



Annual Operational Plan for Deepwater Fisheries for 2016/17



MPI Technical Paper No. 2016/46

ISBN No: 978-1-77665-337-9 (online)

ISSN No: 2253-3923 (online)

ISBN No: 978-1-77665-338-6 (print)

ISSN No: 2253-3915 (print)

June 2016

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Front cover image: MPI Observer Programme.

This publication is also available on the Ministry for Primary Industries website at <http://www.mpi.govt.nz/news-and-resources/publications/>

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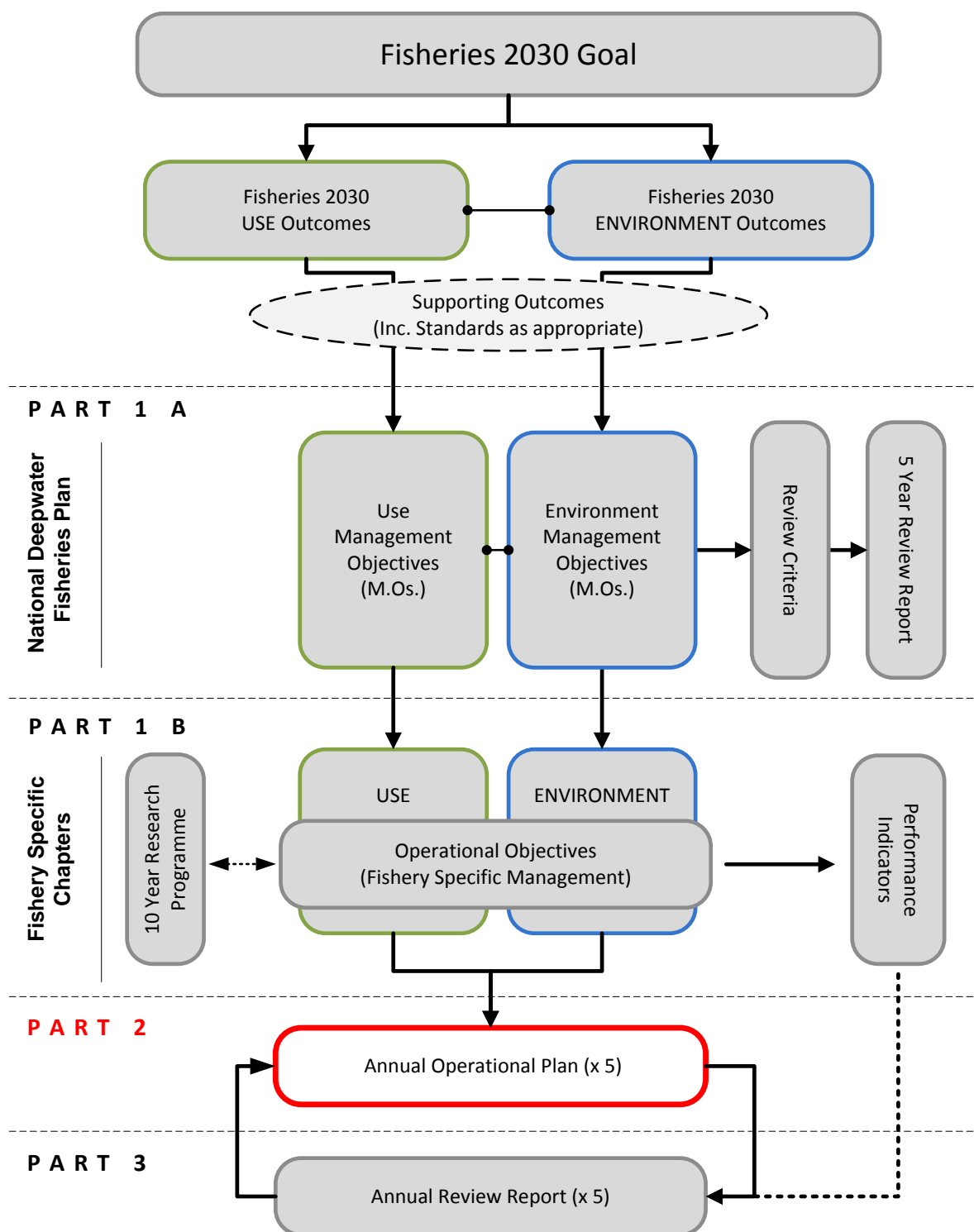
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Summary of the National Deepwater Plan

Please note that the National Deepwater Plan is being reviewed in 2016. This Annual Operational Plan is based on the framework provided by the 2010/11-2015/16 National Deepwater Plan as follows:

National Deepwater Plan Structure



"New Zealanders maximising benefits from the use of fisheries within environmental limits"

Outcomes

Use Outcome:

Fisheries resources are used in a manner that provides 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.

Management Objectives (Part 1 A)

Use Outcome	MO 1.1	Enable economically viable deepwater and middle-depth fisheries in New Zealand over the long-term
	MO 1.2	Ensure there is consistency and certainty of management measures and processes in the deepwater and middle depths fisheries
	MO 1.3	Ensure the deepwater and middle-depths fisheries resources are managed so as to provide for the reasonably foreseeable needs of future generations
	MO 1.4	Ensure effective management of deepwater and middle-depth fisheries is achieved through the availability of appropriate, accurate and robust information
	MO 1.5	Ensure the management of New Zealand's deepwater and middle-depth fisheries are recognised as being consistent with or exceeding national and international best practice
	MO 1.6	Ensure New Zealand's deepwater and middle-depth fisheries are transparently managed
	MO 1.7	Ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Maori.
Environment Outcome	MO 2.1	Ensure deepwater and middle-depth fish stocks and key bycatch fish stocks are managed to an agreed harvest strategy
	MO 2.2	Maintain the genetic diversity of deepwater and middle-depth target and bycatch species
	MO 2.3	Protect habitats of particular significance for fisheries management
	MO 2.4	Identify and avoid or minimise adverse effects of deepwater and middle-depth fisheries on incidental bycatch species
	MO 2.5	Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on the long-term viability of endangered, threatened and protected species
	MO 2.6	Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on biological diversity
	MO 2.7	Identify and avoid or minimise adverse effects of deepwater and middle-depths fishing activity on the benthic habitat

Overview

New Zealand's Deepwater and Middle-depth fisheries (deepwater fisheries), predominantly occur in offshore waters beyond the 12 nautical mile (nm) limit of the territorial sea. Deepwater fishing activity occurs out to and beyond the 200 nm limit of New Zealand's exclusive economic zone (EEZ). Deepwater fisheries provided over \$650 million in export earnings from the 2015 calendar year.¹

The management of New Zealand's deepwater fisheries is a collaborative arrangement between the Ministry for Primary Industries (MPI), representing the Crown and its statutory obligations to the public) and the commercial fishing industry, represented by the Deepwater Group Ltd (DWG). This arrangement allows for Management Objectives to be achieved by drawing on the combined knowledge, experience, capabilities, and perspectives of both organisations.

Within the portfolio of deepwater fisheries, fish stocks have been ranked into three tiers according to their commercial importance (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 sizable or valuable bycatch fisheries, are only target fisheries at certain times of the year or are important bycatch to Tier 1 stocks. Tier 3 species are those caught as bycatch that are not managed through the quota management system (QMS).

Table 1: Categorisation of deepwater fishstocks

	Stocks ²	
Tier 1	Hake: all Hoki : all Jack mackerel: JMA3, JMA7 Ling: LIN3 - LIN7 Orange roughy: all	Oreos: all Scampi: all Southern blue whiting: all Squid: all
Tier 2	Alfonsino: all Barracouta: BAR4, BAR5, BAR7 Black cardinalfish: all Deepwater crabs (CHC/GSC/KIC); all English mackerel: EMA3, EMA7 Frostfish: FRO3-FRO9 Gemfish: SKI3, SKI7 Ghost shark, dark: GSH4-GSH6 Ghost shark, pale: all Lookdown dory: all	Patagonian toothfish: all Prawn killer: all Redbait: all Ribaldo: RIB3-RIB8 Rubyfish: all Sea perch: SPE3-SPE7 Silver warehou: all Spiny dogfish: SPD4, SPD5 White warehou: all
Tier 3	Non-QMS species	

¹ Export value based on information from the Seafood New Zealand [website](http://www.seafoodnewzealand.org.nz). (www.seafoodnewzealand.org.nz). 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 supplied by Statistics New Zealand.

² For some species, management of some stocks falls under the National Deepwater Plan and the remainder are managed under the National Inshore Finfish Plan. See [here](http://www.fish.govt.nz/NR/rdonlyres/F5D35B51-C733-467F-ABAF-7C54D3C17B0E/0/SpeciesStocksbyTeamwithCodes.pdf) (www.fish.govt.nz/NR/rdonlyres/F5D35B51-C733-467F-ABAF-7C54D3C17B0E/0/SpeciesStocksbyTeamwithCodes.pdf).

NATIONAL DEEPWATER PLAN

FIVE YEAR CYCLE :

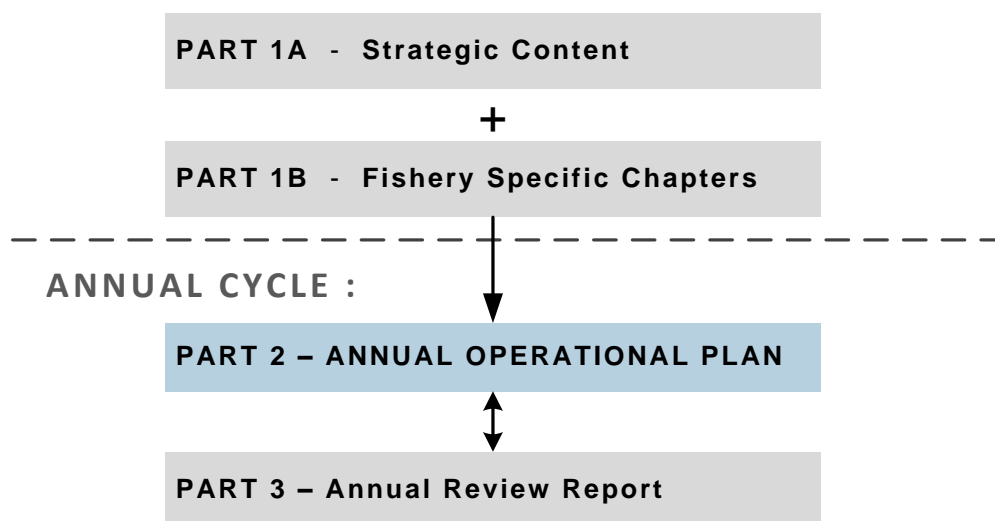


Figure 1: The National Deepwater Plan structure highlighting the five year cycle of PART 1A and 1B, and the annual cycle of the operational plan and review report. This document relates to Part 2 highlighted in blue



From 1 July 2010, the management of New Zealand's deepwater fisheries has been implemented through the National Fisheries Plan for Deepwater and Middle-depth Fisheries (National Deepwater Plan), which collectively consists of the three parts shown in Figure 1.

Part 1 of the National Deepwater Plan establishes the five year enabling framework for the management of New Zealand's deepwater fisheries. 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, including *Fisheries 2030*.
2. The description and status of the management objectives that will apply across all deepwater fisheries.
3. How the National Deepwater Plan will be implemented and how stakeholders will be engaged during the implementation phase.

Part 1A of the National Deepwater Plan was approved by the Minister of Fisheries under Section 11A of the Fisheries Act 1996.³ 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 this Plan.

Part 1B comprises the fishery-specific chapters of the National Deepwater Plan, which provide greater detail on how deepwater fisheries will be managed at the fishery level, in line with the management objectives. To date, fishery-specific chapters have been completed for the hoki, orange roughy, oreo, hake, ling, jack mackerel, and southern blue whiting fisheries.⁴

The fishery-specific chapters describe Operational Objectives for each of the Tier 1 target fisheries and the key Tier 2 bycatch 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 National Deepwater Plan consists of an Annual Operational Plan (AOP) which provides the Management Actions scheduled for delivery during the financial year, and the Management Services needed for delivery of those Management Actions.

The AOP is primarily an internal planning and prioritisation document so will not be approved by the Minister for Primary Industries under section 11A. 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 five year 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.

The 2016/17 Deepwater Annual Operational Plan (AOP)

This AOP details the Deepwater Fisheries Management Actions and Services that will be implemented during the 2016/17 financial year. Completion of these Management Actions will contribute to meeting the Management Objectives, outcomes and goals described in Part 1 of the National Deepwater Plan.

Research to be conducted during 2016/17 on each of the fisheries included in the National Deepwater Plan is detailed in the AOP.

³ The Ministry for Primary Industries became responsible for fisheries as of 30 April 2012.

⁴ All documents referred to on this page and the following page are available [here \(www.fish.govt.nz/en/nz/Deepwater/Key+Documents.htm\)](http://www.fish.govt.nz/en/nz/Deepwater/Key+Documents.htm)

AOP STRUCTURE

The 2016/17 AOP includes the following sections, described in more detail below:

- Part 2A: Management Actions for 2016/17
- Part 2B: Management Services required for 2016/17

Part 2A: Management Actions for 2016/2017

Part 2A details the Management Actions that have been scheduled for completion during the 2016/17 financial year. Completion of all these Actions will contribute to delivery of the Deepwater Management Objectives specified in Part 1A and the fishery-specific Operational Objectives specified in Part 1B of the National Deepwater Plan.

The Management Actions in Part 2A are provided in order of priority, indicated by the number on the left hand side of Table 2.

Table 3 outlines projects and work areas that the Deepwater Fisheries Management Team will contribute towards but not lead. These projects are led by other teams, either within the Fisheries Management Directorate, or by teams in other MPI Branches. Table 4 outlines the management actions delivered by the Deepwater Team that are initiated by the fishing industry.

Part 2B: Management Services required during the 2016/2017 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.

This section also outlines projects and work areas that the Fisheries Management Deepwater team will work with and engage with other teams, both within the Fisheries Management Directorate and across MPI.

New Zealand's deepwater fisheries will be managed in collaboration tangata whenua and stakeholders. Some Services are proposed for delivery in collaboration with industry, or MPI will provide support to enable industry to deliver some Services. Detail of the Fisheries Services and service support in Part 2B is split according to the key parts of MPI, or the relevant external organisations that the Deepwater Fisheries Management team will work with to deliver the specified services: R&A⁵, wider MPI, and external organisations.

Delivery of the 2016/17 AOP will be assessed through the Annual Review Report that will be completed in December 2017 after the end of the 2016/17 fishing year.

⁵ The Fisheries Management Directorate is part of the Regulation and Assurance Branch (R&A).

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

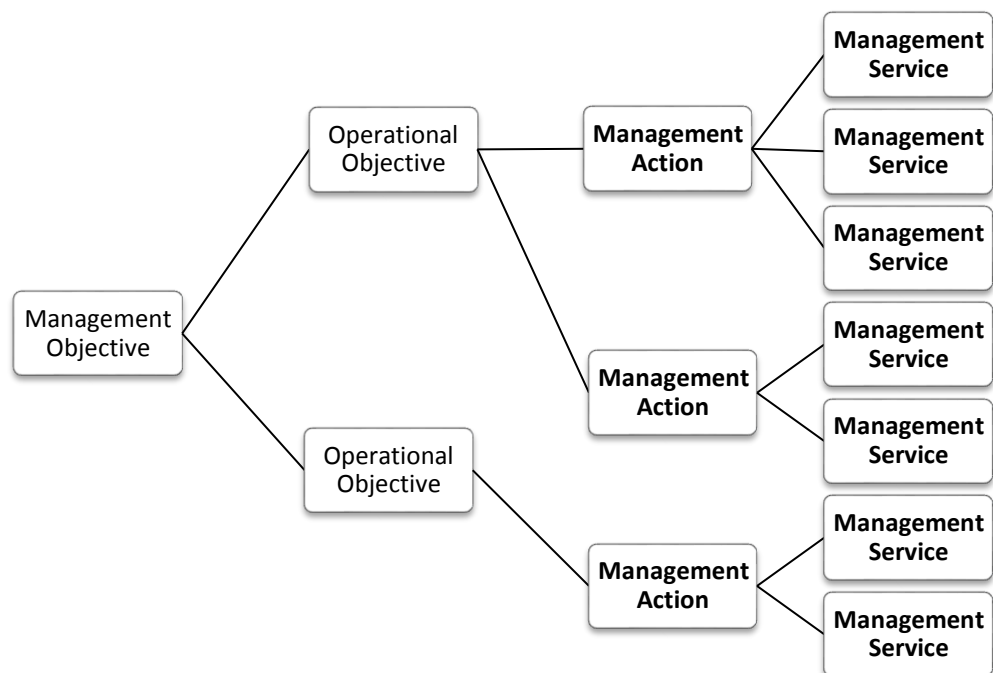


Figure 2: Flowchart of progression from Management Objective to Management Services specified in this Annual Operational Plan



Part 2A: Deepwater Fisheries Management Actions for delivery during the 2016/17 financial year

Table 2: Management Actions to be delivered by Deepwater Fisheries Management during the 2016/17 financial year

1	Fisheries Sustainability Controls: Review catch limits and management settings as required	
	<p>Deepwater sustainability decisions consist primarily of reviews to catch limits (TAC and TACC) and deemed value settings across the fish stocks managed within the National Deepwater Fisheries 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.</p> <p>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 MPI decisions and the process does not have to run to the same timeframes as the sustainability rounds.</p>	
	<ul style="list-style-type: none"> • October 2016: JMA3, BAR5, SQU1J, SCI2, RBY3 and RBY4 • April 2017: SBW 6I and SBW 6B 	
	Action relates to Management Objectives 1.1, 1.3, 2.1, 2.2, 2.4, 2.5, and 2.6	
2	Fisheries Planning: Implement Updated National Deepwater Plan	
	<p>The National Deepwater Plan had a five year horizon and is being reviewed in the first half of 2016. Implementation of the National Deepwater Plan for the 2016/17 financial year will include the core activities listed below.</p>	
	<p>Core:</p> <ul style="list-style-type: none"> • Implement National Deepwater Plan (Part 1A) • Implement Management Objectives within the National Deepwater Plan • Annual Review Report for 2015/16 • Annual Operational Plan for 2017/18 	<p>Key Actions 16/17:</p> <ul style="list-style-type: none"> • Finalise update of Part 1A of the National Deepwater Plan
	Action relates to all management objectives	
3	Ministerial Services: Ensure timely completion of all Ministerial correspondence and communication requests assigned to the Deepwater Fisheries Management team	
	<p>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.</p>	
	<p>Core:</p> <p>This management action refers to MPI's responsibility to:</p> <ul style="list-style-type: none"> • Provide quality advice and information to the Minister for Primary Industries • Maintain an open relationship with stakeholders and the public and respond to all OIA requests and government correspondence regarding deepwater fisheries issues in a timely manner. 	
	Action relates to all management objectives	

4	Protected Species Frameworks: Work collaboratively with the Department of Conservation on implementation of the New Zealand sea lion Threat Management Plan
	<p>The New Zealand sea lion is classified as 'Nationally Critical' due to annual pup counts declining by 50% between 1998 and 2009 at the largest breeding sites on the Auckland Islands. A range of threats have prevented recovery of the population. The New Zealand Sea Lion Threat Management Plan will prioritise management actions to enable the recovery of the sea lion population.⁶</p>
	<p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Work with DOC to finalise the New Zealand Sea Lion Threat Management Plan • Implement the actions in the New Zealand Sea Lion Threat Management Plan • Review and update the 5 year SQU6T and SBW 6I Operational Plans
	<p>Action relates to Management Objectives 1.6, 2.5, and 2.6</p>
5	National Plan Frameworks: Implement components of the National Plan of Action for Sharks (NPOA Sharks) relevant to deepwater fisheries
	<p>The NPOA Sharks (2013) sets out 6 goals and accompanying 5 year objectives to support the management of sharks. A qualitative risk assessment of all shark species was completed in December 2014, which informs prioritisation of management actions and research until the completion of a quantitative risk assessment (scheduled for the end of 2016).⁷ This Management Action is focused on achieving objectives of the NPOA Sharks, and addressing at-risk species identified in the risk assessment.⁸</p>
	<p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Support and contribute to strategies to meet non-commercial objectives of the NPOA • Monitor the regulatory framework that governs shark processing and landing, and review shark fin ratios • Support and contribute to the review of management categories for shark species and implement any recommendations for QMS introduction or protection as required • Implement the NPOA Sharks Implementation Plan across the fisheries management directorate in conjunction with DOC and MFAT • Support progression and delivery of the quantitative risk assessment and subsequent prioritisation • Continue to work with stakeholders to avoid captures of protected shark species in deepwater fisheries and maximise survival of captured protected shark species • Engage as required on the CMS Sharks MOU (Memorandum of Understanding on the Conservation of Migratory Sharks)⁹ and ensure that New Zealand's shark management is consistent with the Sharks MOU and its conservation plan
	<p>Action relates to Management Objectives 1.6, 2.4, 2.5, and 2.6</p>

⁶ Information on the sea lion TMP is available [here](http://www.doc.govt.nz/nature/native-animals/marine-mammals/seals/new-zealand-sea-lion/docs-work/new-zealand-sea-lion-threat-management-plan). (www.doc.govt.nz/nature/native-animals/marine-mammals/seals/new-zealand-sea-lion/docs-work/new-zealand-sea-lion-threat-management-plan)

⁷ The shark risk assessment is available [here](http://www.mpi.govt.nz/document-vault/9803). (www.mpi.govt.nz/document-vault/9803)

⁸ The NPOA Sharks is available [here](http://www.fish.govt.nz/en-nz/Environmental/Sharks/default.htm) (www.fish.govt.nz/en-nz/Environmental/Sharks/default.htm)

⁹ The CMS Sharks website is available [here](http://www.cms.int/sharks/en) (www.cms.int/sharks/en)

6	<p>Protected Species Frameworks – NPOA Seabirds: Work to achieve the five year practical, biological, research and development, and international objectives within deepwater fisheries</p> <p>The NPOA Seabirds was approved in 2013 and sets out the long term and five year objectives, relating to managing fisheries interactions with seabirds.</p> <p>The NPOA Seabirds is underpinned by a Level 2 Risk Assessment which has identified the seabird species considered to be most at risk of being adversely affected by commercial fishing in New Zealand. The risk assessment also identifies which fisheries pose the most risk to seabird species.¹⁰</p> <p>This Management Action outlines the priority seabird work areas for deepwater fisheries in 2016/17 guided by risk assessment outputs. Further detail on the objectives of the NPOA Seabirds and how the Deepwater Fisheries Team will support the achievement of those objectives may be found in Part 2B.</p> <p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Work across the Fisheries Management Directorate, and with key stakeholders, to monitor seabird performance measures including the capture rate reduction targets • Report annual performance to inform ongoing progress towards meeting the objectives of the NPOA Seabirds and species specific action plans. • Continue to implement and refine best practice mitigation measures across the deepwater fleet (with a focus on ling bottom longline and trawl net captures), to minimise interactions with seabirds and support achievement of the practical objectives in the NPOA Seabirds • Assist with the development and implementation of species and fisheries-specific action plans for seabird species considered to be at 'very high' or 'high' risk from fishing, to work towards achieving the biological risk objective in the NPOA Seabirds • Investigate and implement 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 • Continue to work with DWG to develop information and additional mitigation measures specific to 'very high' and 'high' risk seabird species to support achievement of the objectives in the NPOA-Seabirds <p>Action linked to Management Objective 2.5</p>
7	<p>Deepwater Research Planning: Finalise and agree research commitments for the 2017/18 year and determine future approach to research planning and procurement</p> <p>Contracts under the initial five year phase of the 10 Year Research Programme concluded at the end of the 2014/15 financial year. The research required to manage deepwater fisheries is currently being contracted on an annual basis based on the long-term planning done as part of the 10 Year Research Plan.¹¹</p> <p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Monitor 2016/17 research projects to ensure delivery remains on track to provide results that will support fisheries management. • Finalise and agree the deepwater fisheries research programme, including any proposals for industry-led research, for delivery during the 2017/18 financial year before December 2016. • Support Fisheries Management Directorate project to implement new approach to research planning and procurement, including a return to longer term contracting for routine trawl surveys. <p>Action linked to Management Objectives 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.2, 2.4, 2.5, 2.6, and 2.7</p>

¹⁰ The NPOA Seabirds can be accessed here (www.fish.govt.nz/en-nz/Environmental/Seabirds/default.htm) while the Level 2 Risk Assessment can be accessed here (www.mpi.govt.nz/document-vault/10523 and here (www.mpi.govt.nz/document-vault/10526).

¹¹ The 10 Year Research Programme can be accessed [here \(www.fish.govt.nz/en-nz/Deepwater/Fisheries+Research.htm\)](http://www.fish.govt.nz/en-nz/Deepwater/Fisheries+Research.htm).

8	Engagement: Ensure sufficient and appropriate engagement with tangata whenua and stakeholders		
	<p>Sufficient and appropriate engagement with tangata whenua and stakeholders is an integratal part of fisheries management. Engagement aims to ensure deepwater fisheries management information is available and accessible for all stakeholders and to provide opportunity for input and participation in the Deepwater Fisheries Planning process and the ongoing management of deepwater fisheries for tangata whenua.</p>		
	<p>Core:</p> <ul style="list-style-type: none"> • Ensure input and participation of tangata whenua and address issues as necessary. • Through the Environmental Engagement Forum, engage with stakeholders on environmental issues relating to management of deepwater fisheries. • Maintain an open and transparent management environment by ensuring that all management information is available and accessible on MPIs website for stakeholders and tangata whenua consideration.¹² 		
	<p>Action linked to Management Objectives 1.6 and 1.7</p>		
9	Deepwater Monitoring: Deepwater Observer Coverage/sampling requirements for 2016/17 and 2017/18		
	<p>Observer coverage of deepwater fisheries is planned by financial year and is based on biological sampling requirements and coverage targets. These targets are monitored throughout the year to ensure information is available to support stock assessments and to understand interactions with protected species. In addition, the process of requesting quarterly fishing plans from companies will continue. This enables more efficient and effective observer deployments in key fisheries.</p>		
	<table border="1"> <tr> <td data-bbox="248 1025 823 1480"> <p>Core:</p> <ul style="list-style-type: none"> • Monitor biological sampling throughout 2016/17 to ensure sampling targets are met • Develop the observer coverage plan for 2017/18 </td><td data-bbox="823 1025 1394 1480"> <p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Ensure observer briefing documents for Tier 1 species are up to date and that appropriate sampling is undertaken in accordance with biological targets • Identify what and how samples for Tier 2 species should be taken by observers. A Tier 2 workshop will be held (Management Action 16) • Develop coverage and sampling targets for each of the next five years to align with the deepwater fisheries research programme. </td></tr> </table>	<p>Core:</p> <ul style="list-style-type: none"> • Monitor biological sampling throughout 2016/17 to ensure sampling targets are met • Develop the observer coverage plan for 2017/18 	<p>Key Actions for 16/17:</p> <ul style="list-style-type: none"> • Ensure observer briefing documents for Tier 1 species are up to date and that appropriate sampling is undertaken in accordance with biological targets • Identify what and how samples for Tier 2 species should be taken by observers. A Tier 2 workshop will be held (Management Action 16) • Develop coverage and sampling targets for each of the next five years to align with the deepwater fisheries research programme.
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	<p>Action linked to Management Objectives 1.1, 1.3, 1.4, 1.5, and 2.5</p>		

¹² The MPI website can be accessed [here \(www.mpi.govt.nz\)](http://www.mpi.govt.nz).

10	Registry Services: Continue implementation of the Fisheries (Foreign Charter Vessels and Other Matters) Amendment Act 2014, the Foreign Charter Vessels ¹³ (FOV) registration process and risk based observer coverage		
	<p>The Deepwater Fisheries Management Team provides input to all advice papers relating to MPI's consent to the registration of foreign owned vessels operating in deepwater fisheries under section 103 of the Fisheries Act 1996. The FCV and Other Matters Amendment Act 2014 (FCV Act),¹⁴ amended the registration process for foreign owned vessels as well as expanding the range of observer functions. MPI coordinates the cross agency work programme for the implementation of requirements of the FCV Act and will continue to assist the MPI Registry Analyst and the Observer Programme with any changes to their respective processes and functions.</p>		
	<table border="1"> <tr> <td data-bbox="248 533 823 1032"> Core: <ul style="list-style-type: none"> Input to the foreign-owned vessel registration and risk profiling process in conjunction with MPI Compliance </td><td data-bbox="823 533 1394 1032"> Key Actions for 16/17: <ul style="list-style-type: none"> Work with the Ministry of Business, Innovation and Employment, and Maritime NZ, to implement operational changes to observer functions and coordinate information input to risk profiling and registration process Labour laws and maritime safety will continue to be monitored by an inter-agency risk management group Assist MPI Observer Services to implement the required operational changes to the observers' training and information collection process in relation to the expanded range of functions </td></tr> </table>	Core: <ul style="list-style-type: none"> Input to the foreign-owned vessel registration and risk profiling process in conjunction with MPI Compliance 	Key Actions for 16/17: <ul style="list-style-type: none"> Work with the Ministry of Business, Innovation and Employment, and Maritime NZ, to implement operational changes to observer functions and coordinate information input to risk profiling and registration process Labour laws and maritime safety will continue to be monitored by an inter-agency risk management group Assist MPI Observer Services to implement the required operational changes to the observers' training and information collection process in relation to the expanded range of functions
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	<p>Action linked to Management Objective 1.6</p>		
11	Deepwater Monitoring: Monitor adherence of the deepwater fleet to the range of measures in place to monitor and manage the effects of fishing activity on protected species and sharks		
	<p>A range of management measures, including some non-regulatory initiatives by DWG, are employed to monitor environmental interactions in deepwater fisheries and to reduce the risk of ongoing adverse effects on protected species populations. Measures are described in the following Operational Procedures or Plans (OPs):¹⁵</p> <ol style="list-style-type: none"> Marine Mammal Operational Procedure (DWG initiative) Vessel Management Plans – Seabirds (DWG initiative) Shark Operational Procedure (DWG initiative) Squid 6T/SBW 6I Operational Plan 		
	<table border="1"> <tr> <td data-bbox="248 1529 823 1897"> Core: <ul style="list-style-type: none"> Monitor adherence of the deepwater fleet to management measures through representative coverage by MPI Observers in key deepwater fisheries Monitor protected species interactions across all trips via MPI Observer debriefs and reporting of trigger points Report levels of adherence to Operational </td><td data-bbox="823 1529 1394 1897"> Key Actions for 16/17: <ul style="list-style-type: none"> Work with DWG to update materials and methods used to educate crew on Operational Procedures and Plans Develop new 5 year SQU6T and SBW6I Operational Plans for 2016-2020 (Management Action 4) Work with DWG to update the MPI audit sheet for vessel performance (Vessel Management Plan) </td></tr> </table>	Core: <ul style="list-style-type: none"> Monitor adherence of the deepwater fleet to management measures through representative coverage by MPI Observers in key deepwater fisheries Monitor protected species interactions across all trips via MPI Observer debriefs and reporting of trigger points Report levels of adherence to Operational 	Key Actions for 16/17: <ul style="list-style-type: none"> Work with DWG to update materials and methods used to educate crew on Operational Procedures and Plans Develop new 5 year SQU6T and SBW6I Operational Plans for 2016-2020 (Management Action 4) Work with DWG to update the MPI audit sheet for vessel performance (Vessel Management Plan)
Core: <ul style="list-style-type: none"> Monitor adherence of the deepwater fleet to management measures through representative coverage by MPI Observers in key deepwater fisheries Monitor protected species interactions across all trips via MPI Observer debriefs and reporting of trigger points Report levels of adherence to Operational 	Key Actions for 16/17: <ul style="list-style-type: none"> Work with DWG to update materials and methods used to educate crew on Operational Procedures and Plans Develop new 5 year SQU6T and SBW6I Operational Plans for 2016-2020 (Management Action 4) Work with DWG to update the MPI audit sheet for vessel performance (Vessel Management Plan) 		

¹³ The term FCV has been used historically, however, these vessels are more correctly identified as 'foreign-owned' and this acronym FOV will be used from now on.

¹⁴ This Amendment Act can be accessed [here \(www.legislation.co.nz/act/public/2014/0060/latest/DLM4794406.html\)](http://www.legislation.co.nz/act/public/2014/0060/latest/DLM4794406.html)

¹⁵ DWG operational documents can be accessed [here \(www.deepwatergroup.org/deepwater-group-operational-procedures-2015-16\)](http://www.deepwatergroup.org/deepwater-group-operational-procedures-2015-16)

	<p>Plans to stakeholders through the ARR.</p> <ul style="list-style-type: none"> Continue to support the training and outreach and awareness programme run by the DWG Environmental Liaison Officer (ELO) Reduce the use of generic shark reporting codes 	<ul style="list-style-type: none"> Work with MPI Science to set 'representative' observer coverage for protected species Support the expansion of the training and outreach programme for the deepwater bottom longline fleet Provide resources for the MPI Observer training programme through observer training and circulation of the updated shark ID guide (ENV2015-03)
	Action relates to Management Objectives 2.4, 2.5 and 1.6	
12	Deepwater Monitoring: Monitor adherence to non-regulatory measures in place to manage Tier 1 deepwater fishstocks at a sub-QMA scale	
	In conjunction with industry, MPI 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) have been created to reduce fishing mortality of juvenile hoki in important nursery areas.	
	<p>Core:</p> <ul style="list-style-type: none"> Continue auditing fleet adherence to sub-QMA catch limits and HMA requirements Report level of adherence to these measures to stakeholders through the ARR Respond as required where non-compliance with sub-QMA catch limits impacts the sustainability of the stock. 	
	Action linked to Management Objectives 1.1, 1.3 and 2.1	
13	Deepwater Monitoring – benthic invertebrates: Monitor and measure the nature and extent of benthic interactions with deepwater fishing activity	
	The approach to mitigating 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 via observer coverage. The trawl footprint is also monitored each year and the most recent information available is reported in the ARR. ¹⁶	
	<p>Core:</p> <ul style="list-style-type: none"> Monitor the trawl footprint of all deepwater species and report on any new areas trawled in the ARR Report in the ARR, the volume and species (where possible) of benthic species captured and consider management action if required 	<p>Key Actions for 2016/17:</p> <ul style="list-style-type: none"> Develop a management response to any significant change in the nature and extent of benthic interactions Work with DWG to improve industry reporting of benthic species Work with MPI Science to implement recommendations from benthic workshop (February 2015), project BEN2014-01 to???
	Action linked to Management Objective 2.7	

¹⁶ The most recent trawl footprint report is available [here \(www.fs.fish.govt.nz/Page.aspx?pk=113&dk=23483\)](http://www.fs.fish.govt.nz/Page.aspx?pk=113&dk=23483)

14	Fisheries Management Controls: Regulatory amendments		
	Progressing regulatory amendments requires: analysis of options, drafting the documents required for the different components of the regulatory process such as the PIRA (preliminary impact and risk assessment), consultation documents, RIS (regulatory impact statement), providing advice and decision document.		
	Key Actions 16/17: <ul style="list-style-type: none"> • Progress regulatory amendments as required 		
	Action linked to Management Objectives 1.1 and 1.2		
15	Fisheries Management/Sustainability Controls: Support existing approaches to market initiatives for New Zealand's deepwater seafood		
	The primary component of this management action is working with DWG to support the requirements of the Marine Stewardship Council (MSC) assessment and certification process. MPI supports industry to achieve and maintain certification of key deepwater fisheries, and progress performance of all Tier 1 deepwater fisheries towards meeting the MSC Standard. ¹⁷		
	<table border="1"> <tr> <td data-bbox="248 819 823 1173"> Core: <ul style="list-style-type: none"> • Provide information and support to assist with audits of certified fisheries (HOK, HAK, LIN, SBW, ORH) • Support the development and implementation of Fisheries Improvement Plans for fisheries not yet assessed (OEO, SQU, JMA) </td><td data-bbox="823 819 1394 1173"> Key Actions for 16/17: <ul style="list-style-type: none"> • Support re-assessment of certified fisheries in 2016/17. • Provide input and support to DWG as required to address the conditions of certification, including observer coverage, developing mitigation procedures and completing additional analyses in relation to seabird interactions in the ling longline fisheries </td></tr> </table>	Core: <ul style="list-style-type: none"> • Provide information and support to assist with audits of certified fisheries (HOK, HAK, LIN, SBW, ORH) • Support the development and implementation of Fisheries Improvement Plans for fisheries not yet assessed (OEO, SQU, JMA) 	Key Actions for 16/17: <ul style="list-style-type: none"> • Support re-assessment of certified fisheries in 2016/17. • Provide input and support to DWG as required to address the conditions of certification, including observer coverage, developing mitigation procedures and completing additional analyses in relation to seabird interactions in the ling longline fisheries
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	Action linked to Management Objectives 1.1 and 1.5		
16	Fisheries Sustainability Controls: Develop and implement specific harvest strategies for Tier 1 species and management approaches for low information stocks, which enable economically viable deepwater and middle-depth fisheries over the long-term		
	<p>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 will be undertaken which assesses a range of different management strategies, including those which incorporate economic aspects of the fishery.</p> <p>Management of Tier 2 species is often limited by the information available to inform decision making. The appropriate management approach for each stock will be informed from the recent series of fisheries characterisations and could include development of stock assessments, management procedures, or an agreed index of abundance.</p>		
	Actions for 16/17: <ul style="list-style-type: none"> • Run workshop to update monitoring and management approaches including data collection requirements for Tier 2 species. • Continue to assess the relevance of the default Harvest Strategy for deepwater species¹⁸ • Where necessary, develop and implement alternative harvest strategies and management approaches for deepwater species • Work with science team to update and publish working group reports and stock status 		

¹⁷ Information on the status of New Zealand's deepwater fisheries in the MSC programme can be found on DWG's website [here](http://www.deepwatergroup.org/certification) (www.deepwatergroup.org/certification)

¹⁸ The Harvest Strategy is available [here](http://www.fish.govt.nz/NR/rdonlyres/6EC9A6A7-6FC4-4273-86B7-57A51CB55348/0/harveststrategyfinalpdf.pdf) (www.fish.govt.nz/NR/rdonlyres/6EC9A6A7-6FC4-4273-86B7-57A51CB55348/0/harveststrategyfinalpdf.pdf)

	<p>information</p> <ul style="list-style-type: none"> • Work with DWG to minimise unwanted bycatch (for example kingfish in the jack mackerel fishery)
	Action linked to Management Objective 1.1, 1.2, 2.1

Management Actions delivered in conjunction with other teams within Fisheries Management and MPI

Table 3: Management Actions that are led by other teams within the Fisheries Management Directorate and within MPI

A	<p>Research Monitoring and Evaluation</p> <p>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)</p> <p>LEAD: Fisheries Management Science (Stock Assessment and Aquatic Environment)</p> <p>The Deepwater team will continue to be closely involved in the monitoring and evaluation of all research projects that relate to deepwater fisheries.</p> <p>Key tasks:</p> <ul style="list-style-type: none"> • Assist Fisheries Science to deliver outputs of all 16/17 research projects as listed in Tables 7-10 • Assist Fisheries Science to ensure that all science research used to support management of deepwater fisheries is assessed against the Research Standard¹⁹ <p>Action linked to Management Objectives 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.2, 2.4, 2.5, 2.6, and 2.7</p>
B	<p>Observer Coverage Delivery</p> <p>The MPI Observer Programme is responsible for delivering on the observer coverage targets set out in the final 2016/17 coverage plan and ensure that the required biological sampling targets are met.</p> <p>LEAD: Fisheries Management (Observer Programme)</p> <p>Observer coverage plans for all fisheries are prepared annually as are biological sampling targets and other observer tasks. The Deepwater Fisheries Management team will continue to work closely with the Observer Programme to ensure the necessary targets are achieved.</p> <p>Key Tasks:</p> <ul style="list-style-type: none"> • Assist the Observer Programme to deliver the 2016/17 Observer coverage plan by continuing to engage with industry to regularly provide quarterly fishing plans to the Observer Programme to facilitate placement of observers and delivery of the required representative levels of coverage • Ensure the Observer Programme is aware of, and that observers are adequately briefed on, the biological sampling targets for 2016/17 and any new requirements for the Observer Programme • Provide training to new recruits as part of the intake process to ensure that observers collect data and sample correctly • Request frequent reporting and updates of coverage levels against targets throughout the 2016/17 year <p>Action linked to Management Objectives 1.1, 1.3, 1.4, 1.5, and 2.5</p>

¹⁹ The Research Standard can be accessed [here \(www.fish.govt.nz/en-nz/Deepwater/Key+Documents.htm\)](http://www.fish.govt.nz/en-nz/Deepwater/Key+Documents.htm)

C	Cost Recovery Process Assist the Business and Financial Advice team with the cost recovery processes for 2016/17 and 2017/18 LEAD: Corporate Services (Cost Recovery)		
	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: the first involves undertaking a port price survey while the second consists of calculating the levies for each stock.		
	Key tasks: <ul style="list-style-type: none"> • Ensure the Deepwater FM team has input into the port price survey process administered by the Finance team • Ensure the cost recovery levy process recovers costs consistent with Deepwater observer coverage and research plans • Provide input, if required, into the cost recovery first principles review. 		
	Action linked to Management Objectives: various		
D	Compliance risk profiling and monitoring work LEAD: Compliance Directorate (Operations Branch) <p>Risk profiling by the MPI's Compliance Directorate for 2016/17 will focus on the ORH fisheries. Profiling has previously been undertaken for HOK and SBW and some follow-up work undertaken on these fisheries during 2015/16 will be completed in 2016/17.</p> <p>Compliance has developed a suite of performance indicators and performance targets for the deepwater sector. When performance targets for the deepwater fishing sector are not met, or when a risk profile identifies areas of compliance concern, appropriate management action will be taken.</p> <table border="1" data-bbox="236 1122 1394 1637"> <tr> <td data-bbox="236 1122 667 1637"> Core: <ul style="list-style-type: none"> • Ensure transparent and appropriate action is taken when compliance levels drop below agreed benchmarks or where compliance risks are identified • Continue to communicate results through Deepwater Compliance Group and to stakeholders through the ARR </td><td data-bbox="667 1122 1394 1637"> Key Actions for 16/17: <ul style="list-style-type: none"> • Engage with the Compliance Directorate throughout the ORH profiling process • Develop more informative benchmarks and indicators for deepwater fisheries for what? • Work with wider MPI and industry to implement any recommendations from previous risk profiling projects • Continue to monitor measures implemented as a result of previous risk profiling • Ensure the Deepwater Compliance Group meets at least once per year and as required • Develop a pilot programme to collect information on adherence to processed state definitions for selected species/states </td></tr> </table> <p>Action linked to Management Objective 1.5</p>	Core: <ul style="list-style-type: none"> • Ensure transparent and appropriate action is taken when compliance levels drop below agreed benchmarks or where compliance risks are identified • Continue to communicate results through Deepwater Compliance Group and to stakeholders through the ARR 	Key Actions for 16/17: <ul style="list-style-type: none"> • Engage with the Compliance Directorate throughout the ORH profiling process • Develop more informative benchmarks and indicators for deepwater fisheries for what? • Work with wider MPI and industry to implement any recommendations from previous risk profiling projects • Continue to monitor measures implemented as a result of previous risk profiling • Ensure the Deepwater Compliance Group meets at least once per year and as required • Develop a pilot programme to collect information on adherence to processed state definitions for selected species/states
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E	Input to work within wider MPI branches as required Assist relevant branches within MPI with review of policy developments and any necessary fisheries management information Lead: project dependent (see below) Key Actions for 16/17: MPI's Policy and Trade branch as well as other directorates with Regulation and Assurance, may from time to time need information, feedback, and review of working documents that relate to New Zealand fisheries.		

	<p>Contributions based on Directorate priorities may include:</p> <ul style="list-style-type: none"> • Fisheries Management System Review (Lead: MPI Fisheries & Aquaculture Policy) • EEZ Act – requirement to respond to statutory timeframes to inform marine consent decisions for Environmental Protection Authority (EPA) (Lead: MPI Fisheries & Aquaculture Policy) • Implementing Craft Risk Management Standard (Lead: MPI Biosecurity and Environment) • Monitor Health, Safety, and Environment Cross MPI Steering Group work programme (Lead: EPA, Ministry for the Environment (MFE)) • New Assurances work (Lead: MPI International Policy) • SmartMark project (Lead: MPI Strategy, Systems & Science) • In market initiatives for New Zealand seafood (Lead: MPI Policy and Trade) • Cost Recovery First Principles Review (Lead: MPI Cost Recovery Team) <p>Action linked to Management Objectives: various</p>
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Management Actions initiated by Industry

Table 4: Management actions delivered by the Deepwater Fisheries Management Team that are initiated by the fishing industry

Possible Actions for 2016/17:
<ul style="list-style-type: none"> • Respond to any industry 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 for deepwater species

Implementation of the National Plan of Action – Seabirds



The [NPOA Seabirds](#)²⁰ sets out objectives for five years to guide management of incidental seabird catch in New Zealand fisheries. The objectives are achieved through integration into MPI's annual and five year plans for fisheries, and this AOP sets the prioritised actions and services needed to meet these objectives for deepwater fisheries. The 5-year review of the NPOA will begin in 2017.

The NPOA Seabirds objectives address four key areas:

- i) a **practical objective** focused on continuous improvement to reduce and where practicable, eliminate the incidental mortality of seabirds

²⁰ 'The National Plan of Action – 2013, to reduce the incidental catch of seabirds in New Zealand Fisheries'.

- ii) a **biological risk objective** focused on ensuring seabird populations remain at or attain a favourable conservation status
- iii) a **research and development objective** focused on researching mitigation and observation methods, and seabird biology, demography and ecology and
- iv) an **international objective** focused on the implementation of best practice mitigation in other fishing fleets that overlap with New Zealand breeding seabirds

The NPOA seabirds employs a quantitative level 2 risk assessment framework²¹ that is used to generate quantitative risk scores for seabird species. It identifies the seabird species most at most risk from commercial fishing, as well as the fisheries that contribute the greatest risk to these seabirds. These are then prioritised for management action to reduce the overall risk that commercial fishing poses to seabirds over time.

The risk assessment calculates a risk score, which is defined as the ratio of annual potential fatalities (APFs; an estimate of the number of birds killed in fisheries each year) to the potential biological removals (PBR; which is the maximum number of seabirds, not including natural mortality, that may be removed from the population while allowing that population to reach or maintain its optimum sustainable population).

A seabird species is considered to be at ‘very high risk’ from fishing, if the ratio of the estimated mean APF to the mean PBR is higher than 1. A species is considered to be at ‘high risk’ from fishing if the ratio of APFs to the PBR is above 0.3. The most recently published assessment²², based on seabird bycatch and fisheries data to the end of the 2012–13 fishing year, identified seven seabird species that were at ‘very high’ risk from fishing. The risk assessment is an ongoing process of iterative improvement, and is updated as the methodology improves and when new data becomes available, meaning risk scores can change over time.

Deepwater fisheries that contribute more than 10% of the risk to ‘very high’ and ‘high risk’ seabird species according to the most recent iteration of the seabird risk assessment are listed below. Of these species, fully quantitative level 3 population modelling has been completed for Southern Buller’s and White-capped albatross. The outcomes of these assessments or species-specific population modelling (completed since the level 2 risk assessment was published) will be reviewed and considered as part of any management updates as appropriate.

VERY HIGH RISK

Salvin’s albatross

Deepwater fisheries contribute a total of 45% of the risk score for Salvin’s albatross with most of the contribution from middle depth fisheries, hoki, and scampi trawl, and small vessel ling bottom longline fisheries. Deepwater fisheries account for 1,564 of the total 3,480 APFs. The main uncertainty in the modelled risk is the number of captures in inshore trawl fisheries, the cryptic mortality multiplier, and the estimate of adult survival.

Southern Buller’s albatross

Deepwater fisheries contribute a total of 79% of the risk score for Southern Buller’s albatross with most of the contribution from hoki and squid trawl fisheries. Deepwater fisheries account for 606 of the total 791 APFs. A DOC research project is reviewing the taxonomy of the Northern Buller’s albatross. This project may resolve issues associated with accurate identification of Southern and Northern Buller’s albatrosses.

²¹ Richard et al. 2015 is the fourth implementation of this framework.

²² Richard, Y.; Abraham, E.R. (2015). Assessment of the risk of commercial fisheries to New Zealand seabirds, 2006–07 to 2012–13. New Zealand Aquatic Environment and Biodiversity Report 162.

Flesh-footed shearwater

Deepwater fisheries contribute a total of 16% of the risk score for Flesh-footed shearwater with most of the deepwater contribution from the scampi trawl fishery. Deepwater fisheries account for 123 of the total 696 APFs.

New Zealand White-capped albatross

Deepwater fisheries contribute a total of 42% of the risk score for White-capped albatross with most of the deepwater contribution from the middle depth and squid trawl fisheries. Deepwater fisheries account for 1,845 of the total 4,410 APFs.

HIGH RISK

Chatham Island albatross

Deepwater fisheries contribute a total of 95% of the risk score for Chatham Island albatross with most of the deepwater contribution from the small vessel (< 28m) ling bottom longline fishery. Deepwater fisheries account for 106 of the total 127 APFs.

Westland petrel

Deepwater fisheries contribute a total of 28% of the risk score for Westland petrel with most of the deepwater contribution from the hoki trawl fishery. Deepwater fisheries account for 8 of the total 88 APFs.

Campbell black-browed albatross

Deepwater fisheries contribute a total of 22% of the risk score for Campbell black-browed albatross with most of the deepwater contribution coming from trawl fisheries. Deepwater fisheries account for 48 of the total 213 APFs.

CAPTURE RATE REDUCTION TARGETS

Capture rate reduction targets provide a gauge against which the Practical Objective of the NPOA-Seabirds can be measured. 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 (Table 6). These targets would then be compared to a baseline capture rate, which has been defined as the average estimated capture rate across the three year block leading up to the implementation of the NPOA Seabirds with at least 10% observer coverage and a CV 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.

The calculation steps to determine the baseline capture rate, the capture rate reduction targets, and proxy targets for deepwater fisheries are outlined in Table 6. The cells shaded red indicate the step at which the above criteria has not been met and fisheries highlighted in yellow indicate that quantitative capture rate reductions were able to be calculated. The service provider responsible for the enumeration of seabird captures calculated what a 'statistically significant' decrease in capture rate would look like compared to the baseline capture rate. The targets were set for the end of the 5 year period of the NPOA Seabirds and are measured based on a 3 year rolling average. For fisheries where the above criteria are not met, proxy targets have been developed.

Deepwater Management Approach – Seabirds

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

- mandatory use of seabird scaring devices and implementation of seabird mitigation measures²³
- implementation of best practice seabird mitigation measures through vessel-specific Vessel Management Plans (VMPs)²⁴
- an annual crew training and vessel outreach programme
- ongoing exploration of new or improved mitigation methods, and
- MPI observers monitoring vessel adherence to VMPs

VMPs outline a set of operational procedures that are specific to each vessel. 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 2016/17, actions in deepwater fisheries to support the NPOA Seabirds, will be focused on continuing to improve and manage the VMP process, including the expansion of operating procedures regarding best practice, including regulations, and seabird training sessions for crew on bottom longline vessels. Table 7 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. These measures will contribute to a reduction over time in the capture rate of seabirds from fishing activity, and contribute to achieving the practical and biological objectives of the NPOA Seabirds.

²³ Regulations require trawlers over 28m overall length to deploy a seabird scaring device and bottom longliners to deploy streamer (tori) lines, restrict offal and fish discharge and either set at night or use an approved line weighting regime See [here](#) for links to these regulations.

²⁴ Information on VMPs is available on the DWG website [here](#).

Table 6: Deepwater Capture Rate Reduction Targets

Baseline capture rate								
Fishery	Baseline observer coverage	Annual CV of captures	Observed captures	Estimated captures	Capture rate/100 tows/sets	Meaningful target?	'Target' rate/100 tows (reduction)	Suggested target/proxy
SBW trawl	>10%	0.0004-0.27	4-20	6-20	1.1	No		Continue to monitor and report, target is no significant increase (based on 3-yr rolling averages)
SQU trawl	>10%	0.039-0.134	>100	>300	14.0	Yes	12.0 (14%)	Statistically significant decrease in rate (based on 3-yr rolling average)
JMA trawl	>10%	0.037-0.421	7-33	10-34	1.0	No		Continue to monitor and report, target is no significant increase (based on 3-yr rolling averages)
SCI trawl	<10%					No		Observer coverage has been >10% twice in the most recent 4 years. A calculation of the overall observer coverage indicates that 8.4% of tows have been observed in the last five years, this is not considered sufficient to provide a robust baseline. Proxy target is to have VMPs in place on all vessels, ELO visit all scampi vessels, and a target of 15% observer coverage be set.
Deepwater trawl ²⁵	>10%	0.392-0.407	2	16-24	0.6	No		Continue to monitor and report, target is no significant increase (based on 3-yr rolling averages)
Middle depths trawl (>28 m) ²⁶	>10%	0.065-0.187	>100	>200	2.7	Yes	2.3 (15%)	Statistically significant decrease in rate (based on 3-yr rolling averages)
Large vessel BLL	>10% 09/10-11/12	0.32-0.451	4-27	>100	1.0	No		Continue to monitor and report, target is no significant increase (based on 3-yr rolling averages)
Small vessel LIN BLL	<10%					No		Work with industry to implement vessel-specific seabird management plans including the use of best practice mitigation across this fleet. Liaison officers will also provide seabird training sessions to crew. And a target of 15% of effort observed will be set.

²⁵ Deepwater trawl includes orange roughy, alfonsino and oreo species.

²⁶ Middle depth trawl includes trawl effort for all species other than those with specific categories. This includes hoki, hake and ling and a number of tier 2 species.

Table 7: NPOA Seabirds Services planned for Deepwater Fisheries Management during 2016/17

Five- Year Objectives :	Planned Deepwater Services for 2016/17
Practical objectives	
<p>a) All New Zealand commercial fishing vessels are shown to be implementing current best practice mitigation measures relevant to their area and fishery</p> <p>b) Recreational and customary non-commercial fishers understand the risks their fishing activities pose to seabirds, relevant organisations support and promote the use of best practice mitigation measures and it is the cultural norm in New Zealand to use such measures, and</p> <p>c) Capture rates are reducing in all New Zealand fisheries in accordance with reduction targets in the relevant planning documents for those fisheries (3 year rolling average)</p>	<ul style="list-style-type: none"> • Work with the Deepwater Environmental Liaison Officer to continually improve the Vessel Management Plan (VMP) process and apply it across the wider deepwater fleet • Continue to monitor adherence to VMPs, as well as review VMPs and education programmes to ensure all measures are as effective as possible. The goal is: <ol style="list-style-type: none"> I. 100% of observed trips have audited VMP II. 95% of observers debriefed by MPI Deepwater team III. Follow up all non-adherence • Work across the FM Directorate and with key stakeholders to monitor the targets already developed and report on appropriate seabird performance measures including capture rate reduction targets • Increase observer coverage to further monitor seabird interactions in the ling bottom longline and scampi trawl fishery to reduce uncertainty in the risk assessment.
Biological risk objective	
<p>a) The level of mortality of seabirds in New Zealand commercial fisheries is reduced so that species currently categorised as 'very high' or 'high risk' from fishing, move to a lower category of risk</p>	<ul style="list-style-type: none"> • Implement actions from the Black petrel and Flesh-footed shearwater Action Plan in the scampi fishery including: <ol style="list-style-type: none"> I. Ongoing auditing and monitoring of adherence to VMPs II. Monitoring of effectiveness of current mitigation measures detailed in VMPs • Assist with the development and implementation of species and fisheries-specific action plans for seabird species considered to be at 'very high' or 'high risk' from fishing as follows: <ol style="list-style-type: none"> I. Salvin's, Northern and Southern Buller's, and White-capped albatross plan II. Chatham Island, Campbell black-browed albatross and Westland petrel plan • Improve awareness among vessel operators of times and areas where the risk of seabird interactions is increased.
Research and development objectives	
<p>a) Where existing mitigation measures are impractical or of limited effectiveness in reducing the mortality of seabirds, new or improved mitigation measures have been sought and where identified are under development for all priority fisheries or fishing methods</p> <p>b) New observation and monitoring methods, especially in relation to poorly observed fisheries, are researched, developed and implemented; and</p> <p>c) Programmes of research to improve understanding of, and ability to mitigate, seabird incidental mortality for at risk species are underway and key projects for very high risk species have been completed</p>	<ul style="list-style-type: none"> • Investigate and implement any additional practicable and effective measures to minimise the risk of net captures based on outcomes of contracted project characterising net captures and potential contributing factors • Continue to engage in DOC and MPI research planning and review processes • Continue to engage in the Seabird Advisory Group

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

The NPOA Sharks 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 until the completion of a quantitative risk assessment.

Actions across the Fisheries Management Directorate are focused on:

- reviewing appropriate management categories and protection status,
- based on the outcomes of the risk assessment, contracting research to continue filling information gaps about higher risk species,
- continued monitoring of the implementation of the shark finning ban, and
- working with fishers to ensure best practice handling and mitigation measures are employed where appropriate.

Part 2B: Service requirements to support deepwater fisheries management during the 2016/17 financial year

The Deepwater Fisheries Management team will work and engage effectively with other teams across the Fisheries Management Directorate, across MPI, and with Maori and key external organisations.

FISHERIES MANAGEMENT

MPI's Fisheries Management Directorate is responsible for the operational management of New Zealand's fisheries under the Fisheries Act 1996. Fisheries are managed within legislative requirements to provide for utilisation while ensuring sustainability. All Fisheries business groups work together on strategic matters and key projects that cross over the different portfolios in 2016/17. The Offshore Group is part of the MPI Regulation & Assurance Branch (Table 5) and consists of two teams the Deepwater Fisheries Management Team and the Highly Migratory Species Team. The Highly Migratory Species Team is responsible for the management of all highly migratory stocks and the management of the environmental effects of fishing for these species. They liaise with MPI's International Fisheries Policy Team and MFAT to represent New Zealand interests at international meetings and help develop fisheries management capacity in Pacific Island countries.



REGULATION & ASSURANCE (R&A)

Table 5: Business Groups, and teams within MPI's R&A Branch through which fisheries management services will be delivered

R&A Directorates	Team
Fisheries Management	Offshore Fisheries – Deepwater Fisheries and Highly Migratory Fisheries
	Inshore Fisheries – Inshore Fisheries and Recreational Fisheries
	Customary Fisheries and Spatial Allocations
	Fisheries Science - Stock Assessment and Aquatic Environment
	Fisheries Monitoring - Data Management and Observer Services
Branch Planning, Systems, and Support	
Spatial, Forestry, and Land Management Directorate	

The Deepwater Fisheries Management Team works closely with the Inshore Fisheries Team who are responsible for managing inshore fishstocks which include shellfish, inshore finfish, freshwater and marine plant resources, and the effects of inshore fisheries on the aquatic environment. As detailed above, the Deepwater team will lead on all identified Management Actions listed in Table 2 and contribute to delivery of all actions specified in Table 3. The five key cross directorate projects during 2016/17 are listed, followed by further detail on specific fisheries services that relate to key projects:

- i. Annual reviews of sustainability controls and management settings (April and October)
- ii. Implementation of the NPOA Seabirds (see below)
- iii. Implementation of the NPOA Sharks
- iv. Coordination of regulatory amendments
- v. Developing management approaches for low information stocks
- vi. Engagement with tangata whenua.

MPI CUSTOMARY FISHERIES AND SPATIAL ALLOCATIONS TEAM

The core services that the Customary Fisheries and Spatial Allocations Team provide for the Deepwater Fisheries Team is advice and support to fulfil section 12 obligations, particularly during the development and implementation of Iwi Fisheries Plans and Forum Fisheries Plans, to ensure that Maori 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 include:

- Input and participation into the development of proposals for change
- Review of consultation and decision documents produced by the Deepwater Fisheries Management team as part of each sustainability round
- Ensuring sufficient and appropriate engagement with tangata whenua by providing the opportunity for Iwi and Forum Fisheries to discuss deepwater consultations.

The Spatial Allocations Team provides:

- Analysis/advice on applications made regarding the use and management of marine space and
- the assessment of applications for special permits.

SCIENCE TEAMS (STOCK ASSESSMENT & AQUATIC ENVIRONMENT)

The Science teams within the Fisheries Management Directorate provide expert advice and are responsible for evaluating and delivering science research that meets the Science and Research Information Standard for Fisheries (Research Standard). For more information on the Research Standard's ranking system, visit MPI's fisheries [website](#).

The key actions and core services that the Deepwater team will work on with the Science teams during 2016/17 will be:

- i. Delivery of deepwater research services and incorporation where necessary into management actions and services – research projects scheduled for delivery during the 2016/17 financial year are provided in Tables 7 – 10 below
- ii. Maintenance and updating of the longer term deepwater research plan
- iii. Development and implementation of new research planning and procurement processes including a return to longer term contracting.
- iv. Planning and prioritisation of the 2017/18 deepwater fisheries research programme including industry-led surveys, to be agreed before 31 December 2016.
- v. Implementation of protected species frameworks, including the NPOA Seabirds, NPOA Sharks and the New Zealand sea lion Threat Management Plan
- vi. Research Evaluation via the Science Working Group processes
- vii. Provision of science advice and review to ensure all science information used in management advice meets or exceeds the requirements of the Science Research and Information Standard
- viii. Outlining what observer sampling is required
- ix. Outlining the management approaches required for Tier 2 deepwater species.

Research services scheduled for 2016/17 financial year

The following proposed research plan (Table 8) is compiled from year two of the second five-year block of the 10-Year Programme previously consulted on, and incorporates some changes resulting from discussions.

Tables 9 and 10 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. The Aquatic Environment and Biodiversity research was proposed and consulted on within those forums.

Table 8: Proposed Deepwater Fisheries Research Plan for 2016/17

Project code	Title
DEE2016-01	Sub-Antarctic multi-species trawl survey
DEE2016-02	SBW Campbell acoustic survey
DEE2016-03	West Coast South Island multi-species trawl survey
DEE2016-04	Scampi 3 trawl/photographic survey
DEE2016-05	SBW Bounties acoustic survey (data analysis)
DEE2016-06	Smooth oreo 4 (SSO 4) acoustic survey
DEE2016-08	Hoki stock assessment
DEE2016-09	Hake stock assessments (HAK 4, 7)
DEE2016-10	Ling stock assessment (LIN 7)
DEE2016-11	Southern blue whiting stock assessments (SBW 6B, 6I)
DEE2016-12	Scampi – Auckland Islands (SCI 6A)
DEE2016-13	Low information stock assessment (EMA 7)
DEE2016-16	Silver warehou characterisation (SWA 3, 4)
DEE2016-19	Hoki shed sampling
DEE2016-20	Ageing of selected deepwater species
DEE2016-21	Orange roughy stock assessment (ORH 3B NWR, ESCR)
DAE2016-01	Fish bycatch – SQU & SCI
DAE2016-05	Trawl footprint – annual update to 2015/16
DAE2016-06	Taxonomic ID of benthic samples

Table 9: Ongoing Aquatic Environment research projects that are relevant to deepwater fisheries

Project code	Title
BEN2007-01	Soft-sediment gradients and the effects of fishing
PRO2012-02	Assessment of the risk to marine mammal populations from NZ fisheries
PRO2012-10	Level 3 risk assessment for Antipodean albatross
PRO2013-01	Estimating the nature and extent of incidental captures of seabirds, marine mammals and turtles in New Zealand commercial fisheries (3 year project)
PRO2013-13	Southern Hemisphere seabird risk assessment (2 years)
PRO2013-17	Quantitative modelling of Southern Buller's albatross
INS2014-01	Shark low information abundance indicators (post qualitative RA)
ENV2014-01	NPOA-Sharks: comprehensive risk assessment Spatial overlap of commercial fisheries with fish and shark deepwater species
ENV2014-02	NPOA Sharks; age and growth of selected high-risk species (post qualitative RA)
ENV2014-09	Spatial decision support tools for multi-use and cumulative effects
PRO2014-01	Improving information on the distribution of seabirds and marine mammals
PRO2014-05	Reducing uncertainty in biological components of the risk assessments for at-risk seabird species Research into at-risk seabirds (black petrel)
PRO2014-06	NZ Seabird risk assessment - update of level-2 seabird risk assessment assessment (includes two iterations, 14/15 and 15/16 data)
BEN2014-01	Risk assessment for benthic habitats, biodiversity, and production for data rich areas (2 year)
BEN2014-02	Seamount recovery -monitoring recovery of benthic fauna on the Graveyard complex
SEA2014-12	NZ sea lion stable isotope analysis
SEA2014-16	Observer coverage power analysis for NPOA seabirds
SEA2014-23	An assessment of thermal aerial survey techniques on fur seals
SEA2014-24	Revision of risk assessment methodology
SEA2014-25	Revision of black petrel distribution
PRO2015-01	Improving estimates of cryptic mortality for use in seabird risk assessments
PRO2015-03	Improving information on out-of-zone bycatch of New Zealand seabirds
ENV2015-01	Updating tools for at-sea fish identification
ENV2015-03	Addressing key information gaps identified by the shark qualitative risk assessment Better identification of deepwater sharks
ENV2015-04	Estimation of incidental captures, fish bycatch and discards using electronic monitoring
DAE2015-03	Exploring the influence of changes in sea lion diet on pup survival using fatty acid signatures

Table 10: Ongoing biodiversity research that relates to the deepwater fisheries

Project code	Title
ZBD2015-02	Biogenic habitat and fish association
ZBD2015-03	Linking primary and secondary productivity
ZBD2015-04	Organic carbon recycling in deepwater
ZBD2014-09	Climate change risks and opportunities
ZBD2008/11	Predicting and measuring the effects of ocean acidification on plankton biodiversity and productivity (five year programme linked to MBIE research)
ZBD2012/03	Benthic Survey Central Chatham Rise (Ocean Survey 20/20)
ZBD2013-05	Ocean acidification experimental work
ZBD2014-01	BPA biodiversity
ZBD2014-03	Sub-lethal effects of environment change on fish populations
ZBD2014-10	BPA biodiversity
ZBD2014-04	Isoscapes for trophic studies
ZBD2014-05	Ocean acidification
ZBD2014-06	Macroalgae mapping and potential as national scale indicators
ZBD2016-01	Bryozoan taxonomy (indigenous fauna)
ZBD2016-03	Linking primary and secondary productivity
ZBD2016-04	Organic carbon recycling in deepwater
ZBD2016-09	Quantifying the role of biodiversity and habitat types in fisheries productivity

Fisheries Monitoring

The Deepwater Fisheries Management Team work closely with the Fisheries Monitoring Team which is split into:

1. Fisheries Data Management and
2. Observer Services

Interactions include requests for data, observer coverage, biological sampling requests and monitoring of the environmental effects of fishing. MPI 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 Fisheries Management Team will work on with the Observer Programme during 2016/17 will be:

- Training/briefing (where required) and debriefing observers allocated to deepwater trips
- Planning the 2017/18 annual observer coverage requirements for the deepwater fisheries – the 2016/17 Deepwater Observer Coverage Plan is set out below
- Updating biological sampling targets and observer tasking (the biological sampling requirements for deepwater fisheries are set out in Table 10)
- Continue the pilot programme to monitor adherence to processed state definitions (dressed orange roughy, and dressed jack mackerel)
- Monitoring progress towards sampling targets during the year.

2016/17 DEEPWATER OBSERVER COVERAGE PLAN

Biological sampling and environmental monitoring is carried out by the MPI 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 bycatch species
- To assess fishery performance against environmental benchmarks as available
- To enable more timely responses to sustainability and environmental impact issues

Due to recommendations from the ‘Inquiry into the Use and Operation of Foreign Charter Vessels’ (FCVs) regarding vessel safety, employment conditions and compliance, MPI has committed to full observer coverage on all FCVs (now referred to as foreign-owned vessels (FOVs)) as of 1 October 2012.²⁷ This has consequently affected the distribution of observer coverage since the 2012/13 financial year. Despite this change, MPI along with DOC, is working to ensure that fisheries management needs are met despite the requirement for full observer coverage on FOVs. The principles and methods used to compile the Deepwater Observer Coverage Plan and Sampling Requirements, shown in Tables 11 and 12, is included below the tables.

Table 11: Deepwater fisheries observer plan for 2016/17

Fishery complex	Target stocks covered	Estimated FOV days	Domestic days (discretionary)	Total days planned	MPI/DOC cost recovery %
North Island Deepwater	ORH 1, ORH2A, ORH 2B, ORH 3A BYX2 CDL2	0	170	170	90/10
Chatham Rise Deepwater	ORH3B OEO3A, OEO4 BYX3	0	270	270	90/10
Sub-Antarctic Deepwater	ORH3B OEO1, OEO6	0	60	60	90/10
West Coast Deepwater	ORH7A	0	70	70	90/10
Hoki and Middle Depth trawl fisheries:					
West Coast North Island	JMA7 EMA7 BAR7	700	35	735	85/15
West Coast SI (FMA7)	HOK1 HAK7 LIN7 SWA1	1,020	180	1,440	85/15
WCSI HOK (Inside the line)	HOK1	0	100	100	85/15
Cook Strait	HOK1	0	100	100	85/15

²⁷ Of the 27 FCVs/FOVs that operated at the time of the Inquiry 16 have left New Zealand waters and 11 remain in New Zealand. Of the 11 vessels remaining, 10 are foreign-owned but have reflagged, and the other is now New Zealand-owned.

Fishery complex	Target stocks covered	Estimated FOV days	Domestic days (discretionary)	Total days planned	MPI/DOC cost recovery %
Chatham Rise Middle depths (FMA3/FMA4)	HOK1 HAK1, HAK4 LIN3, LIN4 SWA3, SWA4 JMA3 BAR1, BAR4	350	400	750	85/15
Sub-Antarctic Middle depths (excl. SQU/SBW) (FMA5/FMA6)	HOK1 SWA4 WWA5B BAR5 JMA3	640	250	890	85/15
Southern blue whiting	SBW All	400	110	510	80/20
Squid	SQU1T SQU6T	950	80	1,030	80/20
Squid jig					
Squid jig	SQU1J	0	0	0	100/0
Deepwater bottom longline fisheries					
Bottom longline	LIN3, LIN4, LIN5, LIN6, LIN7	0	450	450	85/15
Shellfish					
Scampi	SCI (all)	0	450	450	80/20
Total		4,060	2,725	6,785²⁸	

²⁸ Does not include 60 days for vessel specific conversion factor testing or 979 days for high/medium risk vessels.

Table 12: Biological sampling requirements for deepwater fisheries for 2016/17

Species	FMA/stock		LF target	Otolith target	Area	Months	Obs plan 'Fishery complex'
Hoki	Sub-Antarctic		400	2000	Sub-Antarctic	Year-round (except July-Aug)	Sub-Ant Mid-depths
	Chatham Rise		400	2000	Chatham Rise	Year-round (except Jul-Aug)	Chatham Rise Mid-depths
	WCSI		400	2000	WCSI	May-September	WCSI and inside line
	Cook Strait		200	2000	Cook Strait	Year-round	Cook Strait HOK
Orange roughy	ORH 1		50/area		ORH 1	Year-round	North Island deepwater
	ORH 2A North		50	300	ORH 2A North	Year-round	ORH MEC & ECNI North Island deepwater
	ORH MEC		50/area	Survey only	ORH MEC	Year-round	ORH MEC & ECNI North Island deepwater
	ORH NW Rise		100	300	Northwest Rise	Year-round	Chatham Rise DW
	ORH E&S Rise		100	300	East & South Rise	Year-round	Chatham Rise DW
	ORH 7A + WB		100	300	ORH 7A	Year-round	West Coast deepwater
	ORH sub-Antarctic		100		Sub-Ant ORH	Year-round	Sub-Ant DW
Southern blue whiting	SBW 6I		100	1200	Campbell Island	August-September	Southern blue whiting
	SBW 6B		50	1200	Bounties	August-September	Sub-Ant Mid-depths Southern blue whiting
	SBW 6R/6A		50	800	Pukaki/Aucklands	September	Sub-Ant Mid-depths Southern blue whiting
Hake	HAK 1		200	1,100 (500/sex)	Sub-Ant	October-February	Sub-Ant Mid depths
	HAK 4		200	1,100 (500/sex)	Memoo Bank/CR	September-February	Chatham Rise Mid-depths
	HAK 7		200	1,100 (500/sex)	WCSI	June – September	WCSI and inside line
Ling	Cook Strait		100	900 (400/sex)	Cook Strait	June-September	Cook Strait HOK
	LIN 3 & 4	Line	50	1,100 (500/sex)	Chatham Rise	June-October	Bottom longline

Species		FMA/stock		LF target	Otolith target	Area	Months	Obs plan 'Fishery complex'
			Trawl	100	900 (400/sex)	Chatham Rise	October-May	Chatham Rise Mid-depths
		LIN 5 & 6	Line	50	1,100 (500/sex)	Puysegur	October-December (spawning)	Bottom longline
			Trawl	100	1,100 (500/sex)	Sub-Ant	September-April	Sub-Ant Mid-depths
		LIN 7			200	1,100 (500/sex)	SA 34, 35	June-October
Oreos	Black	BOE 3A		200	300	ECSI	October-March	Chatham Rise DW
		BOE 4		100	-	Chatham Rise	October-March	Chatham Rise DW
	Smooth	SSO 3A		100	-	ECSI	October-March	Chatham Rise DW
		SSO 4		200	300	Chatham Rise	October-March	Chatham Rise DW
		SSO 6	Bounty	50	-	Bounties	Year-round	Sub-Ant DW
			Pukaki	50		Pukaki	Year-round	
Jack mackerel	<i>T. declivis</i>		JMD 3	50	900 (400/sex)	ECSI	January-April	Chatham Rise Mid-depths
			JMD 7	400	900 (400/sex)	WCNI	October-July	WCNI
	<i>T. murphyi</i>		JMM 3	100	700 (300/sex)	ECSI/Southland	January-April	Chatham Rise / Sub-Ant Mid-depths
			JMM 7	100	700 (300/sex)	WCNI	October-July	WCNI
	<i>T. novaezelandiae</i>		JMN 3	30	0		January-April	
			JMN 7	400	900 (400/sex)	WCNI	October-July	WCNI
Squid		SQU 1T		400	N/A	Sub-Ant	January-June	Squid
		SQU 6T		400		Sub-Ant	January-June	Squid
Scampi		SCI 1		50	N/A	Auckland/Bay of Plenty	All year	Scampi
		SCI 2		50		Hawkes Bay/Wairarapa	September-April	Scampi
		SCI 3/4A		50		Chatham Rise	All year	Scampi

Species	FMA/stock	LF target	Otolith target	Area	Months	Obs plan 'Fishery complex'
	SCI 6A	50		Auckland Island	February-November	Scampi
Tier 2 species						
Barracouta	BAR 4 (CR)	100	900 (400/sex)	Chatham Islands	October-March	Chatham Rise Mid-depths
	BAR 5 (Southland)	100	900 (400/sex)	Southland	January-May	Sub-Ant Mid-depths
	BAR 7 (WCNI/WCSI)	100	900 (400/sex)	WCNI/WCSI	October-May	West Coast North Island
Frostfish	FRO 7-9 (WCNI/WCSI)	100	600	WCNI	October-May	West Coast North Island
Giant spider crab	GSC 3 (ECSI)	40	N/a	ECSI	January-May	Chatham Rise Mid-depths
	GSC 5 (Southland)	60	N/a	Southland	January-May	Sub-Ant Mid-depths
Spiny dogfish	SPD 4 (CR)	30	N/a	CR	October-May	Chatham Rise Mid-depths
	SPD 5 (Southland)	60	N/a	Southland	All year	Sub-Ant Mid-depths

Tier 2 species that have no specific sampling requirements for the 2016/17 year have been removed from the table.

PRINCIPLES AND METHODS USED TO DETERMINE THE OBSERVER COVERAGE PLAN FOR 2016/17

Biological sampling requirements (numbers of LF samples and otoliths) were determined based primarily on the 10 Year Research Programme for all Tier 1 and the selected Tier 2 middle depth and deepwater species. These species and fishstocks were then grouped by area to determine the ‘fishery complexes’ to be used for observer coverage planning.

The number of observer days that would be necessary to achieve the biological sampling requirements were calculated using:

- The number of fisher-reported target tows for Tier 1 species undertaken in each area during the 2013/14 fishing year
- The number of observed target tows for Tier 1 species undertaken in each area during the 2013/14 fishing year
- The number of LF samples undertaken / otoliths collected by observers for each Tier 1 species / area combination during the 2013/14 fishing year
- The sea day tracking sheet (used by the observer programme uses to track and report coverage during a year)

In short, an estimate of the number of samples collected per day by observers was calculated together with the number of tows observed by each observer day. From this, an estimate of the number of observer days it would take to achieve the sampling requirements was calculated.

In some cases the estimates used to calculate days were based on updated sampling protocols that were provided to observers prior to the 2015/16 financial year.

Foreign charter vessels (FCVs) have been required to carry at least one observer since the start of the 2012/13 fishing year. The requirement for FCVs/FOVs (foreign-owned vessels) to become New Zealand flagged, became mandatory from 1 May 2016, prior to the start of the 2016/17 financial year. Although they are now New Zealand flagged, some 10 vessels remain foreign owned and will therefore still be required to carry an observer at all times. Based on the number of foreign-owned, New Zealand-flagged vessels likely to be operating after 1 May 2016, an estimate of the required number of observer days for each fishery complex was calculated. Training trips for new observers was included in these calculations.

Many fisheries have requirements or an interim target of a proportion of effort that should be observed, primarily for robust enumeration of protected species interactions and to provide a high level of confidence in fishers’ at-sea compliance with regulations. MPI 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%. For each fishery complex, effort from the 2014/15 fishing year was used to calculate the number of days that would likely be required to meet the coverage target.

The fishery complexes that have a coverage target of less than 30% are the Cook Strait and West Coast South Island “inside the line”²⁹ hoki fisheries, the scampi fisheries and the small vessel ling bottom longline fisheries. In the case of the two hoki fisheries, these are both supported by on-shore factory sampling. Some coverage is required to monitor protected species interactions, primarily fur seals.

The scampi and ling bottom longline fisheries have had low or patchy levels of observer coverage for several years, primarily as a result of other fisheries having a higher priority for the limited number of observer days available. MPI has proposed that these fisheries have approximately 25% coverage based on 2014/15 fishing effort.

Therefore, for each fishery complex, two ‘target’ number of days were produced, the first based on biological sampling requirements and the second based on coverage levels. These two numbers were compared, and the higher of the two used to calculate the required number of days. This total is shown in the “Required days to meet sampling/coverage target” column in the table below.

²⁹ This refers to regulations prohibiting vessels >46m from operating within specific areas.

After the initial calculations were made, coverage requirements across all fisheries (deepwater, inshore, HMS and other categories) were assessed against the observer programme's ability capacity and then prioritised.³⁰

Table 13: Summary of information used

Fishery complex	Required days to meet sampling/ coverage target	2016/17 planned days	Rationale
Deepwater trawl fisheries:			
North Island Deepwater	170	170	Based on an estimate of 3 LF samples taken each day by observers and the sampling requirements to support assessments of these fisheries, it is estimated that 140 days are required. This is based on 50 samples in each of 6 areas (four for ORH1, MEC, 2A North, and BYX). 170 days would provide for around 40% coverage based on 2014/15 effort
Chatham Rise Deepwater	270	270	MSC certified fisheries have a target of 30% of tows observed each fishing year. Note that it is estimated that 200 days are required to meet sampling requirements. Retaining the 2015/16 coverage target of 270 days would provide for around 60% coverage of these fisheries (noting the reduction in the OEO4 TACC)
Sub-Antarctic Deepwater	70	60	Based on sampling requirements to collect 100 LF samples in ORH fisheries, and 50 LF samples in each OEO fishery, and an estimate of 3 LF samples taken per day, it is estimated that 70 days are required. However, 60 days would provide for 100% coverage based on 2014/15 effort
West Coast Deepwater	70	70	Sampling requirements for this fishery are 100 LF samples. Based on an estimate that 2 LF samples may be taken each observer day, it is estimated that 50 days are required. 70 days however would provide for approximately 40% coverage based on 2014/15 effort.
Hoki & Middle Depth trawl fisheries:			
West Coast North Island	735	735	Sampling requirements for this fishery include 400 LF samples for each of the two main JMA species. Observers sample once per day, but each sample is likely to contain both species, it is estimated that 400 days are needed. This fishery is mostly fished by FCVs, although roughly 10% of the catch has been taken by domestic vessel in recent years. Based on an estimate of 700 FCV days likely to be required on FCVs in 2016/17 and a need to sample 35 days from domestic vessels, the target for the fishery is 735 days.
West Coast SI (FMA7)	1,200	1,200	Sampling requirements in this fishery include LF samples as follows: 400 HOK; 200 HAK; 200 LIN. Sampled at 2 LFs per observer day would require 400 days to collect the required samples. In 2013/14 the catch of the three Tier 1 species was taken 52% by domestic vessels and 48% by FCVs. An estimated 1,020 days are likely to be required for FCVs and 180 days are estimated as required to collect samples on board domestic vessels to represent their catch indicating 1,200 days are required.

³⁰ Note that the deepwater numbers are still preliminary and subject to change depending on prioritisation.

Chatham Rise Middle depths (FMA3/FMA4)	750	750	Sampling requirements in this fishery include LF samples as follows: 400 HOK; 200 HAK; 100 LIN; 200 SWA. Sampled at 2 LFs per observer day would require 450 days. Domestic vessels were estimated to take 90% of the catch of the Tier 1 species from this area, therefore, approximately 400 days are needed to represent the domestic catch. An estimated 350 FCV days are likely to be required for FCVs in 2016/17. That plus the 400 domestic days provides a total of 750 days.
Sub-Antarctic Middle depths (ex.SQU/SB) (FMA5/FMA6)	890	890	Sampling requirements in this fishery include LF samples as follows: 400 HOK; 200 HAK; 100 LIN. Sampled at 2 LFs per day would require 350 days. Domestic vessels were estimated to take 80% of the catch of the Tier 1 species in this area during 2013/14, therefore, around 250 days would be required to represent the domestic catch. An estimated 640 FCV days will be required for FCVs in 2016/17, with the addition of the domestic days, a total of 890 is planned.
Southern blue whiting	510	510	Sampling requirements in this fishery include LF samples as follows: 100 6I; 50 6B; 50 6R/6A. Sampled at two per days indicates 100 days are required to meet sampling targets. Full coverage of this fishery is required to monitor sea lion interactions. An estimated 400 FCV days and 110 domestic days will be required.
Squid	1,030	1,030	This planned coverage is based on the expected level of effort in the fishery and the proportion of FCVs that operate in the fishery. No additional days are considered necessary to meet sampling or coverage requirements.
Cook Strait	100	100	The planned coverage is based on meeting sampling targets and representative protected species interaction monitoring. Note that observer sampling in Cook Strait will be supported by on-shore shed-sampling to ensure adequate biological samples are available to inform the stock assessment.
WCSI HOK Inside the line	100	100	This planned coverage is based on days required to have an observer on board vessels in this area throughout the hoki season (May – August) to provide information on the length and age of fish inside the line.
Squid jig fishery			
Squid jig	0	0	MPI is not expecting any squid jig vessels to reflag to New Zealand.

Deepwater bottom longline fisheries:			
Bottom longline	450	450	This level of observer coverage will enable observers to be placed on small (<28m) longliners targeting ling as well as the larger autoliner fleet, to provide information on protected species interaction. It is estimated that a coverage level of 25%, would require 450 days.
Shellfish:			
Scampi	450	450	Sampling requirements in this fishery include 50 LF samples in each of the four main scampi fisheries (SCI 1, SCI 2, SCI 3/4A, and SCI 6A). Sampled at a rate of two per day, equates to a requirement for 100 days spread evenly across the fisheries. A target rate of 25% observer coverage, to provide information on protected species interactions, would require an estimated 450 days. This level of coverage would provide for approximately three observed trips in each of the five fisheries (SCI3 and SCI4A included as separate fisheries).

BRANCH PLANNING, SYSTEMS & SUPPORT DIRECTORATE

The Branch Administration and Registry Services Unit provides administrative and budgetary support for the entire Regulation & Assurance Branch. The Unit also liaises with the Ministerial Team and the Office of the Director General.

Spatial, Forestry and Land Management Directorate

The Spatial Analysis Solutions unit operates within the Spatial, Forestry and Land Management Directorate. The unit's function is to provide spatial visualisation, integration, automation, modelling and analysis across MPI. The Deepwater FM team requires GIS analysis services from the unit on an ad hoc basis.

Other MPI Regulation & Assurance Directorates

Other R&A Directorates that the Deepwater Fisheries Management team may engage with during 2016/17 include the Biosecurity Science (for example advice on sea lion disease research), Food Science and Risk Assessment Directorate. This team has a specialised role in providing the science and risk assessment advice that is essential to robust development of food safety and biosecurity import, domestic and export standards.

Directorate linkages with wider MPI

Table 14: Directorates and business groups outside R&A from which some fisheries management services will be required

Branch	Directorate
Corporate Services	Finance, Property and Procurement,
	Business Technology & Information Services
	Cost Recovery
Operations	Compliance
Policy and Trade	International Policy
	Sector Policy
Office of the Director-General	Ministerials & Business Support Group
	Communications & Channels
	Legal Services

MPI CORPORATE SERVICES BRANCH

The cost recovery team is currently reviewing how MPI recovers costs from individuals and industries in order to provide essential services (First Principles Review). The Finance, Property and Procurement Directorate is responsible for asset management, centralised purchasing, facilities and contracting. The key projects that the Deepwater Fisheries Management team will work with this Directorate to progress will be the annual fisheries and long-term research procurement and conservation services levy cost recovery process and budget administrative support.

The Business Technology & Information Services Directorate is responsible for the information systems of MPI, ensuring effective collection of information, and the development of technology solutions. This includes MPI software development, the Records and Geo-spatial Data Management function and any changes needed to fisheries reporting. The Information Services team is also responsible for day-to-day IT support for the Deepwater Team and MPI as a whole. Given the fundamental services that this Directorate provides to the Deepwater Team, all Management Actions

are dependent on the functionality of one or more teams within the Business Technology & Information Services Directorate.

OPERATIONS BRANCH – COMPLIANCE DIRECTORATE

The Compliance Directorate, within the Operations Branch, is responsible for providing the intervention services to achieve cost-effective compliance. It provides advice to fisheries managers on the most efficient and effective combination of intervention services to manage risks and achieve objectives. Compliance works with Regulation and Assurance through the Fisheries Management Directorate. Successfully delivering on the management objectives for deepwater fisheries is dependent upon high levels of compliance with various sustainability and environmental management measures, both regulatory and non-regulatory. In deepwater fisheries, areas of compliance concern relate to misreporting in terms of areas fished (known as ‘trucking’), species fished (falsifying returns and misidentification), and quantities taken (unreported discarding or slippage in systems used to record catch).

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, shifting the focus from enforcement of legal breaches to 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. For more information on how the VADE model is operating in deepwater fisheries, please see section 5 of Part 1B of the National Deepwater Plan. The specific compliance services required to support the successful delivery of 2016/17 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 risk profiling and monitoring work set out in Table 3.

- Reviewing consultation and decision documents for the 1 April and 1 October sustainability rounds and providing compliance advice to the Fisheries Management Directorate to help inform risk ratings for registration purposes
- Working with the Deepwater Fisheries Management team and the Observer Programme to implement a monitoring regime in the SQU 6T fishery including ongoing SLED inspections
- Help monitor proper recording of seabird and marine mammal interactions and adherence to regulatory measures in deepwater fisheries
- Work with Deepwater Fisheries Management team to ensure compliance reports for deepwater fisheries are available for MSC audits
- Work with Deepwater Fisheries Management team to develop meaningful compliance metrics
- Continue to operate VADE compliance model.

The key projects that the Deepwater Fisheries Management team will work with this Directorate to progress will be:

- The 2016/17 compliance profiling focus will be the in-zone orange roughy fisheries.
- Finalising reports on follow-up work on the hoki and southern blue whiting fisheries, which was be undertaken during 2015/16. Monitoring of some aspects of these fisheries was undertaken in order to compare current performance to where it was at the conclusion of the risk profiling.
- Compilation and review of advice provided to the Director General regarding his consent to the registration of foreign owned or operated vessels under section 103 of the Fisheries Act 1996
- Work on a pilot programme to monitor adherence with processed state definitions. The Deepwater Fisheries Management team and Compliance will undertake work on dressed orange roughy and dressed jack mackerel.
- Continuation of a review of whole fish to meal quantification processes on vessels with meal plants.
- Review the regulatory settings associated with shark processing and reporting (including the finning ban) in order to inform the two-year review of their implementation and effectiveness.

POLICY AND TRADE BRANCH

The Policy and Trade Branch is responsible for providing advice on a wide range of legislation administered by the MPI. It provides forward-looking analysis on policy development and strategic issues. Although multiple directorates within the Policy Branch may be called upon for feedback or review, there are two main Directorates that will interact with the Deepwater Team at more frequent intervals. These Directorates are the International Policy Directorate and the Sector Policy Directorate

INTERNATIONAL POLICY DIRECTORATE

The Deepwater Fisheries Management Team requires input from the International Policy Directorate on international engagement, trade, and market access. Likewise, the Deepwater team provides review and advice on international issues that may impact on New Zealand's domestic fisheries management. Furthermore, this Directorate ensures the quality of MPI's international engagement on international fisheries issues.

SECTOR POLICY DIRECTORATE

The Sector Policy 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 will be leading on implementation of outcomes from the Fisheries System Review. The Economic Information and Analysis team within the Sector Policy Directorate also has the capacity to respond to requests for information on, for example, export statistics.

OFFICE OF THE DIRECTOR-GENERAL BRANCH

The Office of the Director General's responsibilities include Legal Services, monitoring the performance of the MPI, external communications such as press releases, and all Ministerial communications. The three directorates within this Branch that will support the Deepwater Team in achieving the 2016/17 objectives are:

- i. Ministerials and Business Support Group
- ii. Communications and Channels Directorate
- iii. Legal Services Directorate

MINISTERIALS AND BUSINESS SUPPORT GROUP

The Ministerial and Business Support Group is the point of contact between the MPI and the Minister's Office. This Group is responsible for ensuring the Ministerial process is managed effectively. They help with Ministerial correspondence including Briefings, Aide-Memoires, and the Official Information Act process.

COMMUNICATIONS AND CHANNELS DIRECTORATE

The Communications and Channels Directorate is responsible for providing strategic communications advice, to ensure that MPI teams communicate with internal and external stakeholders in an effective and efficient manner. This Directorate is also responsible for overseeing and developing the MPI's communications channels (e.g. websites), and assist the Deepwater Fisheries Management Team when responding to media queries and making announcements.

LEGAL SERVICES DIRECTORATE

MPI's Legal Services Directorate provides expert knowledge and legal opinion on the interpretation of relevant fisheries legislation to support policy development and management interventions. The key

projects that the Deepwater Fisheries Management team will work with this Directorate to progress will be:

- Review of all advice papers drafted as part of consultation and decision documents for sustainability rounds
- Review of any contractual arrangements that MPI proposes to enter, for example to secure research services
- Legal input and review for any legislative or regulatory changes that are progressed by the Deepwater FM team during the 2016/17 year.
- Reviewing High Seas Fishing Permits, general statutory interpretation and other decision papers.

External organisations

DEEPWATER GROUP LTD (DWG)

The Deepwater Group Ltd (DWG), is a non-profit company that represents owners of deepwater fishing quota. The DWG works collaboratively with MPI 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.³¹

A primary function of the DWG is to represent the interests of quota owners and provide a communication channel between MPI 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 the Deepwater Group Ltd. This MOU was subsequently updated in 2008, and 2010.³² The MOU establishes a structured collaborative framework that enables MPI and DWG to work together. Because of this collaborative arrangement, the Deepwater 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 Fisheries Management team will work with industry to progress during 2016/17 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 MPI
- Supporting the deepwater industry to achieve and maintain third party certification, reassessment of HOK, HAK, LIN, SBW and audits for ORH
- Assisting with delivery of the observer coverage plan for 2016/17
- Planning research and observer services for delivery in 2017/18 and beyond
- Management and monitoring of interactions with protected species and sharks
- Planning and operation of the DWG/MPI Compliance Group.

DEPARTMENT OF CONSERVATION (DOC)

The key projects that the Deepwater FM team will work with DOC to progress during 2016/17 will be:

- Implementation of protected species frameworks, including the NPOA Seabirds, NPOA Sharks and the New Zealand sea lion Threat Management Plan
- Planning research and observer services for delivery in 2017/18.

³¹ DWG's website can be accessed [here. www.deepwatergroup.org](http://www.deepwatergroup.org)

³² The 2010 MOU can be accessed [here. www.fish.govt.nz/NR/rdonlyres/2E71D225-5866-4C47-8C72-96FBC7F4B66E/0/MOU2010_signed.pdf](http://www.fish.govt.nz/NR/rdonlyres/2E71D225-5866-4C47-8C72-96FBC7F4B66E/0/MOU2010_signed.pdf)

DOC carries out research each year focussed on protected species interactions with fisheries in New Zealand waters. Some of the research DOC plans to carry out in 2016/17 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 15, please see the Marine Conservation Services Annual Plan for 2016/17 on the DOC website (<http://www.doc.govt.nz/our-work/conservation-services-programme/>).

Table 15: 2016/17 DOC research projects that relate to deepwater fisheries

Project code	Title
Observers and Communication	
INT2016-01	Observing commercial fisheries
MIT2016-01	Protected species bycatch media (newsletter)
Seabirds	
POP2015-01	Black petrel: Aotea/Great Barrier Island & Hauturu/Little Barrier Island population project
POP2015-02	Flesh-footed shearwater: Various locations population project
MIT2015-01	Seabird bycatch reduction (small vessel longline fisheries)
MIT2015-02	Small vessel seabird mitigation project
INT2015-04	Black petrel and flesh-footed shearwater foraging behaviour around fishing vessels
POP2015-04	Northern Buller's albatross: review taxonomy
INT2016-02	Identification of seabirds captured in New Zealand fisheries
POP2016-01	Seabird population research: Chatham Islands 2016/17
POP2016-02	Seabird population research: Auckland Islands 2016/17
POP2016-05	Yellow-eyed penguin foraging and indirect effects
POP2016-06	Salvin's albatross Bounty Islands: methodology development
Marine Mammals	
POP2016-07	New Zealand Sea Lion – Auckland Islands pup count
Protected Fish and other Species	
INT2015-02	Identification of marine mammals, turtles and protected fish captured in New Zealand fisheries
INT2015-03	Identification and storage of cold-water coral bycatch specimens
POP2016-03	Updated basking shark bycatch review