitigation Standards;
- Continuing to improve and manage the process that applies to the ling bottom longline operational procedures (for any vessels for which a PSRMP has not yet been developed); and
- Investigating and implementing any additional practicable and effective measures to minimise the risk of net captures, based on the outcomes of the contracted project characterising trawl net captures and potential contributing factors.

Table 5 sets out the objectives and specific services planned for deepwater fisheries management. Many of the services will contribute to the achievement of more than one objective.

Table 5: NPOA-Seabirds services planned for Deepwater Fisheries Management during 2020/21

NPOA Objectives	Planned Deepwater Services for 2020/21
Cross-objective work driven by NPOA	• No deepwater-specific actions planned for 2020/21
Goal 1: Avoiding bycatch 1. Ensure all New Zealand commercial fishers are using practices that best avoid the risk of seabird bycatch, enabled by appropriate regulations 2. Practices that effectively avoid risk of seabird are supported and promoted to non-commercial fishers	• Update bottom longline seabird mitigation circular to reflect Mitigation Standards[30] • Audit existing PSRMPs against Mitigation Standards • Report on at-sea audits of adherence to PSRMPs • Review and update Mitigation Standards as required • Report capture and capture rate data for the previous • Review and update mitigation regulations as appropriate
Goal 2: Healthy seabird populations	

(https://deepwatergroup.org/newsresources/op-manual/).

[29] Fisheries New Zealand contributes to the costs of running this programme, which covers the >28m trawl fleet, all scampi trawlers and the LIN2-7 bottom longline fleet.

[30] The existing circular is available at http://legislation.govt.nz/regulation/public/2018/0116/latest/LMS57231.html

3. Research, monitoring and management actions are prioritised for seabird populations of particular concern and their risk ratios reduce 4. The number of fishing-related mortalities is decreasing towards zero	• Clearly identify additional priority research or management actions, including review of mitigation to prevent seabird deaths near breeding colonies, including important feeding estuaries
Goal 3: Research and Information	• Review the factors that contribute to seabirds getting caught in trawl nets in deepwater fisheries • Review the forms and data collection methods used by observers and fishers to make sure they are appropriate to support the NPOA Seabirds 2020 • Document monitoring objectives and needs based on risk assessment outputs
5. Research is undertaken to improve bycatch mitigation across sectors, especially where there are high bycatch rates and no known effective mitigation (note: mitigation may include spatial and temporal closures) 6. Monitoring programmes for New Zealand commercial fisheries are designed and implemented to provide statistically robust information to assess progress towards the NPOA Seabirds 2020's objectives 7. Observation and monitoring methods are researched, developed and implemented across all sectors 8. A research programme provides information to reduce uncertainty in estimates of risk to seabirds from fishing across all sectors.	
Goal 4: International engagement	• Contribute to advocacy for management of fishing impacts on seabirds on the high seas through participation in the South Pacific Regional Fisheries Management Organisation
9. The risk to New Zealand seabirds from fisheries outside the New Zealand EEZ is assessed and communicated to international organisations, governments and other stakeholders 10. New Zealand advocates for the development, adoption, improvement, and update of seabird conservation measures 11. New Zealand actively works bilaterally, multi-laterally, and with international organisations to build capacity to reduce the risk to New Zealand seabirds	

8.1.5 Capture rate reduction targets

The NPOA Seabirds 2020 contains two performance measures under Objective 1 of the avoiding bycatch goal that relate to capture rate reduction targets. There are challenges involved in setting statistically robust targets. To ensure capture rate reduction targets are set that are both appropriate and meaningful, a workshop has been planned for the first half of the 2020/21 financial year.

Capture rate reduction targets were also a component of the previous (2013) NPOA Seabirds. In 2015, a working group of the Seabird Advisory Group (SAG), was tasked with developing a set of principles that could be used when determining capture rate reduction targets. The group recommended that fisheries be defined using the same groupings as that of the risk assessment model, and that targets should be quantitative wherever possible. These targets would then be compared to a baseline capture rate, which was defined as the average estimated capture rate across the three year block leading up to the implementation of the NPOA Seabirds 2013 (2010/11 to 2012/13) with at least 10% observer coverage and a coefficient of variation[31] of less than 0.30. It was also agreed that these targets should be meaningful, and a test was devised based on the level of actual observed captures, the estimated captures, and the corresponding capture rate.

Table 6 summarises the output from the 2015 work for the fisheries where a meaningful target was agreed. It sets out the deepwater capture rate reduction targets and proxy targets along with three year averages (based on the 2015/16 to 2017/18 fishing years[32]) of observer coverage and estimated capture rates for deepwater fisheries groupings.[33] The statistical analysis required to determine whether changes in estimated seabird capture rates are significant has yet to be completed. Depending on the outcome of the 2020 capture rate reduction workshop, the targets set out in Table 6 may be amended.

Table 6: Deepwater capture rate reduction targets and three year averages of observer coverage and estimated capture rate where a meaningful target was agreed.

Fishery	Targets				Three year average (15/16-17/18)	
	Suggested target/proxy	Baseline capture rate (per 100 tows/1000 hooks)	'Target' rate/100 tows (reduction)	Meaningful target?	Observer coverage (%)	Estimated capture rate (per 100 tows/1000 hooks)
SQU trawl (> 28 m)	Statistically significant decrease in rate (based on 3-yr rolling average)	14.0	12.0 (14%)	Yes	87%	11.99
Middle-depth trawl (>28 m)[34]	Statistically significant decrease in rate (based on 3-yr rolling averages)	2.7	2.3 (15%)	Yes	37%	2.38

[31] The CV is a standardised measure of dispersion of a probability distribution or frequency distribution. It is often expressed as a percentage, and is defined as the ratio of the standard deviation to the mean

[32] Data from the 2015/16 to 2017/18 fishing years are used, because estimated capture data for the 2018-19 fishing year was not available at the time of publication.

[33] All data in Table 5 is taken from; https://psc.dragonfly.co.nz/2017v1/released/summary/

[34] Middle-depth trawl includes trawl effort for all species other than those with specific categories. This includes hoki, hake, ling and a number of Tier 2 species.

8.2 THE IMPLEMENTATION OF THE NATIONAL PLAN OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS (NPOA-SHARKS (2013))

The NPOA-Sharks (2013) will likely be reviewed during the 2020/21 financial year, it sets out six goals and accompanying five year objectives to support the management of sharks and rays. A qualitative risk assessment of all shark and ray species informs prioritisation of management actions and research.[35]

Ongoing actions both within Fisheries New Zealand and MPI, and across other agencies (DOC and MFAT) are focused on:

- Reviewing appropriate management categories and protection status
- Contracting research to continue filling information gaps about higher risk species based on the outcomes of the risk assessment
- Working with fishers to ensure best practice handling and mitigation measures are employed where appropriate

[35] Available here (https://fs.fish.govt.nz/Page.aspx?pk=113&dk=24619)

9 Part 2B: Service Requirements to Support Deepwater Fisheries Management during the 2020/21 financial year

The Deepwater Fisheries Management Team will work and engage effectively with Māori, key external organisations and other teams across Fisheries New Zealand and MPI. All Fisheries New Zealand business groups will work together on strategic matters and key projects that cross over the different portfolios in 2020/21.

Table 7: Fisheries New Zealand teams through which fisheries management services will be delivered

Branch	Directorate	Team
Fisheries New Zealand	Fisheries Management	Offshore Fisheries – Deepwater Fisheries and Highly Migratory Fisheries
		Inshore Fisheries
		Customary Fisheries and Spatial Allocations
	Fisheries Science & Information	Fisheries Science - Stock Assessment and Aquatic Environment
		Fisheries Monitoring - Data Management and Observer Services
	Digital Monitoring	Programme Management & Change
		Stakeholder Engagement & Implementation
		Digital Monitoring Transformation
	Aquaculture & Branch Support	Aquaculture
		Planning & Process Improvement

9.1 FISHERIES MANAGEMENT DIRECTORATE

The Fisheries Management Directorate is responsible for the operational management of New Zealand's fisheries under the Act. Fisheries are managed within legislative requirements to provide for utilisation while ensuring sustainability.

9.1.1 Offshore and Inshore Fisheries Management Teams

In addition to the Deepwater Team, Offshore Fisheries also includes the Highly Migratory Species (HMS) Team. The HMS team is responsible for the management of all highly migratory stocks and the management of the environmental effects of fishing for these species. The HMS Team liaises with MPI's International Fisheries Policy Team and MFAT, to represent New Zealand interests at international meetings and also helps to develop fisheries management capacity in Pacific Island countries.

The Inshore Fisheries Team is responsible for managing inshore fisheries (including shellfish, inshore finfish, freshwater and marine plant resources), and the environmental effects of fishing for these species.

9.1.2 Customary Fisheries, Spatial Planning and Allocations, and Aquaculture and Fisheries Permitting Teams

Three teams report to the Manager Customary Fisheries and Spatial Allocations.

The Customary Fisheries Team:

The Customary Fisheries Team provides advice and support to the Deepwater Team to fulfil obligations under section 12 of the Act, particularly during the development and implementation of Iwi Fisheries Plans and Iwi Forum Fisheries Plans, to ensure that Māori interests in fisheries management are provided for. The Deepwater Team will consult with tangata whenua that have an interest in the stock or the effects of fishing on the aquatic environment, and provide for the input and participation of tangata whenua having a non-commercial interest in the stock concerned; or having a particular regard to kaitiakitanga. Key services provided by the Customary Fisheries Team include:

- Facilitating input and participation, primarily through Iwi Fisheries Forums;
- Review of consultation and decision documents produced by the Deepwater Team as part of each sustainability round; and
- Ensuring sufficient and appropriate engagement with tangata whenua by providing the opportunity for Iwi to discuss deepwater consultations.

The Spatial Planning and Allocations Team:

- Provides analysis and advice for regulatory decisions on area-based management tools that allow tangata whenua to exercise kaitiakitanga over areas that are of importance for non-commercial customary fishing including mātaitai reserves, taiāpure-local fisheries, and temporary closures.
- Provides analysis and advice for the establishment of Marine Protected Areas (MPAs), and related allocations of marine space. This includes cross-agency work to plan new MPAs, and supporting marine spatial planning initiatives with analysis and advice.

The Aquaculture and Fisheries Permitting Team:

- Responsible for analysis and advice on applications made for a range of regulatory tools in the marine and freshwater space. This includes special permits, enabling innovative trawl technologies, high seas fishing permits, and registering foreign-owned vessels.
- Fisheries New Zealand's main point of contact with FishServe to ensure the effective delivery of fisheries registry services.

9.2 FISHERIES SCIENCE AND INFORMATION DIRECTORATE

9.2.1 Fisheries Science

The Science teams (Stock Assessment, and Aquatic Environment and Biodiversity) provide expert advice and are responsible for evaluating and delivering science research that meets the Research Standard. For more information on the Research Standard's ranking system, visit Fisheries New Zealand's website.

The key actions and core services that the Deepwater Fisheries Management Team will work on with the Science teams during 2020/21 will be:

a) delivery of deepwater research services and incorporation where necessary into management actions and services – research projects scheduled for delivery during the 2020/21 financial year are provided in Tables 8 – 11 below

b) maintenance and updating of the Medium Term Deepwater Research Plan

c) implementation of new research planning processes
d) planning and prioritisation of the 2021/22 deepwater fisheries research programme including industry-led surveys, to be agreed before 31 December 2020
e) implementation of protected species frameworks, including the NPOA-Seabirds (2020), NPOA-Sharks and the New Zealand sea lion/rāpoka Threat Management Plan 2017-2022
f) research evaluation via the Science Working Group processes
g) provision of science advice and review to ensure all science information used in management advice meets or exceeds the requirements of the Research Standard
h) outlining what observer sampling is required
i) outlining the management approaches required for Tier 2 deepwater species

9.2.2 Fisheries Monitoring

The Deepwater Team works closely with Fisheries Data Management and Observer Services.

Interactions include requests for data, observer coverage, biological sampling requests and monitoring of the environmental effects of fishing. Fisheries New Zealand Observers are deployed on commercial fishing vessels to carry out biological sampling, monitor environmental interactions, and observe and record compliance with a range of regulatory and non-regulatory management measures.

The key projects and core services that the Deepwater Team will work on with Observer Services during 2020/21 will be:

- Participating in the training of new observers
- Briefing (where required) and debriefing observers placed on board deepwater vessels
- Planning the 2021/22 observer coverage requirements for deepwater fisheries (the 2020/21 deepwater observer coverage plan is set out below)
- Contributing towards the ongoing redesign of observer forms
- Updating biological sampling targets and observer tasking (the current biological sampling requirements for deepwater fisheries are set out in Table 13)
- Monitoring progress towards sampling targets throughout the year
- Engaging with, and providing feedback to, observers through the observer newsletter and observer catch up sessions

9.2.3 Research services scheduled for 2020/21 financial year

The following proposed[36] fisheries research plan (Tables 8 and 9) is based on the Medium Term Research Plan previously published, and incorporates changes resulting from subsequent discussions.[37]

Table 8: Deepwater Fisheries Research Plan for 2020/21

Project code	Title
BAR2020-01	Update of Abundance Indices for Barracouta in BAR 4 and BAR 5
HAK2020-01	Stock assessment of Sub-Antarctic hake in HAK 1
HOK2020-01	Estimation of spawning hoki biomass in Cook Strait using acoustic surveys
HOK2020-02	Land based catch sampling of hoki
LIN2020-01	Stock assessment of Sub-Antarctic ling in LIN 5 and LIN 6
MID2020-01	Routine age determination of middle depth and deepwater species from commercial fisheries and resource surveys
OEO2020-01	Investigating monitoring and assessment approaches for oreo species
ORH2020-01	Acoustic survey of orange roughy in ORH MEC
SCI2020-01	Stock assessment for SCI 3
SCI2020-02	Estimation of the abundance of scampi in SCI 1 and SCI 2 using photographic surveys
SKI2020-01	Update gemfish monitoring – CPUE for SKI 3 and SKI 7
SQU2020-01	Squid stock assessment

Table 9: Deepwater Fisheries Research Projects – ongoing projects that have significant deliverables in 2020/21

Project code	Title
DAE2018-01	Bycatch monitoring and quantification in deepwater fisheries
MID2018-01	Estimation of hoki and middle depth fish abundance using trawl surveys – (sub-Antarctic in Dec 2020, WCSI in July 2021)
SCI2019-01	Estimating the abundance of scampi in SCI 3 using photographic surveys
SCI2017-03	Evaluation of potential management strategies for scampi

Tables 10 and 11 outline the Aquatic Environment and Biodiversity research programmes that are managed by the Aquatic Environment Science Team. Research on the aquatic environment is both Crown funded and cost recovered from the fishing industry through levies. Biodiversity research is solely Crown funded and addresses more strategic, national-level marine environmental issues.

[36] These projects will be finalised in August 2020

[37] The Medium Term Research Plan is available here https://www.mpi.govt.nz/dmsdocument/21746-medium-term-research-plan-for-deepwater-fisheries-report

Table 10: Aquatic Environment and Biodiversity Research relevant to deepwater fisheries for 2020/21[38]

Project code	Title
BEN2020-01	Extent and intensity of seabed contact by mobile bottom fishing in the New Zealand Territorial Sea and Exclusive Economic Zone (trawl footprint)
BEN2020-07	Extent and intensity of trawl effort on or near underwater topographic features in New Zealand's Exclusive Economic Zone
DAT2020-01	Image and video storage, access, and metadata management system
DAT2020-05	Risk atlas development for protected species risk models
ENV2020-01	Distributional study of Antipodean albatross using satellite reporting GPS tags
ENV2020-20	Temporal and spatial distribution of non-target catch, and non-target species, in deepwater fisheries
PMM2020-06	Auckland Islands New Zealand sea lion tracking
PSB2020-08	Desktop update of estimation of seabird cryptic mortality in trawls, via warp and net captures in the NZ domestic fleet using standard mitigation
PSB2020-09	Southern hemisphere seabird risk assessment
ZBD2020-07	Recovery of seamount communities

Table 11: Ongoing Aquatic Environment and Biodiversity research projects that are relevant to deepwater fisheries.

Project code	Title
BEN2019-01	Monitor the extent and intensity of bottom contact by trawl and dredge fishing in the Territorial Sea and Exclusive Economic Zone
BEN2019-05	Towards the development of a spatial decision support tool for managing the impacts of bottom fishing on in-zone, particularly vulnerable or sensitive habitats.
PRO2019-02	Maintenance of PSC (protected species captures) website displaying updated observed commercial fisheries captures, and total estimated captures for selected species
PRO2019-09	Spatial distribution modelling of at-risk seabirds in New Zealand commercial fisheries
PSB2018-10	Deepwater net capture analysis
PSB2019-01	Estimation of total seabird captures using standardised estimation methods
PSB2019-09	Opportunistic Aerial survey of white-capped albatross on the Auckland Islands
ZBD2018-01	5 year continuous plankton survey (phase 3)
ZBD2018-02	Climate change, fish distribution meta analysis
ZBD2018-05	Ecosystem function and regime shifts in the Sub-Antarctic
ZBD2019-01	Quantifying benthic habitats Part 2
ZBD2019-04	Plastics and marine debris across the ocean floor in New Zealand waters
ZBD2019-11	Development of Electronic Automated Reporting System (EARS) to improve seabird bycatch monitoring

[38] These projects will be finalised in August 2020

9.2.4 2020/21 Deepwater Observer Coverage Plan

Biological sampling and environmental monitoring is carried out by the Fisheries New Zealand observer programme. Data collected by the observer programme is used:

- As an input to monitor key fisheries against harvest strategies;
- As an input to monitor biomass trends for non-target species;
- To assess fishery performance against environmental benchmarks as available; and
- To enable more timely responses to sustainability and environmental impact issues.

The principles and methods used to compile the deepwater observer coverage plan (Table 12) and sampling requirements, shown in Tables 13 and 14, are included below. The observer coverage plan for 2020/21[39] has been based solely on the science and management requirements of the respective fisheries.

Table 12: Deepwater fisheries observer plan for 2020/21. '*FOV*' = Foreign owned vessel; '*DOM*' = New Zealand owned vessel (domestic). Excludes training.

Fishery complex		Planned number of days 2020/21	% coverage estimate (all stocks)
Deepwater trawl			
North Island Deepwater (ORH 1,2A, 2B & 3A, BYX 2, CDL 2)		75	15-20%
Chatham Rise Deepwater (ORH 3B, OEO 3 & 4, BYX 3)		250	35-45%
Sub-Antarctic Deepwater (ORH 3B, OEO 1 & 6)		75	60-80%
West Coast Deepwater (ORH 7A)		60	35-45%
Middle-depth trawl			
West Coast North Island (JMA 7, BAR 7, EMA 7)	FOV	250	35-45%
	Dom	50	25-35%
West Coast South Island (HOK 1, HAK 7, LIN 7, SWA 1)	FOV	375	90-100%
	Dom	200	30-40%
Chatham Rise Middle depths (FMA 3 & 4) (HOK 1, HAK 1 & 4, LIN 3 & 4, SWA 3 & 4, JMA 3, BAR 1 & 4)	FOV	400	90-100%
	Dom	425	20-25%
Sub-Antarctic Middle depths (ex. SQU/SBW) (FMA 5 & 6) (HOK 1, HAK 1, LIN 5 & 6, SWA 4, WWA 5B, JMA 3, BAR 5)	FOV	475	90-100%
	Dom	180	20-30%
Southern blue whiting (all)		450	100%
Squid (SQU 1T, SQU 6T)		1,600	>90%

[39] The number of days will be finalised in August 2020

Cook Strait		100	10-15%
WCSI HOK (Inside the line)		100	10-15%
Bottom longline			
Ling bottom longline (LIN 3 – LIN 7)	> 34 m	100	15-20%
	< 34 m	200	10-20%
Scampi trawl			
Scampi	SCI 6A	200	20-25%
	SCI (other)	175	10-15%
	Total Days	**5,740**	

Table 13. Biological sampling requirements for deepwater fisheries for 2020/21

Species		FMA/stock		LF target	Otolith target	Area	Months	Obs plan 'Fishery complex'
-Hoki		Sub-Antarctic		400	1600	Sub-Antarctic	Year-round (except July-Aug)	Sub-Ant Mid-depths
		Chatham Rise		400	1600	Chatham Rise	Year-round (except Jul-Aug)	Chatham Rise Mid-depths
		WCSI		400	1000	WCSI	May-September	WCSI
		Cook Strait		200	1600	Cook Strait	Year-round	Cook Strait HOK
		Inside the line		200	600	WCSI	May-September	WCSI 'Inside the line' HOK
Orange roughy		ORH 1		30/area		ORH 1	Year-round	North Island deepwater
		ORH 2A North		30	Survey only	ORH 2A North	Year-round	North Island deepwater
		ORH MEC		30	Survey only	ORH MEC	Year-round	North Island deepwater
		ORH NW Rise		50	300	Northwest Rise	Year-round	Chatham Rise deepwater
		ORH E&S Rise		50	300	East & South Rise	Year-round	Chatham Rise deepwater
		ORH 7A + WB		50	300	ORH 7A	Year-round	West Coast deepwater
		ORH Puysegur		100	300	Sub-Ant ORH	Year-round	Sub-Ant DW
Southern blue whiting		SBW 6I		100	900	Campbell Island	August-September	Southern blue whiting
		SBW 6B		50	600	Bounties	August-September	Sub-Ant Mid-depths/ SBW
Hake		HAK 1		100	1,000	Sub-Ant	October-February	Sub-Ant Mid depths
		HAK 4		100	1,000	Mernoo Bank/CR	September-February	Chatham Rise Mid-depths
		HAK 7		200	1,000	WCSI	June – September	WCSI and inside line
Ling		LIN 3/4		100	1,100	Chatham Rise	October-May	Chatham Rise Mid-depths
		LIN 5/6		100	1,100	Sub-Ant	September-April	Sub-Ant Mid-depths
		LIN 7		200	1,100	WCSI	June-October	WCSI Mid-depths
Oreo	Black	BOE 3A		30	400	ECSI	October-March	Chatham Rise DW
	Smooth	SSO 3A		30	-	ECSI	October-March	Chatham Rise DW
		SSO 4		30	300	Chatham Rise	October-March	Chatham Rise DW
Jack mackerel	*T. declivis*		JMD 7	200	900	WCNI	October-July	WCNI
	T. murphyi		JMM 7	200	900	WCNI	October-July	WCNI
	T. novaezelandiae		JMN 7	200	900	WCNI	October-July	WCNI
Scampi		SCI 1		50	N/A	Auckland/BoP	All year	Scampi

Species	FMA/stock	LF target	Otolith target	Area	Months	Obs plan 'Fishery complex'
	SCI 2	50		HB/Wairarapa	September-April	Scampi
	SCI 3	50		Mernoo Bank	All year	Scampi
	SCI 4A	50		Chatham Rise	All year	Scampi
	SCI 6A	50		Auckland Islands	February-November	Scampi

9.2.5 Principles and methods used to determine the observer coverage plan for 2020/21

Observer coverage for the 2020/21 year was planned based on percentage coverage targets, biological sampling requirements, Ministerial commitments and international requirements.
The different methods used to estimate the number of observer days required to meet sampling and percentage coverage targets are detailed below.

Biological sampling

Biological sampling requirements (numbers of length frequency samples and otoliths) were determined based primarily on the Medium Term Research Plan for Deepwater Fisheries 2018/19 – 2022/23[40] for all Tier 1 and selected Tier 2 middle depth and deepwater species. These species and fish stocks were then grouped by area to determine the 'fishery complexes' to be used for observer coverage planning. The number of observer days necessary to achieve the biological sampling requirements was based on:

- The number of length frequency (LF) samples and otoliths collected by observers for each Tier 1 species during the 2015/16, 2016/17 and 2017/18 years;[41]
- The sea day tracking sheets for the 2015/16, 2016/17 and 2017/18 years (used by the observer programme to track and report observer coverage throughout the year); and
- An estimate of the number of biological samples collected by observers per fishing day (specific to each fishery 'complex').

In short, an initial calculation was made by dividing the number of LF samples required for each fisheries 'complex' by an estimate of the number of biological samples collected per fishing day for that 'complex'. To calculate the number of observer days required, this number was adjusted (to account for training trips and days on which no sampling was conducted i.e. steaming days) by comparing the number of samples collected during the 2015/16, 2016/17 and 2017/18 years to the sea day tracking sheet for that year.

Percentage coverage targets

Many fisheries have a requirement that a proportion of fishing effort be observed, primarily to enable reliable estimations of protected species interactions, and to provide a high level of confidence in fishers' at-sea compliance with regulatory and non-regulatory measures. The level of coverage required differs both between and within fisheries complexes (i.e. 100% requirement for coverage of the Campbell Island southern blue whiting fishery).

Fisheries New Zealand considers that 30% is a suitable target but that in some cases it is appropriate for the percentage coverage target to be higher or lower than 30%. The fisheries 'complexes' that have a coverage target of less than 30% are the Cook Strait and West Coast South Island "inside the line" hoki fisheries,[42] the scampi trawl fishery and the small vessel ling bottom longline fishery. In the case of the two hoki fisheries, both are supported by on-shore factory sampling however some coverage is required to monitor protected species interactions, primarily fur seals. The scampi and ling bottom longline fisheries have had relatively low levels of observer coverage for several years, as a result of other fisheries having a higher priority for the limited number of observer days available.

[40] https://www.mpi.govt.nz/dmsdocument/21746/send

[41] As reported in the 2015/16, 2016/17 and 2017/18 Deepwater Annual Review Reports. Reports back to 2015/16 are available here (https://www.mpi.govt.nz/growing-and-harvesting/fisheries/fisheries-management/deepwater-fisheries/)

[42] This refers to regulations prohibiting vessels >46 m from operating within specific areas

The number of observer days necessary to achieve the relevant percentage coverage targets was based on:

- The number of days fished for Tier 1 and selected Tier 2 species in each fisheries 'complex' during the 2015/16, 2016/17 and 2017/18 years; and
- The sea day tracking sheets for the 2015/16, 2016/17, 2017/18 and 2018/19 years.

In short, for each fisheries 'complex' with a percentage coverage target, a historical average of the number of days on which fishing was conducted was calculated based on effort during the 2015/16, 2016/17 and 2017/18 years. The number of days fishing required to be observed to meet the percent coverage target was then calculated with reference to the historical average number of days fished in that 'complex'. This number was then compared to the sea day tracking sheets and adjusted accordingly to account for sea days on which no fishing was conducted (i.e. steaming days), training trips and recent changes in fleet dynamics.

Training

All training occurs as paired trips between an experienced observer and a new recruit. Trainees' days are counted towards the 'Training' allocation with the trainers' days counted towards the appropriate fisheries complex. Training allocations have previously been incorporated into the calculations for each complex. However, to aid understanding of the observer planning process, the training allocation has been split from other calculations for 2020/21. All training occurs on >28 m trawl vessels with time of year, vessel size, and suitability determining which vessels are used for training purposes. For 2020/21, an estimated 800 training days have been included in the plan.

For cost recovery purposes, the 'Training' allocation is spread across all deepwater stocks from which the costs of observer coverage are recovered.

Finalisation

The number of days estimated to meet sampling requirements was then compared to the number of days estimated to meet percentage coverage targets with the larger estimate put forward as the proposed number of days.

After the initial calculations were made, coverage requirements across all fisheries (deepwater, inshore, Highly Migratory Species, and other categories) were assessed against the observer programme's capacity and then prioritised.

The number of days planned for each fisheries 'complex', and accompanying rationale is shown in Table 14.

Table 14: Summary of information used

Fishery complex & stocks covered	Planned days 2020/21	Main objective(s) of observer coverage planning	Rationale and comment
Training			
All	800	Training of new observers	Estimated training requirement of 800 days based upon two intakes of ten observers each, with each new observer undertaking a training trip of 40 days in length.
Deepwater trawl			
North Island deepwater ORH 1, ORH 2A, ORH 2B, ORH 3A, BYX 2, CDL 2	75	Biological sampling of ORH	75 days estimated to provide coverage of approx.15-20% of effort (all stocks in complex) and approx. 25-30% of effort (ORH target only).[43]
Chatham Rise deepwater ORH 3B (Northwest and East & South Chatham Rise) OEO 3A, OEO 4, BYX 3	250	Biological sampling of ORH & OEO 30% coverage of effort in MSC certified stocks	250 days estimated to provide coverage of approx. 35-45% of effort in MSC certified stocks. Coverage will be tracked over the course of the year to ensure that 30% coverage target is obtained for both stocks. Using an estimate of two LFs per day, 250 days estimated to be sufficient to collect required number of biological samples (50 LFs per ORH sub-stock, and 30 LFs from SSO & BOE in OEO 3A and SSO in OEO 4).
Sub-Antarctic deepwater ORH 3B (Sub-Antarctic & Puysegur), OEO 1, OEO 6	75	Biological sampling of ORH & OEO	Using an estimate of two LFs per day, 75 days likely an overestimate of the number of days required to collect necessary samples (100 LFs from Puysegur). Extra days required as a consequence of 90% minimum observer requirement in SQU 6T (vessels that have notified to fish in SQU 6T and are thus carrying an observer may, at times, fish deepwater species in the Sub-Antarctic). 75 days estimated to provide coverage of approx. 60-80% of effort.
West Coast deepwater ORH 7A	60	Biological sampling of ORH 30% coverage of effort in MSC certified stocks	60 days estimated to provide coverage of approx. 35-45% of effort. Coverage will be tracked over the course of the year to ensure that 30% coverage target is obtained. Using an estimate of two LFs per day, 60 days estimated to be sufficient to collect required number of biological samples (50 LFs).

[43] All percentage coverage estimates are based upon average fishing effort between the 2016/17 and 201819 years and take into account estimates of the number of observer seadays when fishing did not occur (i.e. steaming).

Hoki and middle-depth trawl			
West Coast North Island JMA 7, EMA 7, BAR 7	300	Biological sampling of JMA Protected species monitoring	300 days estimated to provide coverage of approx. 30% of effort. Using an estimate of 2 LFs per JMA species per day, 300 days estimated to be sufficient to collect necessary samples (200 LFs per JMA species).
West Coast South Island HOK 1, HAK 7, LIN 7, SWA 1	575	Biological sampling of HOK, HAK, LIN Protected species monitoring	800 LFs in total (400 HOK, 200 HAK & 200 LIN). Using an estimate of 2 LFs per day, 575 days estimated to be sufficient to collect required number of biological samples. 575 days estimated to provide coverage of approx. 50% of effort (HOK target only).
WCSI (inside the line) HOK 1	100	Biological sampling of HOK Protected species monitoring	200 LFs required. Using an estimate of 2 LFs per day, 100 days estimated to be sufficient to collect required number of biological samples. 100 days estimated to provide coverage of approx.10-15% of effort.
Cook Strait hoki HOK 1	100	Biological sampling of HOK Protected species monitoring	200 LFs required. Using an estimate of 2 LFs per day, 100 days estimated to be sufficient to collect required number of biological samples. 100 days estimated to provide coverage of approx. 10-15% of effort.
Chatham Rise middle-depth HOK 1, HAK 1, HAK 4, LIN 3, LIN 4, SWA 3, SWA 4, JMA 3, BAR 1, BAR 4	825	Biological sampling of HOK, HAK, LIN Protected species monitoring	600 LFs in total (400 HOK, 100 HAK & 100 LIN). Using an estimate of 2 LFs per day, 825 days estimated to be sufficient to collect required number of biological samples. 825 days estimated to provide coverage of approx. 30% of effort (HOK target only).
Sub-Antarctic middle-depth HOK 1, HAK 1, LIN 5, LIN 6, SWA 4, WWA 5B, BAR 5, JMA 3	655	Biological sampling of HOK, HAK, LIN Protected species monitoring	600 LFs in total (400 HOK, 100 HAK & 100 LIN). Using an estimate of 2 LFs per day, 655 days estimated to be sufficient to collect required number of biological samples. 655 days estimated to provide coverage of approx. 50% of effort (HOK, HAK & LIN target only).
Southern blue whiting SBW (all)	450	Biological sampling of SBW Protected species monitoring	Estimated number of days required to obtain 100% coverage (with two observers placed on any vessel producing surimi)
Squid SQU 1T, SQU 6T	1,600	Protected species monitoring	Estimated number of days required to meet minimum 90% observer coverage requirement in SQU 6T
Scampi trawl			
Scampi SCI (all)	375	Biological sampling of SCI Protected species monitoring	375 days estimated to provide coverage of approx. 15-20% of effort (all areas). 200 days to be targeted at SCI 6A fishery which would provide coverage of approx. 20-25% in this area. 375 days estimated to be sufficient to collect required number of biological samples (50 LFs from SCI 1, SCI 2, SCI 3, SCI 4A & SCI 6A)

Bottom longline			
Ling bottom longline LIN 3-7	300	Biological sampling of LIN Protected species monitoring	300 days estimated to provide coverage of approx. 15-20% of effort (all areas). Days to be split by vessel size with 100 days targeted at large (>34 m) vessels and 200 days targeted at small (< 34 m) vessels.300 days estimated to be sufficient to collect required number of biological samples
Total days	**6,540**		

9.3 DIGITAL MONITORING DIRECTORATE

The Digital Monitoring Directorate was established to implement electronic reporting and geospatial position reporting across all commercial fishers. Electronic reporting first applied to the greater than 28m in length trawl fleet (most of the deepwater fleet) in October 2017.[44] Rollout across all fishers was completed in December 2019. Details of how the Deepwater Team will work with Digital Monitoring during 2020/21 are set out in Item 13 of Table 2.

9.4 AQUACULTURE AND BRANCH SUPPORT DIRECTORATE

This Directorate comprises the Aquaculture, and Planning and Process Improvement teams. The Aquaculture team is the government's principal adviser on aquaculture matters. The Planning and Process Improvement team provides branch planning, project and process improvement, and wide-ranging general support to Fisheries New Zealand.

9.5 LINKAGES WITH WIDER MPI

Table 15: Directorates / teams outside Fisheries New Zealand from which some fisheries management services will be required.

Branch	Directorate or Team
Corporate Services	Finance, Property and Procurement
	Business Technology & Information Services (BTIS)
	Cost Recovery
Compliance and Governance[45]	Compliance
	Legal Services
Policy and Trade	International Policy
	Agriculture, Marine & Plant Policy
Public Affairs	Ministerials & Business Support Group
	Communication, Engagement & Channels
New Zealand Food Safety	Science & Risk Assessment
	Performance, Oversight & Approvals
Te Uru Rākau	Spatial, Forestry & Land Management

[44] Position reporting requirements already applied to this class of vessel.

[45] An amended organisational structure, which includes this new branch, was implemented on 1 July 2019

The teams/directorates of most relevance to the Deepwater Fisheries Management Team, together with the fisheries management services required, is outlined below.

9.5.1 Corporate Services

The Corporate Services branch provides a broad range of business functions to the whole of the Ministry including financial, information, human resources, legal, and business support services.

9.5.2 Compliance and Governance

The Compliance Directorate, within the Compliance and Governance Business Unit, is responsible for monitoring, assessment and deployment of fisheries resources to address compliance risk across the fleet. The Fisheries Compliance Group provides advice to fisheries managers and scientists on compliance risk as well as any required intervention to manage compliance risk in support of achieving the management objectives set out in this plan.

In deepwater fisheries, compliance risk includes:

- Misreporting in terms of areas fished (known as 'trucking');
- Species fished (falsifying returns and misidentification);
- Quantities taken (unreported discarding or slippage in systems used to record catch); and
- Failure to use seabird mitigation devices.

MPI compliance activities are based on education, monitoring, surveillance, audit, analysis, and enforcement through investigation and prosecution of offences. Since 2009, MPI has revised its compliance model to incorporate a Voluntary, Assisted, Directed, Enforced (VADE) model of compliance. While the enforcement and prosecution tools remain available (and continue to be used where appropriate), effort is also focussed on achieving compliance through a programme of educating and assisting the commercial sector to comply.[46]

A further component of compliance activities involves collaborating with fisheries managers on reporting of compliance activities in publically available documents, such as the deepwater ARR.

The specific compliance services required to support the successful delivery of 2020/21 management objectives are listed below. These service requirements are in addition to the general monitoring and surveillance activities undertaken by the Compliance Directorate, which includes the work set out in Table 3.

- Provide compliance advice to the Fisheries Management Directorate to help inform risk ratings for Foreign Owned Vessel registration purposes
- Coordinate delivery of at-sea patrols to monitor adherence to regulations, including deployment of seabird mitigation devices, and follow up on non-compliance referrals from observers on recording and deployment of seabird mitigation devices
- Continue to operate VADE compliance model

9.5.2.1 Policy and Trade

The Deepwater team works with Fisheries & Aquaculture sector policy on a number of strategic fisheries issues. Joint work programmes look at long-term improvements to New Zealand's fisheries

[46] An outline of the compliance delivery model is available here: (https://www.fisheries.govt.nz/dmsdocument/39353-fisheries-management-fact-sheet-6-compliance-delivery-model)

management system including minimising the environmental impacts of fishing. Examples include improvements to New Zealand's approach to marine protection, exploring climate change impacts on New Zealand fisheries and looking at landings and discards of our catch.

The Deepwater Team works with International Fisheries Management on a range of issues, including New Zealand's activities in the South Pacific Regional Fisheries Management Organisation (SPRFMO) and trade issues (e.g. US Marine Mammal Protection Act requirements). The Deepwater Team also provides review and advice on international issues that may impact on New Zealand's domestic fisheries management or where operational experience is required to inform New Zealand's positions on fisheries issues.

9.5.2.2 Public Affairs

There are three Directorates that make up Public Affairs: Government Services, Engagement and Information, and Communications. Public Affairs brings together the functions that assist MPI's Director-General to:

- Meet MPI's obligations under the Official Information Act
- Provide quality and timely advice and information to ministers
- Build relationships with key industry stakeholders
- Manage MPI's narrative and reputation externally
- Produce high quality design collateral
- Develop and manage our communications channels
- Support regulatory education and enforcement through things like marketing campaigns
- Lead a number of major MPI events
- Inform and engage MPI people through effective internal communication.

9.5.2.3 Agriculture, Marine and Plant Policy Directorate

This Directorate is responsible for high level policy, working with stakeholders and other Government agencies to develop and implement policy, including the various legislative and regulatory frameworks that support the development of New Zealand's primary industries. It is responsible for monitoring, reviewing and amending policy that relates to the primary sector, and leads the Fisheries Change Programme.

9.6 EXTERNAL ORGANISATIONS

9.6.1 Department of Conservation (DOC)

The key projects that the Deepwater Team will work with DOC to progress during 2020/21 will be:

- Implementation of protected species frameworks, including the NPOA Seabirds 2020, NPOA Sharks 2013, New Zealand sea lion/rāpoka Threat Management Plan 2017-2022; and
- Planning research and observer services for delivery in 2021/22.

DOC carries out research each year focused on protected species interactions with fisheries in New Zealand waters. Some of the research DOC plans to carry out in 2020/21 and 2021/22 will be relevant to the deepwater management actions, and should be taken into account for future management decisions and research planning activities.

For more detail on the projects in Table 16, please see the Conservation Services Programme Annual Plan 2020/21, available on the DOC website (https://www.doc.govt.nz/our-work/conservation-services-programme/csp-plans/)

Table 16: 2020/21 DOC research projects that relate to deepwater fisheries[47]

Interaction projects	
INT2020-01	Observing commercial fisheries
INT2020-02	Identification of marine mammals, turtles and protected fish captured in New Zealand fisheries
INT2019-02*	Identification of seabirds captured in New Zealand fisheries
INT2019-04*	Identification and storage of cold-water coral bycatch specimens
Population projects	
POP2020-01	Auckland Islands seabird population research
POP2020-02	Protected coral identification and awareness
POP2020-03	Basking shark habitat suitability modelling
POP2020-04	Grey Petrel population estimate: Antipodes Island
POP2020-05	Utilisation of the marine habitat of Yellow-eyed penguins from Stewart Island/Rakiura
POP2018-03^	New Zealand sea lion: Auckland Islands pup count
POP2018-04^	Flesh-Footed Shearwater: population monitoring
POP2019-04*	Southern Buller's albatross: Snares/Tini Heke population project
Mitigation projects	
MIT2019-03*	Lighting adjustments to mitigate against deck strikes/vessel impacts
MIT2020-01	Hook-shielding use in the surface longline fishery
MIT2020-02	Protected species liaison project
MIT2020-03	Mitigation gaps analysis towards reducing protecting species bycatch

* indicates multi-year project consulted on in 2019/20
^ indicates multi-year project consulted on in 2018/19

[47] These projects will be finalised in August 2020

9.6.2 Deepwater Group Ltd.

The Deepwater Group Ltd (DWG), is a non-profit company that represents owners of deepwater fishing quota. The DWG works collaboratively with Fisheries New Zealand to help ensure New Zealand gains the optimum economic yield from New Zealand's deepwater fisheries resources while ensuring fish stocks are managed sustainably and environmental effects are managed appropriately.[48]

A primary function of DWG is to represent the interests of quota owners and provide a communication channel between Fisheries New Zealand and the deepwater fishing industry to facilitate full engagement on the management of deepwater fisheries.

In 2006 the then Ministry of Fisheries, signed a Memorandum of Understanding (MOU) with DWG. This MOU was subsequently updated in 2008, and 2010.[49] The MOU establishes a structured collaborative framework that enables Fisheries New Zealand and DWG to work together. Because of this collaborative arrangement, the AOP also specifies how the industry will contribute to the delivery of Management Actions and, in turn, the Management Objectives within the National Deepwater Fisheries Plan.

The key projects that the Deepwater Team will work with industry to progress during 2020/21 will be:

- Prioritising fish stocks for annual sustainability reviews and coordinating industry input;
- Administering sub-QMA catch limit management in conjunction with FishServe and required reporting to Fisheries New Zealand;
- Supporting the deepwater industry to maintain third party certification by contributing to the MSC annual audits for HOK, HAK, LIN, SBW and ORH;
- Assisting with delivery of the observer coverage plan for 2020/21;
- Planning research and observer coverage for delivery in 2021/22;
- Management and monitoring of interactions with protected species and sharks; and
- Planning and operation of the DWG/MPI Operators Group. The purpose of the meetings is to discuss issues of relevance (compliance, management / operational) to deepwater operators, consistent with the Deepwater Fisheries Plan.

[48] DWG's website can be accessed here (www.deepwatergroup.org)

[49] The 2010 MOU can be accessed here (https://www.mpi.govt.nz/dmsdocument/19715-memorandum-of-understanding-2010)