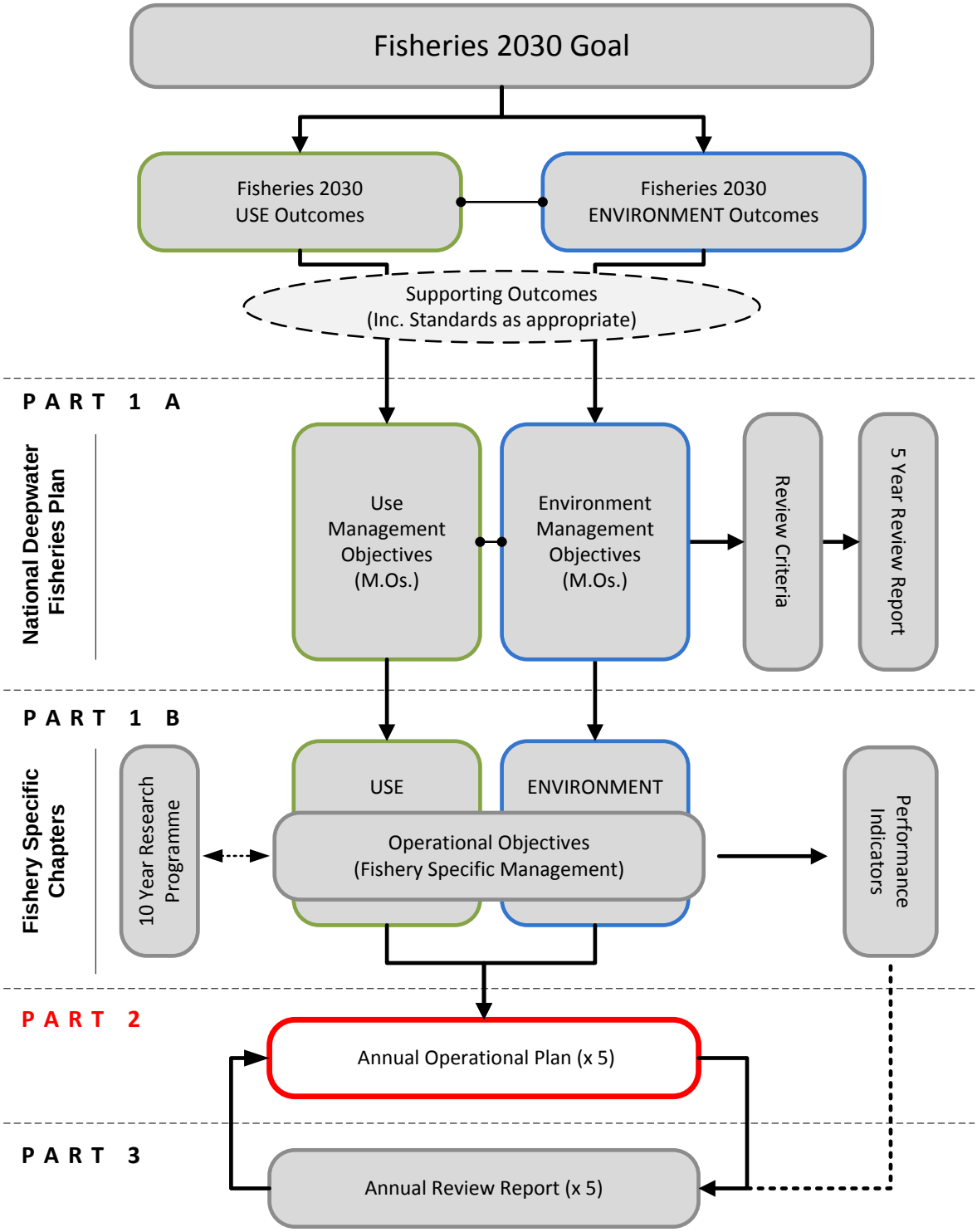
Ministry for Primary Industries
Manatū Ahu Matua

Annual Operational Plan for Deepwater Fisheries for 2013/14

MPI Information – Paper No:
ISBN No: (contact Publications team)
ISSN No:

JULY 2013

National Deepwater Plan Structure



Summary of the National Deepwater Plan Goal

(as specified in Fisheries 2030)

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

Outcomes *(as specified in Fisheries 2030)*

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

Table of Contents

Introduction

Overview

New Zealand's Deepwater and Middle-depth fisheries (deepwater fisheries) are those fisheries which predominantly occur in offshore waters beyond the 12 nautical mile (nm) limit of the territorial sea. Deepwater fishing activity occurs out to the 200 nm limit of New Zealand's exclusive economic zone (EEZ). This fishing area produced over NZ $648 million in export earnings over the 2012 calendar year, and include four of the top 10 exports by value for fisheries and aquaculture in 2012[1].

The management of New Zealand's deepwater fisheries is a collaborative initiative between the Ministry for Primary Industries (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 the Ministry for Primary Industries (the Ministry) and the fishing industry.

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

Table 1: **Categorisation of deepwater species**

	Stocks in the National Deepwater Plan[2]	Stocks currently outside National Deepwater Plan (date of expected inclusion)
Tier 1 Species	Hoki : All Orange Roughy: All Southern Blue Whiting: All Ling: LIN3 - LIN7 Hake: All Jack Mackerel: JMA3, JMA7	Oreo: All (2013) Squid: All (tbc) Scampi: All (2013)
Tier 2 Species	Silver warehou: All Spiny dogfish: SPD4, SPD5 Frostfish: FRO3-FRO9 White warehou: All Lookdown dory: All Black cardinalfish: All Ribaldo: RIB3-RIB8 Patagonian toothfish: All English Mackerel: EMA3, EMA7 Redbait: All	Rubyfish: All (OEO) Alfonsino: All (OEO) Barracouta: BAR4, BAR5, BAR7 (SQU) Prawn killer: All (SCI) Sea perch: SPE3-SPE7 (SCI) Pale ghost shark: All (tbc) Dark ghost shark: GSH4-GSH6 (tbc) Deepwater crabs (KIC/GSC/CHC): All (tbc) Gemfish: SKI3, SKI7 (tbc)
Tier 3 Species		Non-QMS species

[1] Export earnings include all species managed by the Deepwater Team which include squid (SQU), jack mackerel (JMA), blue mackerel (EMA), and barracouta (BAR) which are often labelled as pelagic species

[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.

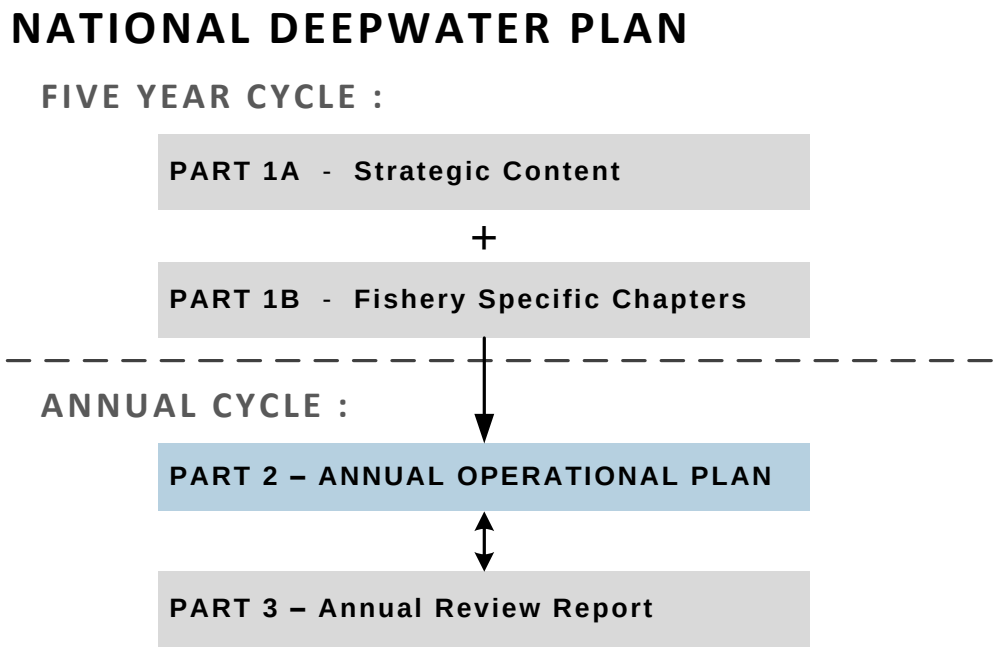


Figure 1: The National Deepwater Plan structure highlighting the five year cycle of PART 1A and 1B, and the annual cycle of the operational plan and review report. This document is relates to Part 2 highlighted in blue.

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 has been approved by the then Minister of Fisheries[3] under Section 11A of the Fisheries Act 1996. This means that it must be considered each time the Minister makes decisions or recommendations concerning regulation or control of fishing or any sustainability measures relating to the stocks managed through 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, ling, and southern blue whiting fisheries.

The fishery-specific chapters describe the operational objectives for each target fishery and its key bycatch species, as well as how performance against both the management and operational

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

objectives will be assessed at the fishery level. These chapters also describe any agreed harvest strategy in place for the relevant species.

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 also includes up-to-date management overviews for fisheries with completed chapters in Part 1B, and a performance analysis which identifies services gaps highlighted in the Annual Review Report (ARR) from the previous financial year.

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 Annual Operational Plan are described in the following section.

Part 3 of the National Deepwater Plan is the 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 2013/14 Deepwater AOP

This AOP describes the specific Management Actions that will be implemented during the 2013/14 financial year, with respect to all fisheries managed under the National Deepwater Plan. Completion of Management Actions will contribute to meeting the Management Objectives, outcomes and goals described in Part 1 of the National Deepwater Plan. An overview of Management Objectives can be found at the start of this AOP.

The AOP also includes the details of the Management Services (compliance, research, regulatory, etc.) that will be required to deliver the specified Management Actions, as well as the agency (the Ministry or DWG) and business group responsible for delivery. In situations where there are limited resources or competing tasks and objectives across deepwater fisheries, specified services are also prioritised.

The AOP also includes a section detailing the current management approach, the stock status, and the 2013/14 research to be conducted on each of the fisheries currently included in the National Deepwater Plan.

There will be an internal prioritisation process within the Ministry across AOPs from the different fisheries (Deepwater, Highly Migratory Species, Inshore finfish, Inshore shellfish, Freshwater) to address competing needs for Ministry resources. As a result of this cross prioritisation process some of the Management Actions in this AOP may be subsequently reprioritised.

Delivery of the AOP will be assessed through the ARR to be completed at the end of each fishing year. The ARR that reports on this AOP will be completed in December 2015.

Scope of the 2013/14 Deepwater Annual Operational Plan:

The 2013/14 AOP includes the following sections, described in more detail below:

- Part 2A: Gap Analysis and Management Actions for 2013/14
- Part 2B: Management Services required for 2013/14
- Part 2C: Management overview of deepwater fisheries

Part 2A: Management Actions for 2013/2014

Part 2A details the Management Actions that will be undertaken during the 2013/14 financial year. All Management Actions will contribute to delivery of Management Objectives specified in the National Deepwater Plan Part 1A. Some Management Actions are also linked to fishery-specific Operational Objectives, while others will apply across all deepwater fisheries.

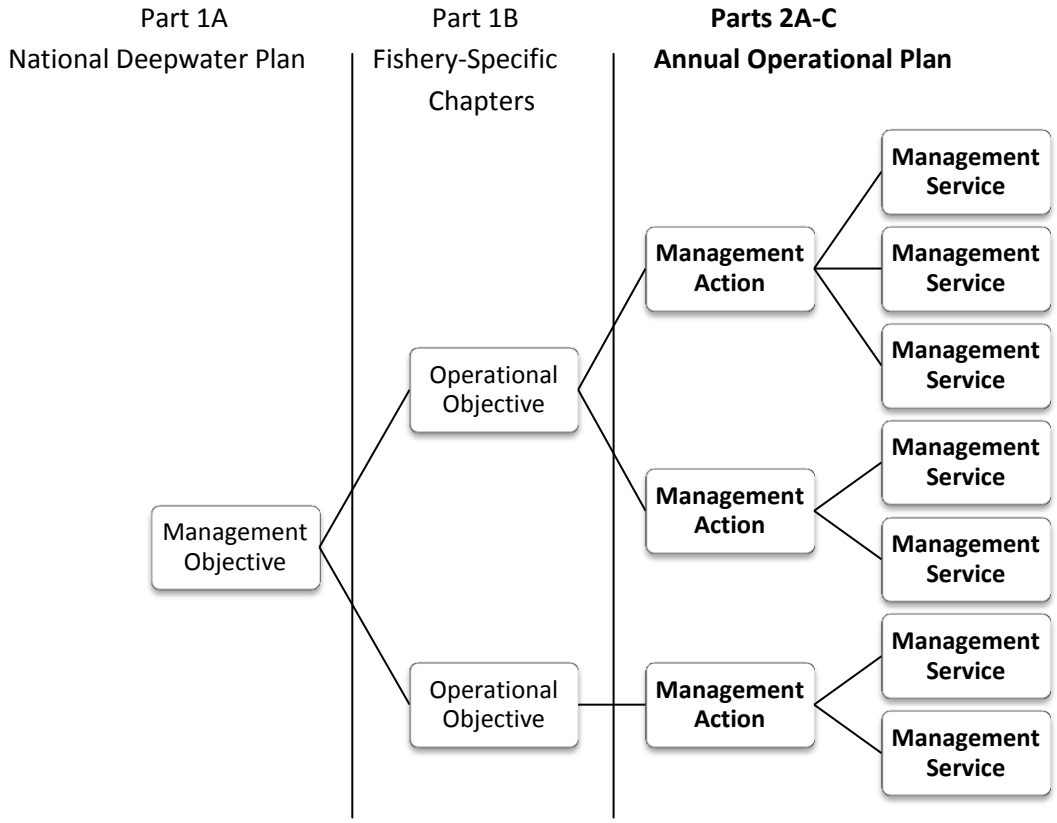


Figure 2: Flowchart of progression from Management Objective to Management Services specified in this Annual Operational Plan

Part 2A will also include a performance analysis and list of scheduled research relevant to deepwater fisheries for the 2013/14 financial year. The performance analysis will collate action and service gaps identified in the ARR for the previous financial year, and aid in the construction and prioritisation of Management Actions.

Within Part 2A all Management Actions are listed and detailed in individual boxes. Each box lists the Management Action title, associated background information, and any Management or Operational Objectives that it correlates with. Within each box, specific actions have been listed as either 'Business as Usual', which means the action has not changed from previous years, or 'Actions for 13/14', which denotes a specific new development within the Management Action for the upcoming financial year.

The order of the Management Actions is two-fold, one by a prioritisation number on the left hand side of the table, and two by colour. The top 12 Management Actions, coloured dark blue, represent actions that are core functions of the Deepwater Team. These actions are an essential part of managing deepwater fisheries and meet our legislative obligations. The rest of the Management Actions are coloured light blue and grouped into high, medium, and low priority.

Part 2B: Management Services required during the 2013/2014 financial year

Part 2B details the Management Services that will be required to deliver the Management Actions described in Part 2A of this AOP.

Services will be delivered predominantly through the Ministry's Resource Management & Programmes Branch (RMP), however some services will be delivered with assistance or in partnership with other Branches. Furthermore, due to the collaborative relationship between the Ministry and the DWG, some actions may be delivered solely by the Ministry, solely by DWG, or in cooperation by the Ministry and DWG. Given these three relationships, Part 2B is split into three sections: RMP, Wider Ministry, and DWG.

Each section within Part 2B details the services that will be required to support the delivery of the Management Actions specified in Part 2A. Below each business group a table includes a prioritisation number, management action description, and details the specific services required from that business group. The prioritisation number on the left side of the table links back to the Management Actions listed in section 2A.

Part 2C: Management overview, key management settings, and performance indicators

The AOP also includes a section which provides an overview of the current management approach and harvest strategy for each target (Tier 1) fishery managed through the National Deepwater Plan.[4] Summaries of management settings and performance indicators are also provided for bycatch (Tier 2) species. For each species (Tier 1 & 2) managed through Part 1B of the National Deepwater Plan, a summary table is presented which details the following management settings and performance indicators:[5]

1. Relevant TACs, TACCs, and deemed value rates.
2. The harvest strategy in place for the fishery. For some stocks, at least in the early years of the National Deepwater Plan, this will simply reflect the status quo management regime until a more specific harvest strategy is developed. Once finalised, a harvest strategy will include reference points, harvest control rules and a rebuild strategy in conformance with the Harvest Strategy Standard.
3. Current status of environmental interactions of deepwater fisheries.
4. Any economic indicators which will provide a measure of whether the value maximisation objectives are being achieved.
5. Performance of the fishery against compliance benchmarks (where appropriate).

[4] Part 1B of the National Deepwater Plan currently includes orange roughy, hoki, southern blue whiting, ling, and hake.

[5] Information on these five items may remain unchanged from one year to the next, or may change as new information becomes available or as stock-specific objectives are finalised.

Part 2A: Deepwater Fisheries Management Actions for delivery during the 2013-2014 financial year

Management Actions and Service Gap Analysis

The Deepwater ARR 2011/12, completed in January, reported against 36 Management Actions planned for the 2011/12 financial year. At the end of the financial year the status of 22 actions was ongoing, four were reported as annual functions, eight were carried over into the 2012/13 AOP, and two were reported as implemented/closed. Translating the status of these management actions into the current AOP format, 12 of the actions have become core functions, 16 have been effectively progressed, and eight actions are still in need of development or have not been met.

Reasons for actions not being met range from a change in strategic direction, lack of sufficient resourcing, or a low prioritisation. This section collates those actions that were not met, or are in need of further development, as well as identify topics that became evident through the review of management performance against Fish Plan Operational Objectives and in the ARR (Table 2).

To better enable the identification of service gaps, management actions have been grouped into 'topics' and divided into 'Management' and 'Research' categories (Table 2). Although 'Management' and 'Research' are related, separating actions into these categories helps distinguish which topics may need resourcing from outside the Ministry.

Table 2: Management Topics, both 'management' and 'research' in nature, which have been identified through the 2011/12 ARR

Category	Topic	Management Actions not met or in need of further development
Management	Harvest Strategy	Development of specific harvest strategies for tier 1 species
	Communication with Stakeholders and Public	Creating a website from which stakeholders can access all documentation relevant to the management of deepwater fisheries
	Compliance Metrics	Monitoring fisher compliance annually against a set of agreed compliance standards and benchmarks
	Tier 2 species	Management measures developed for tier 2 species (SAW, WWA, RIB, etc)
	Habitats of Particular Significance to Fisheries	Identify habitats of particular significance for fisheries management purposes; identify the range of habitats that are significant, and review current levels of protection
	Observer Coverage	Ensuring adequate observer coverage to meet scientific sampling requirements
Research	Stock Assessment	All SQU stocks, LIN 1are tier one stocks without accepted estimates of biomass.
	Sharks	Information about the risk to shark populations by deepwater fisheries
	Tier 3 species	Quantifying the risk to tier 3 species by tier 1 fisheries to ascertain if any management measures are needed
	Ecological Risk Assessment	Accepted process for a ecological risk assessment for deepwater fish species

As a result of this analysis many of the topics listed within Table 2 have been incorporated into Management Actions for the 2013/14 year. These Management Actions are listed below in Table 4.

Management Actions for the 2013/14 Financial Year

Table 3: Priority level of Management Actions (MA)

Priority Level	MA Number
Core Functions	1-12
High	13-17
Medium	18-22
Low	23-28

Table 4: Management Actions for deepwater Fisheries Management for 2013/14 financial year

1	**Review stocks for the 1 October and 1 April sustainability rounds, including deemed values**	
	Sustainability decisions consist primarily of catch limit (TAC & TACC) and deemed value reviews. These are completed in two rounds, one for stocks with a 1 October fishing year and another for stocks with a 1 April fishing year. In addition to stock-specific reviews, the deemed value rates for all deepwater stocks will be assessed against the criteria in the deemed value standard. • October 2013: HOK1, ORH3B, SCI2, LIN5, LIN6, LIN7 • April 2014: tbc	
	Action linked to Management Objectives 1.1, 1.3, 2.1, 2.2, 2.4, 2.5, and 2.6	
	Operational Objective(s): HOK 2.2 and 2.3, ORH 2.3, SBW, LIN and all deepwater fisheries	
2	**Continue the implementation of the National Deepwater Plan**	
	Implementation of the National Deepwater Plan for the 2013/14 financial year includes:	
	Actions for 13/14 • Completion/development of fishery-specific chapters for SCI, OEO, and SQU • Integrating actions resulting from the NPOA-Seabirds into Fisheries Plan process	**Business as usual:** • Annual Operational Plan for 2014/15 • Annual Review Report 2012/13
	Action linked to all Management Objectives	
	Operational Objective(s): HOK1.4, ORH 1.1 and 1.2 and all deepwater fisheries	
3	**Ensure completion of Ministerial communications including briefings, Ministerials,[6] Special Permits, and Official Information Act (OIA) requests within designated timeframes**	
	This Management Action will require significant attention throughout the year. As such the Ministry has responsibility to: • Provide quality advice and information to the Minister for Primary Industries • Maintain an open relationship with the public and respond to all OIA requests and letters to Government regarding fisheries issues • Review and assess any deepwater special permits	
	Action linked to all Management Objectives	
	Operational Objective: N/A	

[6] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

4	**Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFPs) and Forum Fisheries Plans (FFPs) into the National Deepwater Plan and its components**
	The IFP strategy was established in 2011/12, and is designed to provide for those iwi recognised under Schedule 3 of the *Treaty of Waitangi (Fisheries Claims) Settlement Act 1992*. Currently there are five completed FFPs: CIFF @ 44 representing Chatham Island Iwi, Te Waka a Maui me ona Toka representing South Island Iwi, Te Hiku o te Ika representing Far North Iwi, Mai i nga Kuri a Wharei ki Tihirau representing the Bay of Plenty Iwi and Te Taihauauruu representing the Manawatu/Horowhenua/Kapiti/Taranaki Iwi. One IFP is completed by Rangitane who represent the Manawatu/Wairapa Iwi.
	Business as Usual: • Continue engagement with tangata whenua and address any issues as necessary through the FFPs
	Action linked to Management Objectives 1.6 and 1.7
	Operational Objective(s): HOK 1.4, 1.10, 1.11, 1.12, ORH 1.3, 1.9, 1.10, and all deepwater fisheries
5	**Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels (FCVs)**
	Amendments to the Fisheries Act 1996, requiring FCVs to change their flag to New Zealand, are being considered by Parliament. The usual registration process will continue until new fishing legislation requires a different process.
	Business as Usual: • Aid where needed in the risk profiling, registration, and subsequent observer coverage process
	Action linked to all Management Objectives
	Operational Objective: N/A
6	**Monitor management regime for SQU6T fishery to address interactions with sea lions**
	Actions for 13/14 • Implement any relevant outcomes from the independent review of the Breen-Fu-Gilbert model **Business as Usual:** • Collaborative monitoring and reporting of effort within SQU6T between Ministry and DWG
	Action linked to Management Objectives 1.1, 1.3, 1.5, and 2.5
	Operational Objective(s): N/A
7	**Maintain an open and transparent management environment by ensuring that all management information is available and easily accessible for stakeholder and tangata whenua consideration**
	Actions for 13/14: • Work with the Communications and Channels Directorate to further develop a webpage for deepwater fisheries management • Work with Aquatic Environment and Biodiversity Science group to develop Science Information sheets to communicate results of research in more layman terms **Business as Usual:** • Increase and uphold transparency of deepwater fisheries management through distribution of the AOP, ARR, new chapters within the National Deepwater Plan, and general information relating to the management of deepwater fisheries on the Ministry's website
	Action linked to Management Objectives 1.6 and 1.7
	Operational Objective(s): HOK 1.4, ORH 1.8, and all deepwater fisheries

8 Monitor and measure the level of seabird interactions with deepwater fishing activity

Seabird interactions are managed using regulatory and non-regulatory measures, including Vessel Management Plans (VMPs) which outline vessel-specific seabird mitigation practices.

Actions for 13/14:

- Work with the DWG to ensure observers receive effective training on the VMP process and seabird mitigation

Business as Usual:

- Monitor interactions with seabirds, at-sea risk mitigation activities, and continue to support the industry's education programme
- Audit compliance with mitigation measures to ensure the non-regulatory management regime remains effective and is reported transparently to stakeholders through the ARR

Action linked to Management Objectives 2.5 & 1.6

Operational Objective: HOK 2.10 and 2.13; LIN 2.3; and all deepwater fisheries

9 Monitor and measure the level of marine mammal interactions with deepwater fishing activity

Marine mammal interactions are managed using regulatory and non-regulatory measures, including a Marine Mammal Operation Procedure (MMOP) which outlines vessel-specific risk mitigation practices and proper handling of incidental marine mammal captures.

Actions for 13/14:

- Work with DWG as they lead on increasing communication with coastal vessel operators to better understand the level of interactions between these fisheries and marine mammals

Business as Usual:

- Monitor interactions with marine mammals, at-sea risk mitigation activities, and continue to support the industry's education programme
- Audit adherence to MMOP to ensure the non-regulatory management regime remains effective and is reported transparently to stakeholders through the ARR

Action linked to Management Objectives 1.6 and 2.5

Operational Objective: HOK 2.11 and 2.13, SBW2.2 and 2.3 and all deepwater fisheries

10 Monitor the level of shark interactions with deepwater fishing activity

There are many different shark species which reside or transit through New Zealand waters. To better manage the impacts of fishing on these populations more information is needed about the incidental and targeted interactions of sharks with deepwater fishing activity

Business as Usual:

- Continue to increase our information about shark interactions through observer debriefs
- Continue to minimise the use of generic reporting codes through observer training and circulation of the updated identification guide

Action linked to Management Objectives 2.5 & 1.6

Operational Objective: N/A

11 Monitor non-regulatory management measures relating to sub-QMA catch limits and Hoki Management Areas (HMAs)

In conjunction with industry, the Ministry has implemented non-regulatory sub-area catch limits in the hoki, orange roughy, and oreo fisheries. HMAs, also non-regulatory, have been created to protect important areas for juvenile hoki.

Business as Usual:

- Ensure continued monitoring to confirm effectiveness of these measures
- Communicate monitoring results with stakeholders through the ARR

Action linked to all Management Objectives

Operational Objective: HOK 2.3, 2.5, ORH 2.1

12 Monitor and measure the nature and extent of benthic interactions from deepwater fishing activity

As benthic habitats can be important breeding grounds, foraging areas, or refuges, it is important to ensure that any impact is carefully managed and remains within acceptable limits.

Actions for 13/14:

- Take inventory of all available information on benthic communities found within Benthic Protected Areas

Business as Usual:

- Continue to monitor the trawl footprint of Tier 1 species in relation to BOMEC classes
- Report the benthic footprint of deepwater fishing and volume of benthic species captured in the ARR
- Work with the wider Ministry as legislation is developed to manage activities within New Zealand's EEZ

Action linked to Management Objective 2.7

Operational Objective: HOK 2.15, ORH 2.9, SBW2.4 and all deepwater fisheries

13 Assist the wider Ministry in implementing the Fisheries (Foreign Charter Vessels and Other Matters) Amendment Bill

The Fisheries Amendment Bill has completed the first reading

Actions for 13/14:

- Support the implementation of the Fisheries Amendment Bill when required
- Work with the Ministry of Business, Innovation, and Employment and Maritime New Zealand throughout the process

Action linked to Management Objective 1.1, 1.2, 2.1

Operational Objective: NA

14 Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)

The NPOA - Sharks is scheduled to be finalised in the 2013/14 financial year. Resources from the Deepwater Team will be required in finalising, communicating the goals of, and implementing the NPOA-Sharks in a deepwater context.

Actions for 13/14:

- Implement the NPOA Sharks within the Deepwater Fisheries management annual process with a procedural focus on the five year objectives (yet to be finalised at this time).

Action linked to all Management Objectives 1.6, 2.5, and 2.6

Operational Objective: HOK 2.12 , 2.13, and all deepwater fisheries

15 NPOA Seabirds: Work to achieve the five year practical, biological, research and development, and international objectives within deepwater fisheries

The Seabird Risk Assessment identified five most at risk seabird species and identified which fisheries composed the highest proportion of that risk. This Management Action is focused on addressing and minimising those identified risks. For more detail please refer to page 18.

Actions for 13/14:

- Monitoring seabird interactions in the bottom long-line fishery, particularly incidental interactions with Chatham Island's and Salvin's albatross
- Re-assessment of potential mortality estimates of Southern Buller's albatross by squid trawlers and large meal trawl vessels in light of the Level 2 Risk Assessment
- Work with industry to develop vessel-specific Vessel Management Plans (VMPs) for scampi vessels which will outline procedures for seabird mitigation and offal management.
- Work with Science Teams and DOC to contract the development of a bird handling video for deepwater trawlers

Action linked to Management Objective 2.5

Operational Objective: All deepwater fisheries

16 Facilitate continued Marine Stewardship Council (MSC) Certification of deepwater fisheries, including closing Conditions of Certification (CoCs) and passing annual surveillance audits

The Hoki and SBW fisheries were audited in 12/13 and were recertified without conditions. Industry stakeholders are interested in continuing the certification of three other deepwater fisheries in the 13/14 year.

Actions for 13/14:

- Aid DWG in compiling necessary information for LIN, HAK, and ORH MSC certifications
- Aid DWG in compiling necessary information for the preliminary MSC assessment for ORH including any documents for an Assessment of the Environmental Effects of Fishing (AEEF)

Action linked to Management Objectives 1.1 and 1.5

Operational Objective: HOK 1.1, SBW 1.1, LIN 1.1

17 Develop and implement specific harvest strategies for Tier 1 species, which enable economically viable deepwater and middle-depth fisheries over the long-term

A harvest strategy defines a management target, soft and hard limits, a rebuild strategy, and a harvest control rule for a stock. Often in developing a harvest strategy, a management strategy evaluation will be undertaken which assesses a range of different management strategies, including those which incorporate economic aspects of the fishery.

Actions for 13/14:

- Continue to assess the relevance of the default Harvest Strategy for ORH, SBW, HAK, LIN, and SCI
- Where necessary, develop and implement alternative harvest strategies for Tier 1 species

Action linked to Management Objective 1.1, 1.2, 2.1

Operational Objective: HOK 1.3, HOK2.5, ORH 1.11, ORH 2.1, SBW 2.1, LIN2.1, and all deepwater fisheries

18 Update observer sampling protocols to ensure sufficient and appropriate data are collected in line with deepwater research requirements

Drawing on outcomes from the observer optimisation project, there is a need to ensure that observer sampling protocols match research needs within the Deepwater 10 Year Research Programme.

Actions for 13/14:

- Update observer briefing documents for all Tier 1 species to ensure that appropriate sampling regime is undertaken
- Work to identify what and how samples for Tier 2 species should be taken by observers

Action linked to Management Objective 1.4

Operational Objective: HOK 1.6, ORH 1.2 and all deepwater fisheries

19 Whilst working to achieve credible third party certification, provide information and communication to improve market assurance for New Zealand's seafood exports

The focus on this Management Action is to research credible third party certification schemes and increase the availability of accurate consumer information to refute inaccuracies about the fisheries management regime in the media or in consumer marketing campaigns.

Actions for 13/14:

- Work to increase international markets' knowledge of New Zealand's MSC Certified products
- Work with wider Ministry to improve seafood export market assurance

Business as Usual:

- Update and publish information sheets on key issues as needed

Action linked to all Management Objectives

Operational Objective: N/A

20 Engage on environmental issues relating to management of deepwater fisheries through the Environmental Engagement Forums

In order to provide increased engagement beyond the section 12 consultation requirements, the Ministry established the Environmental Engagement Forums (EEFs). The EEFs will focus on Inshore, Deepwater, and National environmental issues.

Actions for 2013/14:

- Improve EEFs alignment with Inshore and Deepwater annual management processes

Action linked to Management Objectives 1.6 and 1.7

Operational Objective(s): HOK 1.4, 1.10, 1.11, ORH 1.3, 1.9, 1.10 and all deepwater fisheries

21 Develop and implement a process for identifying additional research, including a formalised process for tender evaluations and long term contracts

The 10 Year Research Programme recognises that not all research required can be planned in advance. For this reason, the 10 Year Research Programme allows for annual planning and prioritisation of additional research.

Actions for 13/14:

- Advance work started in 12/13 on formalising an additional research process for identifying, prioritising, and contracting additional research with the Finance Property and Procurement Team

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

Operational Objective(s): HOK1.6, ORH1.5, SBW1.4, LIN1.4, and All deepwater fisheries

22 Assess how best to use completed Tier 2 characterisations in the development of management procedures for Tier 2 species

Management of Tier 2 species is often limited by information availability, therefore management procedures may range from developing components of a Harvest Strategy to analysis of CPUE trends or signals from a trawl survey.

Actions for 13/14:

- Identify most appropriate way to draw on completed characterisations, to develop management protocols for Tier 2 Species. Species with completed characterisations include: BYX, FRO, EMA, SPE, WWA
- Work with science team to resume the Middle-depth Working Group as a workshop to review characterisations and identify most appropriate monitoring tool

Action linked to Management Objective 2.1

Operational Objective: HOK 2.4, ORH 2.1, LIN2.2

23 Identify meaningful compliance metrics and align current compliance monitoring to meet these

The Ministry's Compliance Directorate 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. A Level 1 risk profile was conducted on the hoki fishery in 2011/12. Risk profiling for 2013/14 will focus on SBW and ORH fisheries

Actions for 13/14:

- Work with wider Ministry and industry to implement any recommendations from previous risk profiling
- Work with Compliance to finalise risk profiles for SBW and ORH
- Resume the Deepwater Compliance Committee

Business as Usual:

- 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 Compliance Committee and to stakeholders through the ARR

Action linked to Management Objective 1.5

Operational Objectives: HOK 1.9, HOK 1.10, ORH 1.6, ORH1.7, SBW1.3, LIN1.3

24	**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)**
	The 10 Year Research Programme Statements of Work were finalised in 2011/12 and detail research projects that will be carried out each year over the next 10 years. These projects were developed to help inform management decisions.
	Business as Usual: • Assist Fisheries Science as necessary to implement the 13/14 research projects as listed in Table 4 • Assist Fisheries Science as necessary to ensure that all science research used to support management of deepwater fisheries is assessed against the Research Standard • Contract any annual "additional research" projects, consistent with process developed through MA 21
	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
	Operational Objective(s): HOK1.6, ORH1.5, SBW1.4, LIN1.4, and All deepwater fisheries
25	**Finalise the risk assessment framework for Deepwater fish species and conduct a spatially explicit risk assessment for Tier 2, Tier 3, and any other protected fish species**
	A risk assessment is conducted to identify and evaluate the risk of undesirable consequences to fish specie(s) due to anthropogenic impacts. Developing this technique supports an ecosystem-based approach of fisheries management as it better enables management to prioritise and reduce risk across fisheries.
	Actions for 13/14: • Finalise the risk assessment methodology • Continue to monitor catch of Tier 2 and Tier 3 species through commercial catch records, surveys, and observer data, and report through the ARR • Pilot methodology on Tier 2, Tier 3, and any other fish that are protected species
	Action linked to Management Objectives 2.2, 2.3, 2.4, 2.5, 2.6, and 2.7
	Operational Objective: HOK 2.14, ORH 2.6, and all deepwater fisheries
26	**Assist the Ministry's Policy Branch with review of policy developments and any necessary fisheries management information**
	Actions for 13/14: • The Policy Branch within the Ministry may from time to time need information, feedback, and review of working documents that relate to New Zealand fisheries
	Action linked to Management Objectives 1.2, 1.5
	Operational Objective(s):N/A
27	**Finalise the definition of 'habitats of particular significance' for deepwater fisheries management**
	Section 9 of the Fisheries Act 1996 specifies that decisions relating to the utilisation of fisheries resources or ensuring sustainability are required to take into account protecting 'habitat of particular significance for fisheries management'.
	Actions for 13/14: • Finalise the Fisheries Management definition of 'habitats of particular significance' • Work to identify potential habitats of particular significance for deepwater fisheries
	Action linked to Management Objective 2.3
	Operational Objective: HOK 2.8

Management Actions Initiated by Industry

When required, work with industry to :
Possible Actions for 13/14: • Assess the QMA boundaries with a focus on Tier 2 species • Respond to any industry requests for changes to stock boundaries • Observer requests for vessel specific conversion factors trips • Development of the deepwater crab fishery • Development of the Patagonian toothfish fishery
Action linked to Management Objective 1.1, 1.2, 1.3, 2.4, 2.6
Operational Objective(s): Lin 1.5 and all deepwater fisheries

Addressing NPOA-Seabirds Objectives

An updated NPOA Seabirds was released in April 2013. This policy document outlines long term and five-year objectives which meet the Ministries national and international legal obligations around the incidental capture of seabirds. Management actions within this AOP work towards achieving the five-year practical, biological, research and development, and international objectives.

Management Action (MA) 15 within this AOP outlines specific actions that will be conducted within the 2013/14 financial year to address NPOA objectives. These actions are informed by the Seabird Risk Assessment which was released in April 2013.[7] The Seabird Risk Assessment identifies six birds as having a population at 'very high risk'. These include the black petrel, Salvin's albatross, flesh-footed shearwater, Southern Buller's albatross, the Chatham Island albatross, and the New Zealand white-capped albatross.

Small bottom long-line (BLL) vessels targeting ling and other deepwater species compose a significant part of the risk to Chatham's Island and Salvin's albatross. Uncertainty around this risk calculation comes from two sources: a lack of knowledge on adult survivability, and the small level of observer coverage on this fishery. To address this risk observer monitoring has been planned for the BLL fishery with a focus around the Chatham Islands area to gain information about incidental interactions and possible mitigation devices.

The Southern Buller's albatross is the third most at risk seabird. The largest proportion of the risk to Southern Buller's is calculated to come from large trawlers with meal plants as well as trawlers targeting squid. The capture rate of these birds fluctuates making it difficult to ascertain a key contributing factor. Uncertainty around the risk ratio is most associated with our lack of information about the adult survivability of Southern Buller's. However a management action has been listed in MA 15 to further investigate the potential mortality estimates for Southern Buller's albatross to try and clarify the interactions of this species with deepwater vessels.

The scampi fishery has a large number of incidental captures of seabirds. Many of these incidents involve some of the most at risk seabirds. Last year a new mitigation device called a 'net restrictor'

[7] Y. Richard, E.R. Abraham (2013) Risk of commerical New Zealand Aquatic Environment and Biodiversity Report N0.109.

was trialled on a number of vessels. The uptake of this method, which was designed by a scampi skipper, has been positive. To further this work MPI and DWG will be developing vessel specific Vessel Management Plans (VMPs) for all scampi vessels this financial year. These VMPs will outline best practice mitigation devices, (including restrictors on middle nets), best practice offal management procedures, and outline auditable performance indicators which will be reported on in the ARR.

Research scheduled for 2013-14 financial year

Most research needs for deepwater fisheries are driven through the 10 Year Research Programme for Deepwater Fisheries (10YP). This research programme focuses on obtaining comprehensive, consistent and robust information in a cost-effective manner. To accomplish this, the 10YP specifies routine research and data collection necessary to meet the management objectives (Table 10). The 10YP recognises that not all research required can be planned in advance. For this reason, the 10YP allows for the annual planning, prioritisation and delivery of one-off research projects. This research is detailed in the "Additional Research" section below (Table 5) and in future will utilise the process that is being developed through this year's MA15.

The following tables outline research scheduled in the 10YP for the 2013-14 financial year, additional research projects, as well as aquatic environment and DOC projects applicable to deepwater fisheries.

Table 4: Research scheduled for 2013-14 financial year

Project code	Title	Time Frame
Trawl surveys		
HOK2010/04	Estimation of hoki and middle depth fish abundance on the West Coast South Island using combined trawl and acoustic surveys	July 2014
HOK2010/05	Estimation of hoki and middle depth fish abundance on the Chatham Rise using trawl surveys	Oct 2013-Sept 2014
Acoustic surveys		
SBW2010/04	Biomass estimation of SBW using acoustic surveys (Campbell Island	June 2013-Sept 2014
SBW2010/02	Biomass estimation of southern blue whiting using acoustic surveys (Bounty Platform)	July 2013-June 3014
HOK2010/03	Estimation of spawning hoki biomass using acoustic surveys (Cook Strait)	June 2013-June 2014
ORH2010/04	Biomass estimation of the ORH7A plumes	June 2013-June 2014
DWR2013/06	Biomass estimation of the ORH3B and ORH MEC plumes	June 2013-June 2014
Ageing projects		
MID2010/01	Routine age determination of hoki and middle depth species from commercial fisheries and trawl surveys (Table	Nov 2013-Sept 2014
Stock Assessment		
DEE2010/02	Stock assessment of deepwater and middle depth fish stocks (HOK1, LIN6B, JMA7, SSO6, SSO4 , SCI6A, SBW6I, SBW6B)	Dec 2013-Sept 2014
Stock characterisations		
DEE2010/07	Characterisation and fishery monitoring of deepwater and middle depth species (CDL, GEM, LDO, PRK, RIB)	Aug 2013-June 2014
Scampi camera surveys		
SCI2010/02	Estimating the abundance of scampi in SCI3 using photographic surveys	Aug 2013-Nov 2013
Aquatic environment		
DAE2010/01	Taxonomic identification of benthic samples	July 2013-July 2014
DAE2010/02	Bycatch monitoring and quantification of deepwater stocks (HOK/HAK/LIN)	Dec 2013-Sept 2014
DAE2010/04*	Monitoring the trawl footprint for deepwater fisheries	Jan 2013-May 2014
PRO2010/01	Estimating the nature and extent of incidental captures of seabirds, marine mammals and turtles in New Zealand commercial fisheries	Jan 2013-July 2014

Table 5: Additional Research for 2013-14 financial year

Project code	Title	Time Frame
DEE2010/05	Identify ecosystem indicators for deepwater fisheries	2011-12*
DEE2011/03	Level 1 Risk Assessment for Tier 3 stocks	2012-13*
DEE2011/05	Complete experimental acoustic survey for ORH in either Puysegur or NW Chatham Rise	2012-13

*These projects are currently behind schedule, dates listed indicate the initial proposed start date

Table 6: Research projects for each of the nine Tier 1 species for the 13/14 financial year; many projects cover multiple years, capital letters next to project codes indicate which objective will be addressed this financial year.

Hoki – Projects for 2013/14and Associated Management Objective			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	HOK 1	DEE 2010/02 (C)	December 2013 – September 2014
Trawl survey (West Coast SI & Chatham Rise)	HOK1	HOK2010/05	May 2013 – June 2014
Acoustic Survey	HOK1	HOK2010/03	June 2013 – June 2014
Bycatch Monitoring	HOK1	DAE2010/02 (D)	December 2013 – September 2014

Orange Roughy – Projects for 2013/14 and Associated Management Objective			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
AOS Survey	ORH3B & MEC	DWR2013-06	June 2013 – June 2014
Acoustic Survey	ORH7A	ORH2010/04	June 2013 – June 2014

Southern Blue Whiting – Projects for 2013/14 and Associated Management Objective			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	SBW6B SBW6I	DEE 2010/02 (C) (covers SBW 2010/01 and SBW 2010/05)	November 2013 – June 2014
Acoustic Survey	SBW (Campbell Is) SBW (Bounty Ply)	SBW2010/04 SBW2010/02 (C)	June 2013 – September 2014 July 2013 – June 2014

Ling – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	LIN6B (Bounties)	DEE2010/02 LIN (C)	August 2013 – June 2014
Bycatch Monitoring	LIN (trawl)	DAE 2010/02 (D)	December 2013 – September 2014
Trawl Survey	LIN5 & LIN6	MDT 2010/02A	October 2013 – March 2014
Age Determination	LIN (all)	MID2010/01 (D)	November 2013 – September 2014

Scampi – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	SCI6A	DEE2010/02 SCI (C)	December 2013 – September 2014
Photo &Trawl Survey	SCI3	SCI2010/02 (C)	August 2013 – November 2014

Oreo – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	SSO4, SSO6	DEE2010/02 (C)	December 2013 – September 2014

Hake – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	HAK4 & HAK7	DEE2010/02	December 2013 – June 2014
Bycatch Monitoring	HAK (all)	DAE2010/02 (D)	December 2013 – September 2014
Age Determination	HAK1, HAK4, HAK7	MID2010/01 (D)	November 2013 – September 2014

Squid – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
NONE	-	-	-

Jack Mackerel – Projects for 2013/14 and Associated Operational Objectives			
Objective	**Stock**	**Project Code (10 YRP)**	**Time Frame**
Stock Assessment	JMA7	DEE2010/02JMA	September 2013 – September 2014
Age Determination	JMA7	MID2010/01 (D)	November 2013 – September 2014

Aquatic Environment and Biodiversity Research

The Aquatic Environment and Biodiversity research programmes are managed by the Aquatic Environment Science Team. Aquatic Environment research can be crown funded or cost recovered through levies. In contrast, Biodiversity research is crown funded and addresses more strategic, national-level aquatic environment issues. Aquatic Environment research, separate from that listed within the 10YP, and ongoing deepwater biodiversity research, are listed within Table 7 below.

Table 7: Ongoing biodiversity and aquatic environment research relating to deepwater

Project code	Title	Time Frame
Aquatic Environment Research for the 2013/14 year		
PRO2012/02	Assessment to the risk to marine mammal populations from New Zealand commercial fisheries	2013/14
PRO2013/12	Global seabird risk assessment (for New Zealand species)	2013/14
PRO2013/17	Repeat quantitative modelling of southern Buller's albatross**	2013/14
ENV2013/01	Development of model-based estimates of fish bycatch	2013/14
Project code	**Title**	**Time Frame**
Ongoing deepwater biodiversity research, 2013/14		
ZBD2004/01	Ecosystem-scale trophic relationships: diet composition and guild structure of middle-depth fish on the Chatham Rise. (*5 year project is complete but the release of mainstream publications from the study is ongoing*)	2012/13
ZBD2008/11	Predicting and measuring the effects of ocean acidification on plankton biodiversity and productivity (*5 year programme linked to MSI research*)	2013/14
ZBD2008/15	Continuous Plankton Recorder Project: Sanford New Zealand-Ross Sea time series of phytoplankton and zooplankton biomass in spring and summer (*5 year monitoring programme*)	2013/14
ZBD2012/01	Developing a Tier 1 statistic for Marine Biodiversity	2013/14
ZBD2012/02	Developing a Tier 1 statistic on ocean climate change	2013/14
ZBD2012/03	Benthic Survey Central Chatham Rise (Ocean Survey 20/20)	2013/14

** PRO2013/17 is the only cost recovered project listed within Table 7.

Department of Conservation – Related Research

The Department of Conservation (DOC) carries out marine research each year focussed on protected species interactions in New Zealand waters. Some of the research they plan to carry out in 2013-14 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 8, please see the Marine Conservation Services Annual Plan for 2013-14 on the DOC website (www.doc.govt.nz).

Table 8: Department of Conservation research relating to deepwater fisheries

Project code	Title
Seabirds	
INT2013-02	To determine which seabird species are captured in fisheries and the mode of their capture
INT2013-03	Identification of marine mammals, turtles and protected fish captured in New Zealand fisheries
INT2013-04	Optimisation of observer data collection protocols
INT2013-05	Assessment of cryptic seabird mortality on trawl warps and longlines
POP2012-06	Salvin's albatross – population estimate and at-sea distribution
POP2013-02	White-capped albatross population estimate
Marine Mammals	
POP2013-01	New Zealand sea lions – Auckland Islands population study
POP2012-02	New Zealand sea lions – demographic assessment of the cause of decline at the Auckland Islands
Corals	
POP2013-5	Development of coral distribution modelling
Mitigation	
MIT2012-05	Protected species bycatch newsletter
MIT2013-03	Characterisation of smaller vessel deepwater bottom longline operations in relation to risk factors for seabird capture
MIT2013-04	Basking shark mitigation: detection, avoidance and live release
MIT2013-05	Development of bird baffler design for offshore trawl vessels

Observer Coverage

Biological sampling and environmental monitoring is driven by the 10YP and 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), the Ministry has committed to full observer coverage on all FCVs as of 1 October 2012. This has consequently affected the distribution of observer coverage for the 2012/13 and 2013/14 financial years. Despite this change the Ministry, along with DOC, is working to ensure that fisheries management needs are met in conjunction with meeting full observer coverage on FCVs.

Within Table 9, observer coverage is split into MPI and DOC-specific columns. This split is based on the requirements of observer time to meet both Ministry and DOC research objectives. DOC requires observer coverage to collect information regarding interactions of fishing activity with protected species, while MPI requires observers to undertake fisheries management sampling. Although observer days have decreased in some fisheries as a result of the FCV coverage an organisation of days over the fishing season has occurred to optimise the days that are planned.

Observer coverage will be used to collect biological information that can be classified into two categories, routine sampling, and specific sampling:

Routine sampling - covers the annual data collection requirements that are carried out by observers. For all Tier 1 species, this includes collection of length data and otoliths, monitoring of environmental interactions including benthos, seabirds, marine mammals, and any other non-fish species, and recording bycatch of non-QMS fish species.

Specific sampling - sampling for a given fishing year includes targeted sampling where the Ministry needs additional information on a Tier 1 species, or to collect information on a Tier 2 species to inform a stock characterisation in the following year. In 2013-14 the following Tier 2 stocks will be targeted for data collection leading into characterisations in 2014-15:

- Alfonsino (All stocks)
- Blue (English) mackerel (EMA3 – EMA7)
- White warehou (All stocks)

Specific observer sampling will also take place to meet objectives within the DOC mitigation projects listed in Table 8, as well as MPI aquatic environment projects listed in Table 4 and any additional research projects that may arise throughout the year.

Table 9: Planned observer coverage in deepwater fisheries for 2013-14 (CR % = Percent of days cost recovered by each agency).

Fishery	Fisheries covered	Total days	Ministry	DOC /CSP
Deepwater trawl fisheries:				
ORH 1		55	90% (50)	10% (5)
East Coast NI Deepwater	ORH2A BYX2 CDL2	175	90% (158)	10% (17)
Chatham Rise Deepwater	ORH3B OEO3A, OEO4 BYX3	250	90% (225)	10% (25)
Sub-Antarctic Deepwater	ORH3B OEO1, OEO6	80	90% (72)	10% (8)
West Coast NI Deepwater	ORH7A	20	90% (18)	10% (2)
Hoki & Middle Depth trawl fisheries:				
West Coast SI -Inside the line (FMA7)	HOK1 HAK7 LIN7 SWA1 JMA7 EMA7	65	85% (55)	15% (10)
Cook Strait	HOK1	80	85% (68)	15% (12)
Chatham Rise Domestic (FMA3/FMA4)	HOK1 HAK1, HAK4 LIN3, LIN4 SWA3, SWA4 JMA3 EMA3	140	85% (119)	15% (21)
Foreign Charter Vessels (FCVs)*				
Sub-Antarctic (FMA5/FMA6) West Coast NI (FMA8) West Coast SI (FMA7) Chatham Rise (FMA3/FMA4)	HOK1 HAK All BAR All LIN3-7 SBW All SWA All WWA All SWA All SQU1T, SQU6T JMA3-7	5570	85% (4734)	15% (835)
Deepwater bottom longline fisheries:				
Bottom longline	LIN3, LIN4	98	85% (83)	15% (15)
Shellfish:				
Scampi	SCI (all)	150	80% (120)	20% (30)
Total days:		**6683**		

*The FCV Days listed do not include the observer days for planned for medium and high risk vessels which will be direct charged. There are **1300** days planned for medium to high risk vessels and ET trips.

Part 2B: Service requirements to support deepwater fisheries management during the 2013-14 financial year

I. Resource Management & Programmes (RMP)

Table 10: Business Groups, and teams within the Ministry RMP Branch through which fisheries management services will be delivered

RMP Directorates	Team	Description of responsibilities
1. Fisheries Management	Deepwater	Guide deepwater fisheries management at a national level. Operational management of NZ deepwater fisheries
	Inshore	Guide inshore fisheries management at a national level. Operational management of NZ inshore and freshwater fisheries
	Highly Migratory Species (HMS)	Guide HMS fisheries management at a national and international level. Operational management of NZ HMS fisheries
	Fisheries Stock Assessment (Science)	Scientific advice on stock assessments and research to help meet legislative obligations
	Aquatic Environment (Science)	Scientific advice on the aquatic environment and research to help meet legislative obligations
	Spatial Allocations	Operational management of aquaculture operations, MPA policy, and spatial tools including mātaitai reserves
2. Observer Services Unit	Observer Services Unit	Coordination and administration of at-sea observer programme
3. Administration & Business Support Unit	Support Officers	Provide administrative and budgetary support, including communication with Ministerials and Business Support

1. Fisheries Management

The Fisheries Management group is responsible for the operational management of New Zealand fisheries. The primary focus is to ensure that fisheries are managed within legislative requirements so as to provide for utilisation across all sectors while ensuring all fisheries remain sustainable. This involves determining when management interventions are required and what form these interventions should take – regulatory or non-regulatory. The Fisheries Management Directorate also includes a science component which provides expert advice and interpretation of scientific information. The science teams also are responsible for contracting aquatic environment research and administering the science review process (Table 10).

A. Deepwater team

The Fisheries Management Deepwater Team is responsible for overseeing the management of New Zealand's deepwater and middle-depth fisheries and the implementation of the National Deepwater Plan including this Annual Operational Plan. Therefore the Deepwater team will lead on all identified management actions listed in Table 4.

B. Inshore and Highly Migratory Species (HMS) team

The Inshore Fisheries Management Team is responsible for overseeing the management of New Zealand's inshore commercial, customary, and recreational fisheries. Certain fish species can often be caught within both deepwater and inshore commercial fisheries, therefore responsibility for these fish stocks have been split between management groups as appropriate. All highly migratory species, such as tuna, are managed by the HMS team.

Although governed by different National Fisheries Plans, Deepwater, HMS, and Inshore teams work together on managing national and cross-fishery issues. The management actions listed below address such cross fishery issues.

Table 11: Actions and services required from the Fisheries Management – Inshore Team and HMS Team

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	FM Inshore and HMS to aid in the internal review process of Inital Position Papers (IPPs) and Final Advice Papers(FAPs) to ensure consistency across fisheries management groups	1 October : Jun - (IPP) Aug - (FAP) 1 April: Jan – (IPP) Mar – (FAP)
4	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFPs) into the National Deepwater Plan and its components	FM-Inshore will lead engagement with tangata whenua through the regional Fisheries Forums Ensure any issues relating to deepwater fisheries that emerge through IFPs and FFPs are communicated to Deepwater Team	Ongoing As required
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	FM HMS and NPOA Shark Working group lead the finalisation of the NPOA Sharks (including publication) FM Inshore and FM HMS implement NPOA Sharks within annual fish plan process	Ongoing
20	Engage on environmental issues relating to management of deepwater fisheries through the Environmental Engagement Forums (EEFs)	Work to ensure that annual engagement process is aligned across fish plans and that topics of national importance are addressed through a multi-stakeholder EEF	Ongoing
22	Assess how best to use completed Tier 2 characterisations in the development of management procedures for Tier 2 species	Engage in discussions about Tier 2 species to ensure adequate management measures are in place where stocks are divided between management teams.	Aug–Jun 2014

C. Science team (Stock Assessment & Aquatic Environment)

The Fisheries Management Science teams are responsible for providing scientific advice and ensuring the quality and integrity of scientific information used in fisheries management decisions. For 2013/14 the Science teams will continue further implementation of the Research Standard. This involves the Stock Assessment and Aquatic Environment Working Groups allocating a score to all finalised research reports, as outlined in the Research Standard, to ensure information used in management decisions is scientifically robust. For more information on the Research Standard's ranking system visit: www.fish.govt.nz.

Table 12: Actions and services required from the Science teams

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Finalise working group reports for the Plenary prior to the start of the sustainability rounds Scientific review of all deepwater Initial Position Papers (IPPs) and Final Advice Papers(FAPs) for 1 October and 1 April sustainability rounds	1 October : Jun – (IPP) Aug – (FAP) 1 April: Jan – (IPP) Mar – (FAP)
2	Continue implementation of the National Deepwater Plan	Scientific review of JMA, SCI, and OEO fishery-specific chapters Provide scientific input into the development of the SQU fishery-specific chapter Scientific review of Annual Review Report Scientific review and input to 2014-15 Annual Operational Plan	Jan-Jun 2013 Oct-Dec 2012 April 2013
3	Ensure completion of Ministerial communications including briefings, Ministerials,[8] Special Permits, and Official Information Act (OIA) requests within designated timeframes	Aid in the collation of any information required to adequately respond to Ministerial communication	As required
6	Monitor management regime for SQU6T fishery to address interactions with sea lions	Scientific review of any new management measures for SQU6T	Dec 2013
7	Maintain an open and transparent management environment by ensuring that all management information is available and easily accessible for stakeholder and tangata whenua consideration	Work with FM Deepwater to develop Science Fact Sheets to help aquatic environment research more visible to general public	Oct – Dec 2013
8	Monitor and measure the level of seabird interactions with deepwater fishing activity	Provide scientific review of annual estimates of seabird captures in deepwater fisheries	Ongoing
9	Monitor and measure the level of marine mammal interactions with deepwater fishing activity	Review annual estimates of marine mammal captures in deepwater fisheries	Ongoing

[8] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

#	Action	Service	Timeframe
10	Monitor the level of shark interactions with deepwater fishing activity	Review annual estimates of shark captures in deepwater fisheries	Ongoing
12	Monitor and measure the nature and extent of benthic interactions from deepwater fishing activity	Review research results of trawl footprint analysis	July 2013
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	Provide scientific advice into the development , peer review, and implementation of the NPOA Sharks	Jul – Sept 2013
15	NPOA Seabirds: Work to achieve the five year practical, biological, research and development, and international objectives within deepwater fisheries	Provide scientific advice and peer review of management actions made to address NPOA objectives Review results of associated seabirds research and ensure sea bird risk assessment is updated efficiently	July 2013 Ongoing
16	Facilitate continued Marine Stewardship Council (MSC) Certification of deepwater fisheries, including closing Conditions of Certification (CoCs) and passing annual surveillance audits	Provide scientific advice on all relevant MSC processes	As required
17	Develop and implement specific harvest strategies for Tier 1 species, which enable economically viable deepwater and middle-depth fisheries over the long-term	Work with FM Deepwater to ensure any harvest strategies developed for Tier 1 species are robust and meet legislative requirements	Oct-Jun 2013-14
18	Update observer sampling protocols to ensure sufficient and appropriate data are collected in line with deepwater research requirements	Provide scientific advice on data collection needs for research projects	Jul-Oct 2013
22	Assess how best to use completed Tier 2 characterisations in the development of management procedures for Tier 2 species	Resume Middle-depth Working Group as a forum to review completed Tier 2 characterisations, and work to identify most appropriate monitoring tool Ensure contracted Tier 2 characterisations results are included within in the updated plenary report	Jul-May 2013-14
24	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).	Review finalised research reports to ensure research conducted under the 10 Year Research Programme meets the Research Standard Rank final projects as per the Research Standard	Ongoing
25	Finalise the risk assessment framework for Deepwater fish species and conduct a spatially explicit risk assessment for Tier 2, Tier 3, and any other protected fish species	Finalise the risk assessment methodology Continue to monitor catch of Tier 2 and Tier 3 species through commercial catch records, surveys, and observer data, and report through the ARR Pilot methodology on Tier 2, Tier 3, and any other fish that are protected species	Oct-June 2013-14

#	Action	Service	Timeframe
27	Finalise the definition of 'habitats of particular significance' for deepwater fisheries	Provide scientific advice on the development and application of "habitats of particular significance for fisheries management"	As required

2. Observer Services

The Observer Services Unit of the RMP branch collects information to underpin science, compliance, and management. Observers are deployed on commercial fishing vessels to carry out routine biological sampling, stock-specific sampling for a given year, monitor environmental interactions, and observe and record compliance with regulatory and non-regulatory management measures. Table 13 sets out the Management Actions to which the at-sea observer programme most directly contributes.

Table 13: Actions and services required from the Observer Services Unit

#	Action	Service	Timeframe
4	Ensure completion of Ministerial communications including briefings, Ministerials,[9] Special Permits, and Official Information Act (OIA) requests within designated timeframes	Aid in the collation of any information required to adequately respond to Ministerial communication	As required
6	Monitor management regime for SQU6T fishery to address interactions with sea lions	Achieve 2013-14 planned observer coverage of the SQU6T fishery, including SLED checks, and work with FM Deepwater to monitor fishing activity throughout the season	Jan-July 2014
8	Monitor and measure the level of seabird interactions with deepwater fishing activity	Ensure observers are adequately briefed and capable of monitoring seabird interactions and audit vessel adherence to VMPs Communicate triggers to FM Deepwater in timely manner	Ongoing
9	Monitor and measure the level of marine mammal interactions with deepwater fishing activity	Ensure observers are adequately briefed and capable of monitoring marine mammal interactions and audit vessel adherence to MMOP Communicate triggers to FM Deepwater in timely manner	Ongoing
10	Monitor the level of shark interactions with deepwater fishing activity	Ensure observers are adequately briefed and capable of identifying and monitoring shark interactions with deepwater fishing vessels	Ongoing
12	Monitor and measure the nature and extent of benthic interactions from deepwater fishing activity	Monitor and accurately record captures of benthic material	Ongoing
13	Assist the wider Ministry in implementing the Cabinet decisions made in response to the Ministerial Inquiry into the Use and Operation of FCVs	Provide observer coverage on all FCVs so as to meet our Ministry obligations	Jul-Dec 2013
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	Ensure observers have the tools to accurately record shark species caught in deepwater fisheries Ensure observer are briefed accurately so as to ensure any needed shark sampling is conducted	Ongoing

[9] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

#	Action	Service	Timeframe
15	NPOA Seabirds: Work to achieve the five year practical, biological, research and development, and international objectives within deepwater fisheries	Work to achieve planned observer coverage planned for seabird monitoring and mitigation research	Jul-Jun 2013-14
18	Update observer sampling protocols to ensure sufficient and appropriate data are collected in line with deepwater research requirements	Work in partnership with FM Deepwater to update observer sampling protocols and briefing documents	July-Aug 2013
22	Assess how best to use completed Tier 2 characterisations in the development of management procedures for Tier 2 species	Work to achieve specific sampling requirements for Tier 2 species (BYX, EMA, WWA)	Jul-Jun 2013-14
23	Identify meaningful compliance metrics and align current compliance monitoring to meet these	When needed aid compliance and FM deepwater to monitor and communicate compliance issues (with a focus on the SBW fishery)	Aug-Sept 2013
25	Finalise the risk assessment framework for Deepwater fish species and conduct a spatially explicit risk assessment for Tier 2, Tier 3, and any other protected fish species	Monitor and accurately record captures of Tier 3 bycatch species	Ongoing

3. Administrative & Business Support Unit

The Administrative and Business Support Unit provide administrative and budgetary support for the entire RMP branch. The Unit also helps communicate with the Ministerial Team and the Office of the Director General. Furthermore, the Management Actions detailed in Table 14 highlight the important role that the Administrative & Business Support team has in the FCV registration process.

Table 14: Actions and services required from Administrative & Business Support

#	Action	Service	Timeframe
1,2, 3,7	Multiple	Provide administrative support when finalising, printing, and seeking consultation on fisheries management documents	Ongoing
5	Ensure continued implementation of registration process and risk-based observer coverage for FCVs	Continue risk based registration process in communication with Compliance and Fish Serve	Ongoing
13	Assist the wider Ministry in implementing the Cabinet decisions made in response to the Ministerial Inquiry into the Use and Operation of FCVs	Work with FCV Project Team and FCV Steering Group as a new process for vessel registration is developed to address FCV reflagging	Jul-Dec 2013

II. Services from the wider Ministry:

Table 17: Directorates and business groups outside RMP from which some fisheries management services will be required

Branch	Directorate	Description of responsibility
1. Maori Primary Sector Partnerships	Maori Partnership Advice	Provide strategic and operational advice to fisheries management on delivery of obligations and strategic outcomes to Maori
	Maori Partnership Implementation	Assist the implementation of Ministry initiatives that improve Maori primary sector productivity increasing sustainable resource use including the delivery of fisheries related obligations to Maori
2. Corporate Services	Legal Services	Legal advice on the interpretation of relevant fisheries legislation in support of policy development, management interventions, and ministerial communications
	Finance, procurement, and property	Assist with budget advice and contract management for deepwater fisheries research
	Business Technology & Information Services	Enable business technology solutions and deliver high quality information and technology services to staff and external stakeholders. Manage data (including Geospatial), records and business intelligence
3. Compliance & Response	Compliance	Accountable for all compliance activities including patrol, operational surveillance, inspection, tactical intelligence analysis and investigation
4. Policy	International Policy	Represent New Zealand interests in international forums and provide advice on management of straddling and trans-boundary stocks
5. Office of the Director General	Ministerials & Business Group	Ensuring effectiveness of governance groups and Ministerial processes within the Ministry
	Communications & Channels	Coordination of media presence and external communications

1. Maori Primary Sector Partnerships Branch

One responsibility of the Ministry's Maori Primary Sector Partnerships Branch is to liaise with iwi throughout the development of Iwi Fisheries Plans and Forum Fisheries Plans to ensure that Maori interests in fisheries management are addressed. Teams within the Maori Primary Sector Partnership Branch will be contacted for internal peer review on a number of Fisheries Management documents to ensure that measures encapsulate Maori Primary Industry interests.

Table 18: Services required from the Directorates within the Maori Primary Sector Partnerships Branch in order to accomplish Management Actions

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Review of all deepwater Initial Position Papers (IPPs) and Final Advice Papers (FAPs) for 1 October and 1 April sustainability rounds	1 October : Jun - (IPP) Aug - (FAP) 1 April: Jan – (IPP) Mar – (FAP)
2	Continue implementation of the National Deepwater Plan	Collaborate on development of 2013/14 Annual Operational Plan to ensure consideration and prioritisation of IFP/FFP objectives for the management of deepwater fisheries	Jan-Jun 2013
4	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFPs) into the National Deepwater Plan and its components	Liaise with Inshore and Deepwater Teams to develop a communication programme to effectively engage with iwi on deepwater fisheries management issues through the Iwi Fisheries Plan Forum	Ongoing

2. Corporate Services Branch

Within the Corporate Services Branch there are three directorates from which the Deepwater Team will seek services to implement management actions:

A. Legal Services

B. Finance

C. Business Technology & Information Services

A. Legal Services Directorate

The Ministry's Legal Services Directorate provides expert knowledge and legal opinion on the interpretation of relevant fisheries legislation to support policy development and management interventions. Table 19 sets out specific Management Actions that will require services from the legal team, however, the Deepwater Team will require ad hoc legal advice throughout the year as issues arise.

Table 19: Services required from the Legal Services Branch within the Corporate Services Branch in order to accomplish Management Actions

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Legal review of all deepwater Initial Position Papers (IPPs) and Final Advice Papers(FAPs) for 1 October and 1 April sustainability rounds	1 October : Jun - (IPP) Aug - (FAP) 1 April: Jan – (IPP) Mar – (FAP)
3	Ensure completion of Ministerial communications including briefings, Ministerials,[10] Special Permits, and Official Information Act (OIA) requests within designated timeframes	Legal peer review of final responses and information released through OIA	Ongoing

[10] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

#	Action	Service	Timeframe
5	Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels (FCVs)	Provide legal advice and input into vessel registration applications and assignment of risk status Provide advice on any conditions to be placed on a vessel registrations	Ongoing
13	Assist the wider Ministry in implementing the Fisheries (Foreign Charter Vessels and Other Matters) Amendment Bill	Provide legal advice and input as the Ministry works to implement the Fisheries (Foreign Charter Vessels and Other Matters) Amendment Bill	July-Oct 2013
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	Provide legal advice and input as the Fisheries Management Directorate works to finalise and implement the NPOA Sharks	As needed
19	Whilst working to achieve credible third party certification, provide information and communication to improve market assurance for New Zealand's seafood exports	Provide legal advice and peer review on any material created by the FM Deepwater about New Zealand's seafood for public circulation	As needed
21	Develop and implement a process for identifying additional research, including a formalised process for tender evaluations and long term contracts	Provide legal advice and review of any additional research contracted by FM Deepwater	As needed
27	Finalise the definition of 'habitats of particular significance' for deepwater fisheries	Provide legal advice and review of any definition drafted by the Fisheries Management Directorate	As needed
DW	INDUSTRY INITIATED	Provide legal review and advice for any special permits, or submissions for QMA boundary changes	As needed

B. Finance Directorate

The Finance Directorate is responsible for asset management, centralised purchasing, facilities and contracts management.

Table 20: Services required from the Finance Directorate in order to accomplish Deepwater Management Actions

#	Action	Service	Timeframe
21	Develop and implement a process for identifying additional research, including a formalised process for tender evaluations and long term contracts	Work with FM Deepwater to ensure a proper process is developed around additional research Provide procurement advice on budgets, research contracts, and contract monitoring	July-Oct 2013 As needed
24	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).	Provide procurement advice and contract monitoring	Ongoing

C. Business Technology & Information Services Directorate

The Business Technology & Information Services Directorate is responsible for the information systems of the Ministry, ensuring effective collection of information, and the development of technology solutions. This includes Ministry software development and the Records and Data Management function. The Information Services team is also responsible for day-to-day IT support for the Deepwater Team and the Ministry 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.

3. Compliance & Response Branch

A. Compliance Directorate

The Compliance Directorate, within the Compliance & Response 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 RMP through the Fisheries Management Directorate and Observer Services Unit.

Successfully delivering on the Management Objectives for deepwater fisheries is dependent upon high levels of compliance with various sustainability and environmental management measures, be they regulatory or 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).

The Ministry’s compliance activities are based on education, monitoring, surveillance, audit, analysis, and enforcement through investigation and prosecution of offences. Since 2009, the Ministry 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 2013-14 management objectives are listed in Table 21. These service requirements are in addition to the general monitoring and surveillance activities undertaken by the Compliance Directorate.

Table 21: Services required from the Compliance Directorate in order to accomplish Management Actions

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Review of all deepwater Inital Position Papers (IPPs) and Final Advice Papers(FAPs) for 1 October and 1 April sustainability rounds	1 October: Jun - (IPP) Aug - (FAP) 1 April: Jan – (IPP) Mar – (FAP)
5	Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels (FCVs)	Provide compliance information to FM Directorate to help inform risk ratings for registration purposes	Ongoing
6	Monitor management regime for SQU6T fishery to address interactions with sea lions	Work with FM Deepwater and Observers Services Unit to implement monitoring regime in the SQU6T fishery including ongoing SLED inspections	Dec 2013
8	Monitor and measure the level of seabird interactions with deepwater fishing activity	Help monitor proper recording of seabird interactions and adherence to regulatory measures in deepwater fisheries	Ongoing
9	Monitor and measure the level of marine mammal interactions with deepwater fishing activity	Help monitor proper recording of marine mammal interactions and adherence to regulatory measures in deepwater fisheries	Ongoing
16	Facilitate continued Marine Stewardship Council (MSC) Certification of deepwater fisheries, including closing Conditions of Certification (CoCs) and passing annual surveillance audits	Work with FM Deepwater to ensure compliance reports for deepwater fisheries are available for any MSC audits	As required
23	Identify meaningful compliance metrics and align current compliance monitoring to meet these	Work with FM Deepwater to develop meaningful compliance metrics Monitor levels of compliance against those metrics and report quarterly Continue to operate the VADE compliance model	Oct-Jan 2013-14 Ongoing

4. Policy Branch

The Policy Branch is responsible for providing advice on a wide range of legislation administered by the Ministry. 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 include:

A. International Policy Directorate

B. Sector Policy Directorate

A. International Policy Directorate

The Deepwater Team requires input from the International Policy Directorate on international engagement, trade, and market access. Furthermore, this Directorate ensures the quality of MPI's international engagement on international fisheries issues.

Table 22: Services required from the International Policy Directorate that will aid in the completion of management actions

#	Action	Service	Timeframe
3	Ensure completion of Ministerial communications including briefings, Ministerials, Special Permits, and Official Information Act (OIA) requests	Provide peer review of any relevant matters	Ongoing
19	Whilst working to achieve credible third party certification, provide information and communication to improve market assurance for New Zealand's seafood exports	Work with FM Deepwater to improve the international reputation of New Zealand Seafood Products	Jul–Jun 2013-14
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	Provide peer review of NPOA Sharks and aid in implementation	Jul-Oct 2013

B. Sector Policy Directorate

The Sector Policy Directorate is responsible for 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.

Table 23: Services required from the Sector Policy Directorate which will aid in completing the following management actions

#	Action	Service	Timeframe
3	Ensure completion of Ministerial communications including briefings, Ministerials,[11] Special Permits, and Official Information Act (OIA) requests within designated timeframes	Provide peer review of any relevant matters	Ongoing

[11] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

#	Action	Service	Timeframe
19	Whilst working to achieve credible third party certification, provide information and communication to improve market assurance for New Zealand's seafood exports	Work with FM Deepwater to increase market assurance and export value of New Zealand Seafood	Jul –Jun 2013-14
26	Assist the Ministries' Policy Branch with review of policy developments and any necessary fisheries management information	Lead the development of fisheries policy including Fisheries Act review around decision making and deemed values framework	July-Jun 2013-14
27	Finalise the definition of 'habitats of particular significance' for deepwater fisheries	Provide policy advice in the development of the definition	As needed

5. Office of the Director General Branch

The Office of the Director General is responsible for monitoring the performance of the Ministry, external communications such as press releases, and all Ministerial communications. The two directorates within this Branch that will support the Deepwater Team in achieving the 2013-14 objectives are:

A. Ministerials and Business Support Directorate

B. Communications and Channels Directorate

A. Ministerials and Business Support Directorate

The Ministerial and Business Support Directorate is the point of contact between the Ministry and the Minister's Office. This Directorate is responsible for ensuring governance groups within the Ministry function effectively and ensure that the Ministerial process is managed effectively.

Table 24: Services required from the Ministerial and Business Support Directorate

#	Action	Service	Timeframe
3	Ensure completion of Ministerial communications including briefings, Ministerials,[12] Special Permits, and Official Information Act (OIA) requests within designated timeframes	Coordination of briefings, Ministerials and OIA requests and general communication with the Minister's Office	Ongoing

[12] Ministerials are responses to the public on behalf of the Minister for Primary Industries or the Prime Minister.

B. Communications and Channels Directorate

The Communications and Channels Directorate is responsible for providing strategic communications advice, to ensure that MPI communicates with internal and external stakeholders in an effective and efficient manner. This Directorate is also responsible for overseeing and developing the Ministry's communications channels (e.g. websites).

Table 25: Services required from the Communications and Channels Directorate

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Work with FM Directorate to ensure public consultation and Final Advice is appropriately communicated to public and Ministry	1 October: Jun - (IPP) Aug - (FAP) 1 April: Jan – (IPP) Mar – (FAP)
7	Maintain an open and transparent management environment by ensuring that all management information is available and easily accessible for stakeholder and tangata whenua consideration	Work with FM Deepwater and FM Science to publish Science Information Sheets to help improve visibility of MPI aquatic environment research and management measures	Oct – Dec 2013

III. Deepwater Group Ltd. Services

The Deepwater Group Ltd (DWG) is a non-profit company that represents owners of deepwater fishing quota. The DWG works in partnership with the Ministry to ensure New Zealand gains the maximum economic yield from New Zealand's deepwater fisheries resources while ensuring fisheries remain sustainable and environmental effects are managed appropriately. A primary function of DWG is to represent the interests of quota owners and provide a communication channel between the Ministry and the deepwater fishing industry to facilitate full engagement on management of deepwater fisheries.

The Ministry signed a Memorandum of Understanding (MOU) with the Deepwater Group Ltd in 2006. This MOU was subsequently updated in 2008 and most recently in 2010. The MOU establishes a structured partnership that enables the Ministry and DWG to manage New Zealand's deepwater fisheries collectively. Because of this collaborative arrangement, the Deepwater Annual Operational Plan also specifies how the DWG will contribute to the delivery of Management Actions and in turn Management Objectives.

Table 26: Actions and services required from Deepwater Group Ltd.

#	Action	Service	Timeframe
1	Review stocks for the 1 October and 1 April sustainability rounds, including deemed values	Work with FM Deepwater in initial consultation around sustainability options for deepwater stock	April-May 2014
2	Continue implementation of the National Deepwater Plan	Collaborate on development of 2014/15 Annual Operational Plan to ensure consideration and prioritisation of IFP/FFP objectives for the management of deepwater fisheries	April-Jun 2014

#	Action	Service	Timeframe
4	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFPs) and Forum Fisheries Plans (FFPs) into the National Deepwater Plan and its components	Communicate with Maori quota owners through Iwi Forums when needed	As needed
6	Monitor management regime for SQU6T fishery to address interactions with sea lions	Work with FM deepwater to monitor SQU6T fishery , specifically; • Ensure weekly reports are delivered on time • Initial SLED checks are sent through to MPI • Organise an end of season debrief with Quota Owners, Operators, and FM Deepwater	Jan- Jul 2014
7	Maintain an open and transparent management environment by ensuring that all management information is available and easily accessible for stakeholder and tangata whenua consideration	Provide feedback on any material developed by FM Deepwater for public circulation Circulate any relevant material to DWG stakeholders	As needed
8	Monitor and measure the level of seabird interactions with deepwater fishing activity	Work with FM deepwater to ensure Observers are effectively trained to audit VMP process Continue seabird education programme and distribution of learning resources to deepwater fleet	Jul-Jun 2013-14
9	Monitor and measure the level of marine mammal interactions with deepwater fishing activity	Work with FM deepwater to ensure Observers are effectively trained to audit MMOP process Work with FM deepwater to further develop MMOP in JMA fishery Collaborate with FM Deepwater to address at-sea issues relating to marine mammal interactions in real-time Continue to implement environmental education programme	Jul-Jun 2013-14
10	Monitor the level of shark interactions with deepwater fishing activity	Work with FM Deepwater in monitoring shark interactions with deepwater vessels Work with Deepwater Team to develop a Shark Operational Plan for deepwater vessels	Ongoing
11	Monitor non-regulatory management measures relating to Sub-QMA catch limits and Hoki Management Areas (HMAs)	Monitor adherence to non-regulatory measures including sub-QMA area catch reporting and protected species measures	Ongoing
12	Monitor and measure the nature and extent of benthic interactions from deepwater fishing activity	Work with FM Deepwater to measure the nature and extent of benthic interactions from deepwater fishing activity	Ongoing
14	Assist in finalising and implementing the National Plan of Action for Sharks (NPOA Sharks)	Aid in reviewing and participating in the development and finalisation of the NPOA Sharks	Jul-Oct 2013

#	Action	Service	Timeframe
15	NPOA Seabirds: Work to achieve the five year practical, biological, research and development, and international objectives within deepwater fisheries	Work with FM Deepwater in achieving management actions to address NPOA objectives Work with FM Deepwater in development and implementation of VMPs for scampi vessels	Ongoing Jul-Oct 2013
16	Facilitate continued Marine Stewardship Council (MSC) Certification of deepwater fisheries, including closing Conditions of Certification (CoCs) and passing annual surveillance audits	Coordinate the completion of any CoCs to ensure they are met within required timeframes Coordinate material for annual surveillance audit and re-certification process	Ongoing
17	Develop and implement specific harvest strategies for Tier 1 species, which enable economically viable deepwater and middle-depth fisheries over the long-term	Engage on development of biological reference points and harvest strategies for orange roughy, southern blue whiting, and ling in the first instance Work with the Ministry to coordinate development of economic yield strategies	Ongoing
19	Whilst working to achieve credible third party certification, provide information and communication to improve market assurance for New Zealand's seafood exports	Coordinate market access issues from an industry perspective	As needed
20	Engage on environmental issues relating to management of deepwater fisheries through the Environmental Engagement Forums	Engage in EEFs on any relevant deepwater of national topics	Ongoing
22	Assess how best to use completed Tier 2 characterisations in the development of management procedures for Tier 2 species	Participate in Middle-Depth working groups, and work with FM Deepwater during development of management procedures using current Tier 2 characterisations	Ongoing
25	Finalise the risk assessment framework for Deepwater fish species and conduct a spatially explicit risk assessment for Tier 2, Tier 3, and any other protected fish species	Provide feedback throughout the development of the ERA	July-Jun 2013-14
27	Identify 'habitats of particular significance' for deepwater fisheries management using recently defined working definition	Provide feedback and coordinate industry perspective on draft definition	As needed
DW	INDUSTRY INITIATED	Coordinate and lead any industry proposals and clearly communicate goals to FM Deepwater	As needed

Part 2C: 2012 management overviews, key management settings and harvest strategies

Part 2C provides an overview of the current management approach and performance indicators for each Tier 1 species currently managed through the National Deepwater Plan. Details of species currently covered through the National Deepwater Plan are shown in Table 27. The harvest strategy for each species is summarised, together with details of any in-season management measures that are in place (where appropriate). Descriptions are also provided of the actions that will be taken if stocks fall below the management target and reach either the hard or soft limit.

Summary tables of key management settings and performance indicators are included for these Tier 1 species and the Tier 2 species in Appendix I. These tables will provide the basis for auditing the performance of each fishery against the performance indicators and review criteria in the National Deepwater Plan. The performance audit will be included in the Annual Review Report.

Table 27: Stocks currently included in the National Deepwater Plan

Tier 1	Tier 2
Hoki	Silver warehou: All Spiny dogfish: SPD4, SPD5 Frostfish: FRO3-FRO9 White warehou: All Lookdown dory: All
Orange roughy	Black cardinalfish: All
Southern Blue Whiting	None
Ling	Ribaldo: RIB3-RIB8 Patagonian toothfish: All
Hake	None

There are currently no specific biological reference points/management targets in place for key bycatch stocks (Tier 2). Until management procedures are specified, default targets from the Harvest Strategy Standard will be used. As harvest strategies and management procedures are developed, they will be included in subsequent AOPs and reported in ARRs.

Management overviews

Target fishery - Hoki

Management approach

The hoki fishery is managed as two distinct stocks under a single TACC, HOK1, which covers fisheries management areas 1-9. The two stocks consist of the following defined fishing areas:

1. Eastern hoki stock: Cook Strait, Chatham Rise, East Coast South Island (ECSI) and East Coast North Island (ECNI).
2. Western hoki stock: West Coast South Island (WCSI), Sub-Antarctic and Puysegur Bank

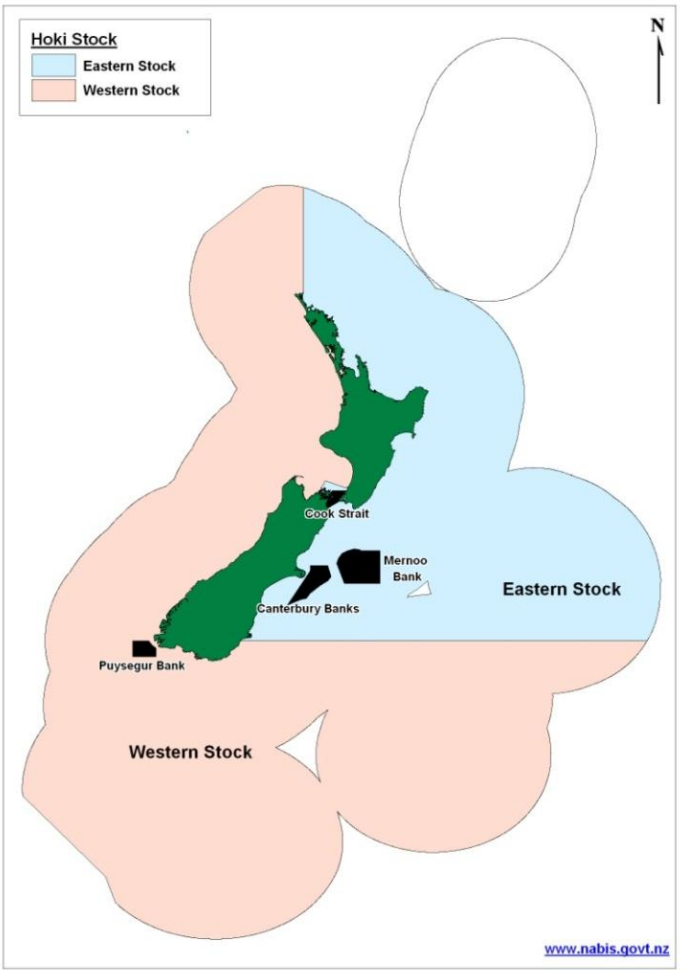


Figure 3: Boundaries between the eastern and western stocks and the four Hoki Management Areas (dark areas)

The management approach for hoki is assessment-based and leads to regular TAC and TACC reviews. The stock assessment is informed by the annual monitoring of the biomass of both stocks and provides estimates of stock status in line with the reference points described in the hoki harvest strategy, described below.

In 2001, quota owners implemented agreed catch limits within the TACC to manage catches from both the eastern and western stocks. The proportion of the TACC to be taken from each stock are set by the Ministry based on the annual stock assessments. Quota owners have also implemented an additional range of non-regulatory management measures to reduce catches of juvenile hoki. These measures focus on restricting target hoki fishing in areas of relatively high juvenile abundance; these areas are termed Hoki Management Areas (HMAs). For more information on HMAs please see the hoki fishery-specific chapter of the National Deepwater Plan.

In support of the assessment-based approach to managing hoki, both the eastern and western hoki stocks are monitored regularly through two fisheries independent wide area trawl surveys, one of the Chatham Rise, and the other of the sub-Antarctic. Both these trawl surveys take place during summer and represent an established time series of hoki abundance estimates.

Under the 10YP, a new survey on the west coast of the South Island has commenced to monitor the Western stock spawning stock and other associated fisheries. The Eastern stock spawning aggregations in Cook Strait are also surveyed acoustically every second year. Biomass estimates from all surveys are used in the hoki stock assessment.

Harvest Strategy

The core elements of the harvest strategy in place for hoki are as follows:

Table 28: Harvest strategy for hoki

Harvest strategy components	Management response
Management target range of 35 - 50% B_0	Stock permitted to fluctuate within this management target to an acceptable level.
Soft limit of 20% B_0	A formal time constrained rebuilding plan should be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which fisheries should be considered for closure.
Rebuild strategy	Catch limit set to deliver half the rate of rebuild that would occur in the absence of fishing.
Harvest control rule	Management actions determined by the results of a series of forward projections under a range of catch assumptions, guided by the biological reference points

Biomass in the hoki fishery should be managed to fluctuate around the target reference range with an accepted probability of at least 50%.

If the results of the hoki stock assessment indicate the fishery is below the target level, and there is a greater than 50% probability the fishery has reached the soft limit, the hoki rebuild strategy will be implemented. TACC or other management regimes are likely to be implemented prior to this point being reached.

The hoki rebuild strategy requires that the TACC should be adjusted to allow a catch level that will ensure the stock biomass approaches at least 50% of the biomass that would have rebuilt in the absence of fishing, over five year biomass projections.

If the results of the hoki stock assessment show that the fishery is below the target and has breached the hard limit then more stringent management action is required. This will likely include setting a zero catch limit for a period until the fishery has rebuilt to a level where there is at least a 70% probability of being above the soft limit.

Under current management settings it is unlikely that the fishery will reach the soft or hard limits due to fishing activity alone. However, changes to stock recruitment levels or environmental factors that affect the fishery could lead to declines in stock size below the management target. Should this happen, management settings will be reviewed and the necessary changes will be made. Changes could include setting lower catch limits, altering the harvest strategy, implementing a stock rebuild and, in cases where the hard limit has been breached, possibly closing the fishery. For more information see the annual Stock Assessment Plenary

Associated fisheries

Management Approach

Key associated (Tier 2) stocks managed in conjunction with the hoki fishery include:

- Silver warehou: SWA1, SWA3, and SWA4
- Frostfish: FRO3, FRO4, FRO5, FRO6, FRO7, FRO8, and FRO9
- Spiny dogfish: SPD4 and SPD5
- White warehou: WWA3, WWA4, WWA5B, WWA7, WWA8, and WWA9
- Lookdown dory: LDO1 and LDO3

All Tier 2 species will undergo characterisations at three year intervals to determine potential approaches for monitoring. Additional stock monitoring for bycatch species is based on information availability and varies by species as described in Table 29.

Table 29: Monitoring approach for Tier 2 key bycatch stocks

Stock	Monitoring approach
Silver warehou	• CPUE in SWA1 • Work will continue to establish CPUE for SWA3 & 4 • Otoliths will be collected in SWA1, 3 and 4 for catch-at-age information
Frostfish	• Characterisation to determine if CPUE might be a useful index of abundance • Otoliths will be collected in FRO7 & 8 for catch-at-age information
Spiny dogfish	• Characterisations will be used to determine if CPUE can be used as an index of abundance
White warehou	• CPUE will be investigated as a tool to monitor abundance • Otoliths will be collected in WWA5 & 6 for catch-at-age information
Lookdown dory	• Relative abundance is monitored in annual hoki trawl surveys of the Chatham Rise and Sub-Antarctic • Otoliths will be collected in LDO3 for catch-at-age information

Harvest strategy

The harvest strategy for all the Tier 2 stocks is based on the following generic reference points (Table 30) and corresponding management responses detailed in the Ministry's Harvest Strategy Standard.

Table 30: Default biological reference points and associated management reposes used in hake fisheries

Reference point	Management response
Management target of 40% B_0	The stock is permitted to fluctuate around this management target. TAC/TACC changes will be employed to keep the stock around the target (with a 50% probability of being at the target).
Soft limit of 20% B_0	A formal, time-constrained rebuilding plan will be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which a fishery will be considered for closure.
Rebuild strategy	To be determined.
Harvest control rule	Management actions focussed on adjusting fishing mortality determined following consideration of the results of stock assessments and in some cases, forward projections under a range of catch assumptions, guided by the biological reference points.

Target fishery – Orange roughy

Management approach

The orange roughy fishery is divided into eight quota management areas (QMAs) which are divided into 10 discrete management sub-areas. These sub-areas are managed separately with each having an agreed catch limit. Where a sub-area boundary aligns with the boundaries of a single QMA the catch limit is the TACC (e.g. ORH7A). Catch limits for the orange roughy stocks which are not delineated by QMS boundaries are set by agreement between the industry and Government via the splitting of TACCs into area limits (e.g. ORH3B) or amalgamating QMAs to set fishery limits (e.g. ORH MEC).

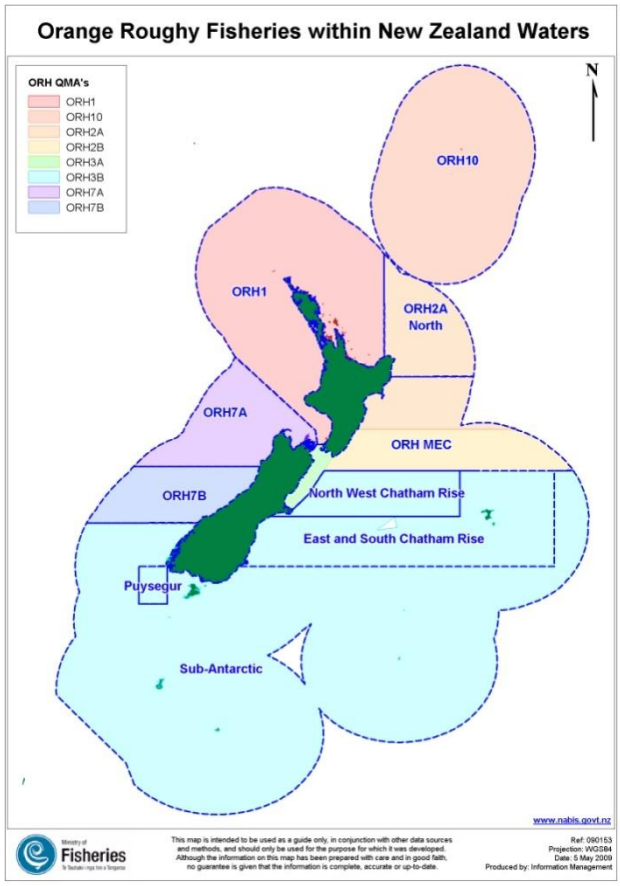


Figure 4: Orange roughy QMAs and management sub-areas

The current management approach differs among the eight stocks as summarised in Table 31. Table 31 also lists the monitoring methodology used for each stock and details which orange roughy stocks are assessed as Tier 1 stocks for management purposes, and which stocks are assessed as Tier 2 stocks.

Three of the Tier 1 orange roughy stocks are currently managed using an F_{MSY} approach. This approach is based on applying the fishing mortality rate (F) that, if applied constantly, would result in an average catch corresponding to the Maximum Sustainable Yield (MSY) and an average biomass corresponding to B_{MSY}. F_{MSY} is currently set at the rate of natural mortality (M) of orange roughy, which is estimated to be 0.045, or 4.5% of the current stock.

For those stocks which utilise this approach, the fishing mortality rate (F) is applied to the estimate of biomass that is derived from the monitoring approach listed for each stock in Table 31.

Table 31: Overview of the current management and monitoring approaches for orange roughy stocks and sub-stocks

Tier	Stock	Current Management Approach	Monitoring
Tier 1 orange roughy stocks	ORH3B (E&S Chatham Rise)	Modelling estimates of B_{MSY}	Acoustic survey of spawning plumes
	ORH3B (Puysegur)	F_{MSY} approach	Acoustic survey
	ORH3B (NW Chatham Rise)	Model-based approach	Acoustic/trawl survey
	ORH7A	F_{MSY} approach	Acoustic survey
	ORHMEC	Assessment model biomass and outputs used as basis for F_{MSY} approach	To be determined
	ORH1	Subject to proposed ORH management strategy evaluation	
Tier 2 orange roughy stocks	ORH1 (Mercury-Colville)	Subject to proposed ORH management strategy evaluation	
	ORH2A North	CPUE monitoring and other information derived from characterisation	Observer sampling
	ORH3B (Sub-Antarctic)	CPUE monitoring and other information derived from characterisation	Observer sampling
	ORH7B	Apply ORH7A approach in time with possible addition of trawl survey	Currently closed

Harvest strategy

The following reference points and corresponding management responses were derived from the Harvest Strategy Standard and apply to all orange roughy stocks. The F_{MSY} approach, that partially specifies how catch limits are set, is based on the reference points described in Table 32.

The F_{MSY} management approach has been adopted for the major Tier 1 stocks, to give effect to the reference points described in Table 32. To date, this approach has been adopted for the ORH3B (Puysegur), ORH7A, and the MEC fishery.

Management is based on a fishing mortality approach where:

- If $B_{CURRENT}$ is above the soft limit then F is set at F_{MSY} (assumed to be M or 4.5% $B_{CURRENT}$)
- If $B_{CURRENT}$ is below the soft limit but above the hard limit a lower catch limit may be considered to increase the speed and certainty of the rebuild
- If $B_{CURRENT}$ is below the hard limit then closure of the fishery is considered (F set to zero)

In 2013 the Ministry and DWG developed a new harvest strategy for the East and South Chatham Rise sub-stock. This harvest strategy establishes a management target range of 30-40% B_0, a more conservative target than the 30% B_0 described in Table 32. The default soft and hard limits of 20% B_0 and 10% B_0 respectively have been retained from the earlier iteration of the harvest strategy.

Table 32: Harvest strategy for orange roughy

Reference point	Management response
Management target of 30% B_0	Stock permitted to fluctuate around this management target. TAC changes will be employed to move stock toward or above target.
Soft limit of 20% B_0	For stocks with model-based assessments, a formal time-constrained rebuilding plan may be implemented if this limit is reached. For stocks with F_{MSY} approaches, a lower catch limit may be considered if this limit is reached.
Hard limit of 10% B_0	The limit below which fisheries will be considered for closure.
Rebuild strategy	Partially specified in F_{MSY} approach, to be determined for other stocks.
Harvest control rule	Partially specified in F_{MSY} approach, to be determined for other stocks.

Information on the current status of orange roughy stocks can be found in Appendix I, or for more information see the 2012 Stock Assessment Plenary.

Associated Fishery

The associated (Tier 2) stock managed in conjunction with the orange roughr fishery is:

- Black cardinalfish (All)

Management Approach – Black Cardinalfish

All cardinalfish stocks are Tier 2 stocks. The abundance of cardinalfish will be monitored using CPUE in the trawl fisheries. All stocks will undergo CPUE standardisation and characterisation at three year intervals using information gathered during trawl surveys and length frequency information from trawl surveys and observers on commercial fishing vessels.

Harvest strategy

The harvest strategy for all black cardinalfish stocks is based on the generic reference points detailed in Table 30 and corresponding management responses that are derived from the Ministry Harvest Strategy Standard. Under the National Deepwater Plan it is intended to develop a specific harvest strategy for black cardinalfish as information becomes available.

The research programme will seek, where possible, to provide an estimate of $B_{CURRENT}$ and B_{MSY} to manage to the generic reference points. However, higher CVs on estimates will be expected and accepted. This increased uncertainty may require a more cautious management response.

Information on the current status of black cardinalfish stocks can be found in Appendix I, or for more information see the annual Stock Assessment Plenary.

Target fishery – Southern blue whiting

Management approach

The southern blue whiting fishery is managed as four separate stocks within the quota management system (QMS), each of which has been assigned a quota management area (QMA). All four QMAs are located within the sub-Antarctic fisheries management area, FMA6 (see Figure 5). The four QMAs are based on four known spawning locations, and are designated as follows:

1. Bounty Platform (SBW6B)
2. Auckland Islands (SBW6A) (Tier 2)
3. Campbell Islands Rise (SBW6I)
4. Pukaki Rise (SBW6R)

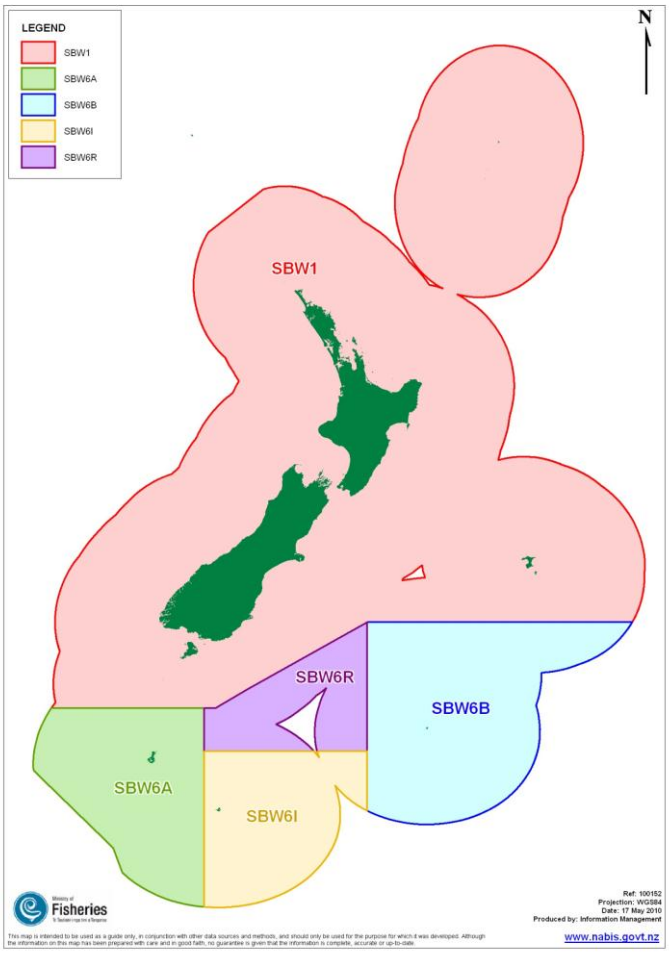


Figure 5: Southern blue whiting QMAs

The remainder of the EEZ, outside FMA6, is managed under an administrative QMA, SBW1. This area is not part of the natural distribution of southern blue whiting in New Zealand, and no target southern blue whiting fishing takes place in this QMA. A nominal total allowable commercial catch (TACC) of eight tonnes is set to account for southern blue whiting taken as bycatch. On average, seven tonnes of SBW1 is taken per year, the majority as bycatch in target hoki and silver warehou fishing.

The southern blue whiting fisheries are managed by April fishing year (1 April – 31 March), due to the timing of the fishing season. The current management approach for the Tier 1 southern blue whiting stocks (SBW6I, SBW6B and SBW6R) is assessment-based and leads to regular TAC/TACC reviews.

The Tier 2 stock SBW6A, which is a bycatch only fishery, will be managed using information utilising observer sampling and catch at age data, and will be subject to regular fishery characterisations. Although no evidence indicates an increase in fishing effort is likely at this time, effort in SBW6A will be monitored and if an increase is apparent in the future the stock will likely be elevated to Tier 1 status. A management approach for SBW1 is not described given this QMA is administrative only.

The three Tier 1 stocks are monitored regularly using acoustic survey techniques, which work well for assessing the biomass of single-species aggregations. Surveys are carried out regularly because significant recruitment-driven biomass changes are characteristic of these fisheries.

The three Tier 1 stocks are managed under a constant fishing mortality strategy, whereby TACs are reviewed based on an estimate of the current annual yield (CAY).[13] This approach provides a dynamic interpretation of the maximum sustainable yield, as it explicitly recognises that these fish populations fluctuate in size from year to year.

Where possible, the CAY is generated through an accepted stock assessment model, which combines all available information on each stock to assess its status. Stock assessment models have been used to assess all three Tier 1 stocks in the past. At present, an accepted stock assessment model is available for SBW6I.

In the absence of an accepted stock assessment model, as is the case for SBW6B and SBW6R, an appropriate CAY can also be calculated using the most recent estimate of available biomass. This method is less data inclusive than running a full stock assessment, so it is important that management decisions are made with this in mind.

Harvest Strategy

Specific harvest strategies for southern blue whiting stocks will be developed during the term of this Annual Operational Plan. In the interim, default reference points from the Harvest Strategy Standard will be used to make management decisions.

Table 33: Interim harvest strategy for southern blue whiting

Reference point	Management response
Management target of 40% B_0	Stock permitted to fluctuate around this management target. TAC changes will be employed to move stock toward or above target.
Soft limit of 20% B_0	A formal time constrained rebuilding plan will be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which fisheries will be considered for closure.
Rebuild strategy	To be determined.
Harvest control rule	Management actions determined by the results of a series of forward projections under a range of catch assumptions, guided by the biological reference points

Information on the current status of southern blue whiting stocks can be found in Appendix I, or for more information see the annual Stock Assessment Plenary.

Associated fisheries

There are no bycatch stocks managed in association with southern blue whiting.

[13] The CAY is the one year catch calculated by applying a constant fishing mortality rate, or exploitation rate, to a current estimate of the vulnerable biomass.

Target fishery - Ling

Management approach

The National Deepwater Plan covers five of the eight ling QMAs (LIN3-7). In this plan, references to ling stocks will only refer to LIN3-7. Within the National Deepwater Plan ling is assessed as five main stocks within the QMS. The five stocks do not align with the quota management areas, and are assessed as follows:

1. LIN3 and 4 combined (Chatham Rise)
2. LIN5 and 6 combined (Sub Antarctic)
3. LIN7 (West Coast South Island)
4. Cook Strait (part of both LIN2 and 7)
5. Bounty Platform (LIN6B)

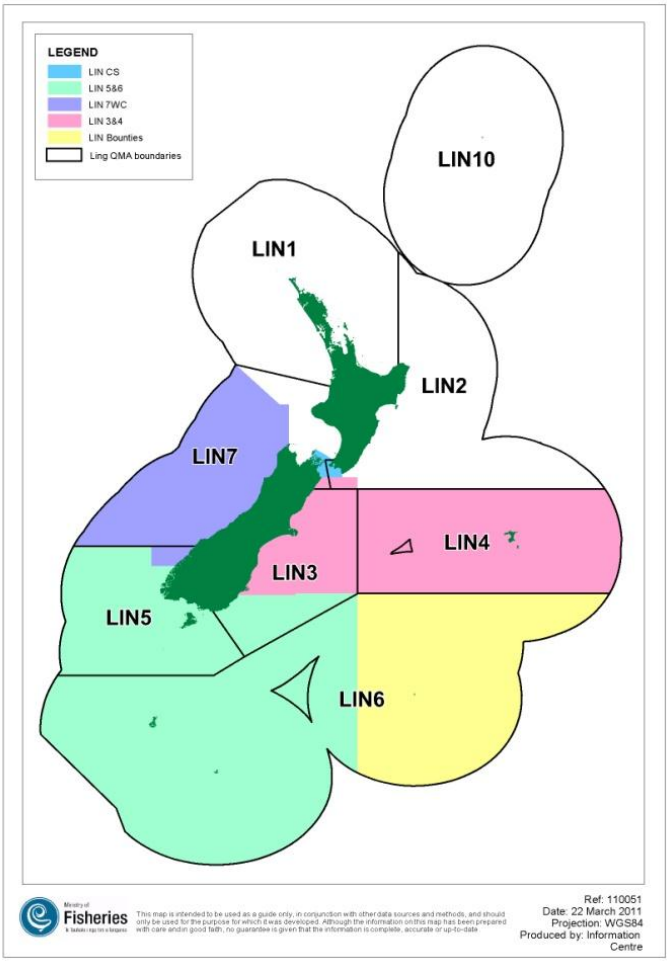


Figure 6: Details of ling fisheries and QMAs

The management approaches for ling differ by stock, but all are based on stock assessments every 3-4 years. Stock assessments for the Chatham Rise and Sub-Antarctic stocks are based on trawl surveys, proportions at age from the commercial fishing and trawl surveys, CPUE in the longline fisheries, and biological parameters. Assessments for other stocks are based on proportion at age, CPUE of the main fishing method fleet, and estimates of biological parameters. All assessments provide estimates of current biomass that can be compared to the ling harvest strategy.

During the term of this AOP, it is planned to discuss with the DWG a mechanism to manage ling based on biological stocks.

Harvest Strategy

Currently there is no stock-specific harvest strategy in place for ling fisheries. This work is expected to commence during the term of this AOP. In the interim, default reference points from the Harvest Strategy Standard will be used to make management decisions (Table 30). Information on the current status of ling stocks can be found in Appendix I, or for more information see the annual Stock Assessment Plenary.

Associated Fisheries

Tier 2 stocks managed in conjunction with the ling fishery include:

- Patagonian toothfish: PTO1
- Ribaldo: RIB3-RIB8

Management approach – Patagonian toothfish (PTO1)

Patagonian toothfish was introduced to the QMS in 2010 with a nominal and conservative TAC of 50 tonnes. Fishing for toothfish has been very limited in the past, providing little history to inform a management approach. The Ministry is focused on developing a management programme that will increase our knowledge of the toothfish stock within the New Zealand EEZ and provide a better understanding of the fishery to allow the setting of an appropriate TAC. This is expected to be carried out through an exploratory fishery, possibly under a special permit, that will provide the necessary information while also supporting the commercial development of the toothfish fishery.

Patagonian toothfish is a trans-boundary straddling stock with Australia's Macquarie Island toothfish fishery. Management of Patagonian toothfish will require communication and cooperation with the Australian Fisheries Management Authority.

Harvest strategy

Because of its status as a straddling stock and the shared responsibility, Patagonian toothfish was introduced to the QMS with an agreed harvest strategy to be implemented once sufficient information is available. This harvest strategy is based on that of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), the agency responsible for the management of toothfish in Antarctic waters. The Australian agency responsible for management of the Macquarie Island toothfish stock has also adopted the CCAMLR harvest strategy.

The CCAMLR harvest strategy contains decision rules that are more stringent than the defaults for targets and hard limits defined in the New Zealand Harvest Strategy Standard (essentially B_{MSY} or proxy and 10% of the unfished level, respectively). In essence the CCAMLR harvest strategy sets a target for the stock so that over a period of 35 years the size of the spawning stock remains at least half of what it would have been in the absence of fishing. In addition a hard limit is established such that if the stock size was at, or projected to fall below 20% of what it would have been in the absence of fishing, the fishery would be closed.

Information on the current status of Patagonian toothfish stocks can be found in Appendix I, or for more information see the annual Stock Assessment Plenary.

Management approach - Robaldo (RIB3 –RIB8)

Only ribaldo stocks RIB3-8 are managed through the National Deepwater Plan. As a Tier 2 species, there are no stock assessments for ribaldo. The fishery will be managed through regular monitoring of CPUE, sampling by observers, and the Chatham Rise trawl survey for RIB4. Stock characterisations and CPUE standardisations will be undertaken every three years.

Harvest strategy

The harvest strategy for all the Tier 2 stocks is based on the following generic reference points (Table 30) and corresponding management responses detailed in the Ministry's Harvest Strategy Standard. Within the National Deepwater Plan, the intention is to develop specific management procedures for Tier 2 stocks as information becomes available.

Information on the current status of ribaldo stocks can be found in Appendix I, or for more information see the annual Stock Assessment Plenary.

Target fishery – Hake

Management approach

Hake was introduced into the QMS in 1986 with four quota management areas (QMAs) that have not changed (Figure 7). The following QMAs reflect the three main spawning areas, biological stocks, and fishing grounds:

1. West Coast South Island (HAK7)
2. Chatham Island (HAK 4)
3. Campbell Plateau and Puysegar Bank (HAK1)

QMA 10 represents an administrative fishstock with no recorded catches, which is currently closed to demersal trawling.

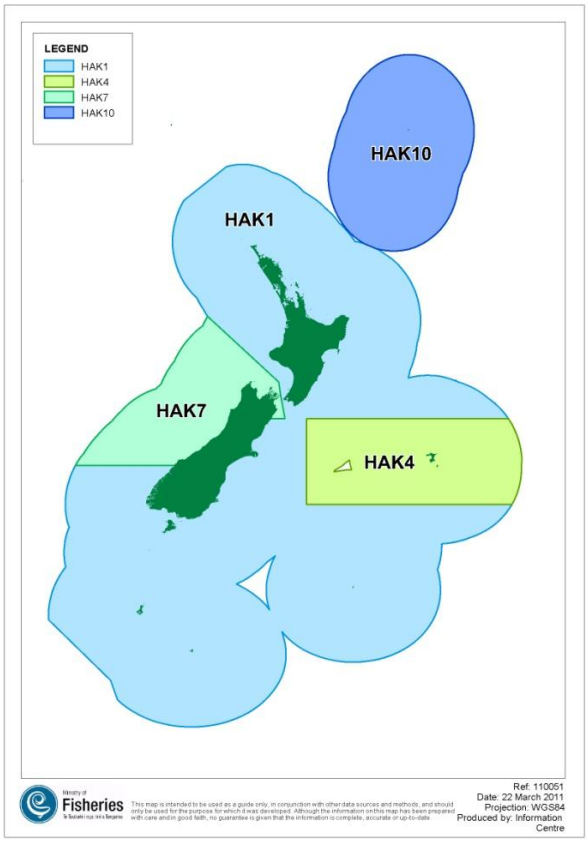


Figure 7: Map of hake quota management area (QMAs)

Under the National Deepwater Plan all non-administrative hake stocks are Tier 1 stocks as they are high volume and/or high value fisheries with catches historically reaching nearly 20,000 tonnes at the peak of the fisheries.

The current management approach for all hake stocks is based on frequent stock assessments and leads to regular reviews of the TAC/TACCs. Changes to the TAC/TACCs or any other management measures are implemented to ensure the stocks are managed within the default biological target and limit reference points as specified in the Harvest Strategy Standard (Table 34).

Stock assessment models have been accepted for two of the three New Zealand hake stocks. The third has a model, but it has not been accepted by the Fisheries Assessment Working Group because of uncertainties in the data inputs. Stock specific details can be found in the fishery-specific sections later in this document or in the annual Fisheries Assessment Plenary.

The temporal and spatial overlap of hake fishing with the hoki fishery means that management measures implemented in the hoki fishery often affect hake catch and fishing behaviour as well. The changes in fishing behaviour over the last ten years have added challenges to determining the status of the hake stocks.

Harvest Strategy

The applicability of a specific harvest strategy for hake stocks will be assessed during the term of this Annual Plan. In the interim, default reference points from the Harvest Strategy Standard will be used to make management decisions.

Table 34: Interim harvest strategy for hake

Reference point	Management response
Management target of 40% B_0	The stock is permitted to fluctuate around this management target. TAC/TACC changes will be employed to keep the stock around the target (with a 50% probability of being at the target).
Soft limit of 20% B_0	A formal, time-constrained rebuilding plan will be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which a fishery will be considered for closure.
Rebuild strategy	To be determined.
Harvest control rule	Management actions focussed on adjusting fishing mortality determined following consideration of the results of stock assessments and in some cases, forward projections under a range of catch assumptions, guided by the biological reference points.

Associated Fisheries

There are no tier 2 species managed in association with hake fishery.

Target fishery – Jack Mackerel

Management approach

The jack mackerel fishery catches three species, each of which has a different geographical distribution although their ranges partially overlap. The three species are:

1. ***Trachurus novaezelandiae (JMN)***
2. ***Trachurus declivis (JMD)***
3. ***Trachurus murphyi (JMM)***

Between 1987 and 1996 only the JMA7 stock was managed under the QMS proper. During this time JMA3 was, however, considered part of the QMS as quota was allocated annually by regulation. Since 1 October 1996 all jack mackerel stocks have been managed under the QMS. The quota management area (QMA) boundaries have not changed since QMS introduction in 1987. The jack mackerel fisheries are managed by October fishing year (1 October – 30 September).

The three jack mackerel species are managed collectively within JMA3 and JMA7 (Figure 8). Fishers are not required to differentiate catch of the different species when completing catch returns and information collected by observers is often the only source of reliable information on species composition.

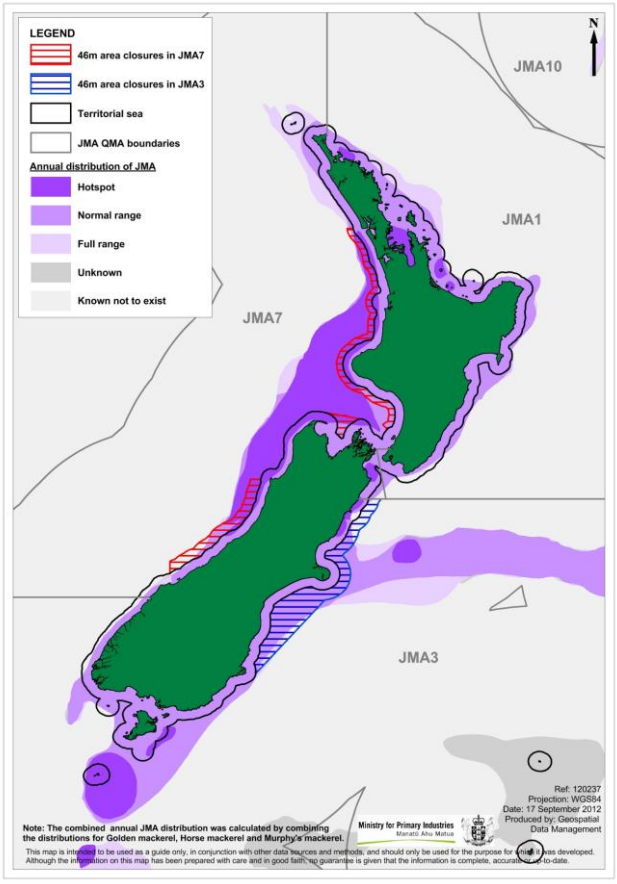


Figure 8: Diagram showing relevant areas within JMA7 and JMA3 where trawling by vessels greater than 46m in overall length is prohibited. Combined annual distribution of the three species is also shown.

Only the JMA7 stock is managed as a Tier 1 fishery as it is a high volume fishery that is targeted. The relatively low catches in JMA3 over the last decade mean it is managed as a Tier 2 fishery.

Stock structure of the three jack mackerel species is uncertain and QMAs may not reflect discrete biological stocks. There may be a single stock for both the native species and *T. murphyi* is thought to be part of a wider South Pacific stock.

The current management approach for the JMA7 fishery is assessment-based. Assessments have been attempted for the two native species, although they are complicated by the reporting and management of all species under a single code.

Assessments to date have involved estimating the proportion of each species in the TCEPR data, deriving a standardised CPUE index and incorporating proportions-at-age. However, an agreed stock assessment methodology for JMA7 does not exist.

Harvest Strategy

In the absence of species-specific measures, the default reference points set out by the Harvest Strategy Standard (Table 34) apply.

Associated Fisheries

Tier 2 stocks managed in conjunction with the jack mackerel fishery include:

- Blue mackerel (EMA3, EMA7)
- Redbait (RBT)

Management approach – Blue Mackerel (EMA)

Blue mackerel was introduced into the QMS on 1 October 2002 and catch limits have not changed since then. The TACC for EMA7 was set based on average catch for the five years between 1996/97 and 2000/01, with the large purse seine component of the 1998/99 catch removed due to it being atypical. The TACC for EMA3 was largely based on the average catch between 1985-86 and 1996-97.

Little is known about the status of blue mackerel stocks and no estimates of current and reference biomass, or yield, are available for any blue mackerel area. It is not known if recent catch levels are sustainable or at levels that will allow the stocks to move towards a size that will support the MSY.

Harvest strategy

There is no species-specific harvest strategy for blue mackerel. In the absence of species-specific measures, the default reference points set out by the Harvest Strategy Standard (Table 34) apply.

Under the 10 Year Research Programme, EMA is one of the Tier 2 species that is scheduled to undergo regular characterisations. The first was presented to the mid-water working group in June 2012. The working group noted that CPUE could be used to monitor the EMA7 fishery and that the west coast North Island fishery should be considered separately from the west coast South Island fishery. The second characterisation is due to be completed in 2015.

Management approach – Redbait (RBT)

Redbait was introduced into the QMS on 1 October 2009 and catch limits have not changes since then. After QMS introduction, catches dropped considerably with a combined nationwide catch of only around 1,000 tonnes being taken in both the 2009/10 and 2010/11 years and 1,400 tonnes during 2011/12.

There are no estimates of fishery parameters or abundance for any RBT stock. It is not known whether any RBT stocks are at, above, or below a level that can produce MSY. Under the 10 Year Research Programme, RBT is one of the Tier 2 species that is scheduled to undergo regular characterisations. The first is due in 2013.

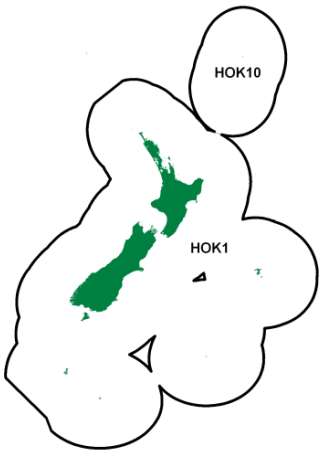
Harvest strategy

There is no species-specific harvest strategy for redbait. In the absence of species-specific measures, the default reference points set out by the Harvest Strategy Standard (Table 34) apply.

APPENDIX I: Management Settings and Current Status of species currently covered by the National Deepwater Plan

Content

HOK: Hoki (Tier 1)



Catch limits and Allowances for 2012-13 (tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
HOK 1	131,340	130,000	20	20	1,300

2012-13 Planned Catch split	
Eastern stock	60,000 tonnes
Western stock	70,000 tonnes

Reference points and Current Status		
Metric		**Status**
Target range	35-50% B_0	
B_{MSY} *Eastern stock*	24% B_0	B_{2013}: 50-57% B_0
B_{MSY} *Western stock*	25% B_0	B_{2013}: 45-65% B_0
Soft limit	20% B_0	Both stocks 'Exceptionally Unlikely' (< 1%) to be below limit
Hard limit	10% B_0	Both stocks 'Exceptionally Unlikely' (< 1%) to be below limit

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
HOK 1	$0.45 per kg	$0.90 per kg	$1.30 @ catch >102% of ACE

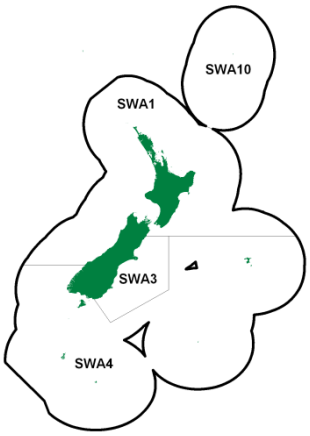
Environmental indicators		
Seabirds	2010-11: 53 observed captures[14]	
Marine mammals	2010-11: 23 observed captures	
Benthic interactions	2008-09: 0.44% of EEZ	Total from 1989-90 to 2008-09: 4.0% of EEZ

Economic indicators	
Quota value 2009	$815m [15]
Export earnings 2011	$183.6m (calendar year)

[14] From http://bycatch.dragonfly.co.nz/, which can be accessed through an MPI issued password- where estimated captures have not been calculated observed captures are reported.

[15] Statistics New Zealand as not quantified annual quota values since 2009 subsequently all values in Appendix I are still 2009 values.

SWA: Silver warehou (Tier 2)



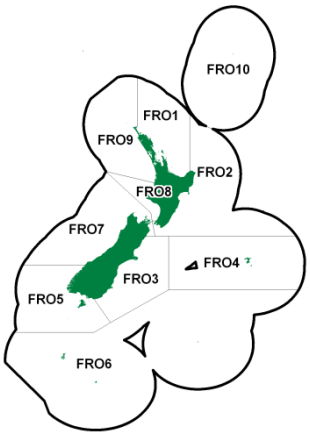
Catch limits and Allowances for 2012(tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
SWA 1	3,003	3,000	2	1
SWA 3	3,280	3,280	0	0
SWA 4	4,090	4,090	0	0

Reference Points and Current Status	
Metric	**Status**
MCY – SWA 1	650 -1400

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
SWA 1 SWA 3 SWA 4	$0.50 per kg	$1.22 per kg	$1.74 @ 110-130% $3.00 @ >130%

Economic Indicators	
Quota value 2009	$83m
Export earnings 2009	$21.2m (may include some white warehou exports)

FRO: Frostfish (Tier 2)



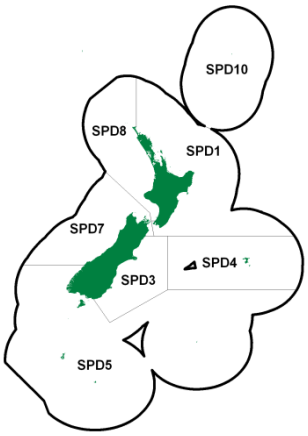
Catch limits and Allowances for 2012 (tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
FRO 1	151	149	1	1
FRO 2	112	110	1	1
FRO 3	176	176	0	0
FRO 4	28	28	0	0
FRO 5	135	135	0	0
FRO 6	11	11	0	0
FRO 7	2,625	2,623	1	1
FRO 8	649	649	0	0
FRO 9	140	138	1	1

Reference Points and Current Status	
Metric	**Status**
MCY/CAY/B_{MSY}	Unknown

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
FRO 1	$0.02 per kg	$0.04 per kg	na
FRO 2	$0.13 per kg	$0.26 per kg	na
FRO 3	$0.17 per kg	$0.34 per kg	na
FRO 4	$0.12 per kg	$0.24 per kg	na
FRO 5 FRO 6 FRO 7 FRO 8 FRO 9	$0.08 per kg	$0.15 per kg	na

Economic Indicators	
Quota value 2010	$2.8m
Export earnings 2010	No export information specific to frostfish is currently available

SPD: Spiny dogfish (Tier 2)



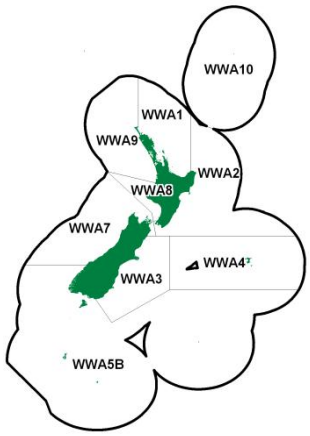
Catch limits and Allowances for 2012(tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
SPD 4	1,662	1,626	10	10	16
SPD 5	3,753	3,700	8	8	37

Reference points and Current Status	
Metric	**Status**
MCY/CAY/B_{MSY}	Unknown

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
SPD 4 SPD 5	$0.05 per kg	$0.10 per kg	na

Economic Indicators	
Quota value 2009	$6.1m
Export earnings 2009	$2.5m

WWA: White warehou (Tier 2)



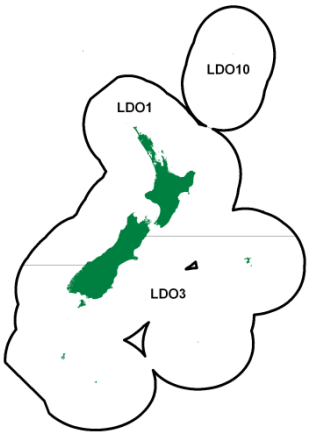
Catch limits and Allowances for 2012(tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
WWA 3	585	583	1	1
WWA 4	332	330	1	1
WWA 5B	2,621	2,617	2	2
WWA 7	129	127	1	1
WWA 8	1	1	0	0
WWA 9	0	0	0	0

Reference Points and Current Status	
Metric	**Status**
MCY/CAY/B_{MSY}	Unknown

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
WWA 3 WWA 4 WWA 7 WWA 5B	$0.52 per kg	$1.03 per kg	$2.00 @ >110%
WWA 8 WWA 9	$0.27 per kg	$0.54 per kg	na

Economic Indicators	
Quota value 2009	$16.8m
Export earnings 2009	No export information specific to white warehou is currently available

LDO: Lookdown dory (Tier 2)



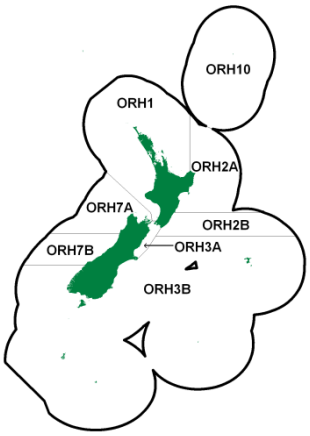
Catch limits and Allowances for 2012(tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
LDO 1	168	168	0	0
LDO 3	614	614	0	0

Reference Points and Current Status			
Metric			**Status**
Target	40% B_0		Both stocks are Unknown
Soft Limit	20% B_0		Both stocks are Unknown
Hard limit	10% B_0	LDO 1	Unknown
		LDO 3	B_{2011} Unlikely (<40%) to be below the Hard Limit
Exploitation rate (F)			

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
LDO 1	$0.21 per kg	$0.42 per kg	na
LDO 3	$0.21 per kg	$0.42 per kg	na

Economic Indicators	
Quota value 2011	$0.9m
Export earnings 2011	Primarily sold domestically and does not feature in export statistics

ORH: Orange roughy (Tier 1)



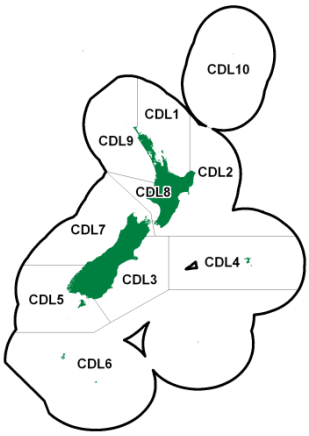
Catch limits and Allowances for 2012(tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
ORH 1	1,470	1,400	0	0	70
ORH 2A	919	875	0	0	44
ORH 2B	147	140	0	0	7
ORH 3A	436	415	0	0	21
ORH 3B	3,780	3,600	0	0	180
ORH 7A	525	500	0	0	25
ORH 7B	1	1	0	0	0

Catch splits (in tonnes)		
Stock	**Sub-stock**	**Agreed catch limit**
ORH 1	Area A	200
	Area B	500
	Area C	500
	Area D	200 (incl. 30 tonnes bycatch limit in the Mercury-Colville Box)
ORH 2A North	ORH 2A North	200
ORH 2A South, 2B and 3A	MEC	1,230
ORH 3B	NW Chatham Rise	750
	E and S Chatham Rise	1,950
	Puysegur	150
	Sub-Antarctic	500

Reference Points and Current Status			
Metric			**Status**
Target	B_{MSY} is currently used as a default target level: 30-40% B_0	ORH 1 (Mercury-Colville Box)	Unknown (B_{2001}: 10-15% B_0)
		ORH 2A North	B_{2003}: 24% B_0
		ORH 2A, 2B, 3A (MEC)	B_{2011}: 23% B_0
		ORH 3B NW Chatham Rise	B_{2006}: 9-11% B_0
		ORH 3B E & S Chatham Rise	B_{2012}: 25% B_0
		ORH 3B Puysegur	Reopened in 2010-11 - unknown
		ORH 3B Sub-Antarctic	-
		ORH 7A	B_{2011}: 20-24%B_0
		ORH 7B	B_{2004}: 17% B_0

		ORH 1	Unknown
		ORH 2A North	Unlikely (<40%) below
		ORH 2A South, 2B, 3A (MEC)	About as Likely As Not (40-60%) below
		ORH 3B NW Chatham Rise	Very Likely (>90%) to be below
Soft limit	$20\%B_0$	ORH 3B E & S Chatham Rise	Unlikely (<40%) below
		ORH 3B Puysegur	Unknown
		ORH 3B Sub-Antarctic	-
		ORH7A	Unlikely (<40%) below
		ORH7B	Likely (>60%) below
		ORH 1	Unknown
		ORH 2A North	Very Unlikely (<10%) to be below
		ORH 2A, 2B, 3A (MEC)	Very Unlikely (<10%) to be below
		ORH 3B NW Chatham Rise	About as Likely As Not (40-60%) below
Hard limit	$10\%B_0$	ORH 3B E & S Chatham Rise	Very Unlikely (<10%) to be below
		ORH 3B Puysegur	Unknown
		ORH 3B Sub-Antarctic	-
		ORH7A	Very Unlikely (<10%) below
		ORH7B	Unlikely (<40%) below
Harvest strategy			
Exploitation rate (F)			4.5% of target biomass
Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
ORH 1	\$1.70 per kg	\$3.40 per kg	\$5.00 @ > 110%
ORH 2A ORH 2B ORH 3A	\$2.50 per kg	\$5.00 per kg	\$6.00 @ 120-140% \$7.00 @ 140-160% \$8.00 @ 160-180% \$9.00 @ 180-200% \$10.00 @ > 200%
ORH 3B	\$2.50 per kg	\$5.00 per kg	\$6.25 @ > 110%
ORH 7A	\$1.60 per kg	\$3.20 per kg	\$3.84 @ 120-140% \$4.48 @ 140-160% \$5.12 @ 160-180% \$5.76 @ 180-200% \$6.40 @ > 200%
ORH 7B	\$1.60 per kg	\$3.20 per kg	\$5.00 @ > 110%
Environmental Indicators			
Seabirds	Under development		
Marine mammals	Under development		
EEZ trawled	2008-09: 0.06%		Total from 1989-90: 0.82%
Economic Indicators			
Quota value 2009	\$282m		
Export earnings 2011	\$37M (calendar year)		

CDL: Black cardinalfish (Tier 2)



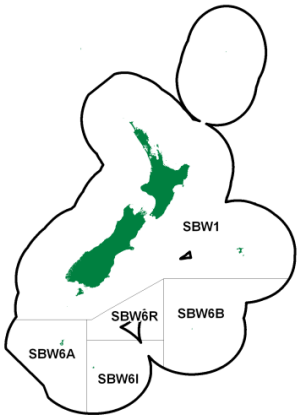
Catch limits and Allowances for 2012(tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
CDL 1	1,320	1,200	0	0	120
CDL 2	460	440	0	0	20
CDL 3	196	196	0	0	0
CDL 4	66	66	0	0	0
CDL 5	22	22	0	0	0
CDL 6	1	1	0	0	0
CDL 7	39	39	0	0	0
CDL 8 & 10	0	0	0	0	0
CDL 9	4	4	0	0	0

Reference Points and Current Status			
Target	40% B_0	CDL 2, 3 &4	B_{2009}: 12-24% B_0 (based off two model runs) Very Unlikely (<10%) at or above
Soft Limit	20% B_0	CDL 2, 3 &4	Likely (>60%) – About as likely as not (40-60%) below
Hard Limit	10% B_0	CDL 2, 3 &4	About as Likely as Not (40-60%) – Unlikely (<40%) below

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
CDL 1 CDL 6 CDL 7 CDL 8 CDL 9 CDL 10	$0.15 per kg	$0.30 per kg	na
CDL 2	$0.30 per kg	$0.60 per kg	$0.69 @ > 120%
CDL 3 CDL 4	$0.26 per kg	$0.52 per kg	$0.60 @ > 120%
CDL 5	$0.26 per kg	$0.52 per kg	na

Economic Indicators	
Quota value 2009	$4.2M
Export earnings 2009	$1.7M

SBW: Southern blue whiting (Tier 1)



Catch limits and Allowances for 2012(tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
SBW 1	8,000	8,000	0	0	
SBW 6A	1,640	1,640	0	0	0
SBW 6B	7,000	6,860	0	0	140
SBW 6I	30,000	29,400	0	0	600
SBW 6R	5,500	5,500	0	0	

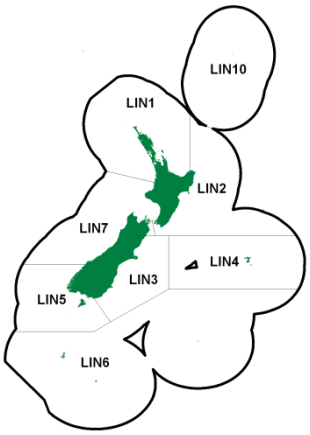
Reference Points and Current Status			
Target	40% B_0	SBW 6A	Unknown
		SBW 6B	B_{2012} 35-45% B_0
		SBW 6I	B_{2011}: 50% B_0
		SBW 6R	Unknown for all
Soft limit	20% B_0	SBW 6A	Unknown
		SBW 6B	B_{2012} Unlikely (<40%) to be below
		SBW 6I	B_{2011} Exceptionally Unlikely (<1%) to be below
Hard limit	10% B_0	SBW 6A	Unknown
		SBW 6B	B_{2012} Very Unlikely (<10%) to be below
		SBW 6I	B_{2011} Exceptionally Unlikely (<1%) to be below

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
SBW1			$0.55 @ >120 – 140% $0.64 @ >140 – 160% $0.74 @ >160 – 180% $0.83 @ >180 – 200% $0.90 @ >200%
SBW 6A	$0.41 per kg	$0.46per kg	
SBW 6B			$0.60 @ >102 – 150%
SBW 6I			$0.92 @ > 150%
SBW 6R			

Environmental indicators		
Seabirds	2010-11: 16 observed captures[1]	
Marine mammals	2010-11: 36 observed fur seal captures, and 6 observed sea lion captures[1]	
Benthic interactions	2008-09: 0.02% of EEZ	Total from 1989-90: 0.43% of EEZ

Economic indicators	
Quota value 2009	$74.3M
Export earnings 2011	$36M (calendar year)

LIN: Ling (Tier 1)



Catch limits and Allowances for 2012(tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
LIN 3	2,060	2,060	0	0	0
LIN 4	4,200	4,200	0	0	0
LIN 5	3,633	3,595	1	1	36
LIN 6	8,590	8,505	0	0	85
LIN 7	2,501	2,474	1	1	25

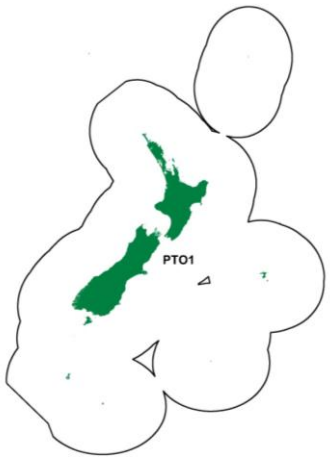
Reference Points and Current Status			
Metric			**Status**
Target	40% B_0	LIN 3&4	B_{2011}: 55% B_0
		LIN 5&6	B_{2011}: 70% – 101% B_0
		LIN 6B	B_{2006}: 61% B_0
		LIN7WC	Target
		LIN CS	B_{2010}: 54% B_0
Soft limit	20% B_0	LIN (6B)	Very Unlikely (<10%) to be below
		LIN (7WC, CS, 3&4, 5&6)	Exceptionally Unlikely (<1%) to be below
Hard limit	10% B_0	LIN (All stocks)	Exceptionally Unlikely (<1%) to be below

Deemed value rates			
Stock	**Interim**	**Annual < 102%**	**Differentials**
LIN 3 LIN 4 LIN 5 LIN 6 LIN 7	$1.20 per kg	$2.38 per kg	$3.40 @ 102-120% $6.00 @ >120%

Environmental Indicators		
Seabirds	2009-10: 40 est. captures (trawl) ;	589 est. captures (long-line) [1]
Marine mammals	2009-10: 6 observed captures[1]	
Benthic interactions	2008-09: 0.02% of EEZ	Total from 1989-90: 0.31% of EEZ

Economic Indicators	
Quota value 2009	$246.2M
Export earnings	$43.5M

PTO: Patagonian toothfish (Tier 2)



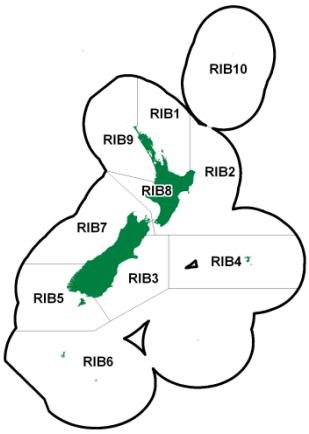
Catch limits and Allowances for 2012(tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
PTO 1	50	49.5	0	0

Reference Points and Current Status	
Metric	**Status**
Default harvest strategy	Unknown

Deemed value rates			
Stock	**Interim**	**Annual 100-110%**	**Differential**
PTO 1	$13.50 per kg	$15.00 per kg	$25.00 @ > 110%

Current value indicators	
Quota value 2009	$N/A
Export earnings 2009	$N/A

RIB: Ribaldo (Tier 2)



Catch limits and Allowances for 2012 (tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**
RIB 3	394	394	0	0
RIB 4	357	357	0	0
RIB 5	52	52	0	0
RIB 6	231	231	0	0
RIB 7	330	330	0	0

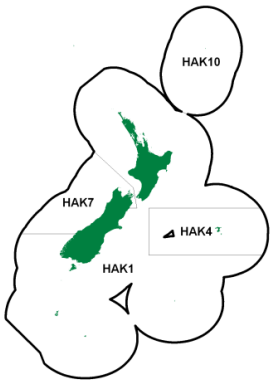
Reference Points and Current Status			
Metric			**Status**
Target	40% B_0	RIB 3&4, RIB 5&6	Unknown
Soft Limit	20% B_0	RIB 3&4, RIB 5&6	Unlikely (< 40%) to be below
Hard Limit	10% B_0	RIB 3&4, RIB 5&6	Unlikely (< 40%) to be below

Deemed value rates (per kg)								
Stock	**Interim**	**100-120%**		**120-140%**	**140-160%**	**160-180%**	**180-200%**	**200%+**
RIB 3 RIB 4 RIB 5	$0.40	$0.30		$0.36	$0.42	$0.48	$0.54	$0.60
RIB 6	$0.40	$0.80		$0.96	$1.12	$1.28	$1.44	$1.60
RIB 7	$0.40	$0.80	$1.20	$2.00				

Economic indicators

Port Price: $0.81 (2012/13 Fishing Year)

HAK: Hake (Tier 1)



Catch limits and Allowances for 2012 (tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
HAK 1	-	3,701	-	-	-
HAK 4	1,818	1,800	0	0	18
HAK 7	7,777	7,700	0	0	77

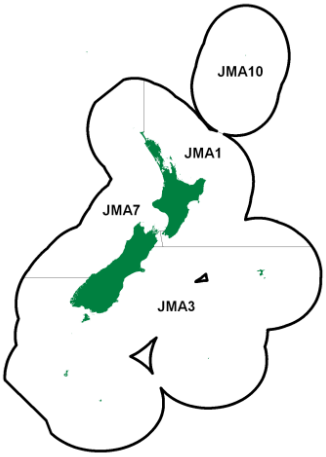
Reference Points and Current Status			
Metric			**Status**
		HAK 1	B_{2011}: 50% B_0 Very Likely (>90%) to be at or above the target
Target	40% B_0	HAK 4	B_{2012}: 47% B_0 Likely (>60%) to be at or above the target
		HAK 7	B_{2013}: 58% B_0 Very Likely (>90%) to be at or above the target
		HAK 1	Exceptionally Unlikely (<1%) to be below
Soft Limit	20% B_0	HAK 4	Very Unlikely (<10%) to be below
		HAK 7	Very Unlikely (<10%) to be below
		HAK 1	Exceptionally Unlikely (<1%) to be below
Hard Limit	10% B_0	HAK 4	Exceptionally Unlikely (<1%) to be below
		HAK 7	Exceptionally Unlikely (<1%) to be below

Deemed value rates			
Stock	**Interim**	**Annual**	**Differential**
HAK 1 HAK 4 HAK 7	$0.50 per kg	$1.22 per kg	$1.74 @ 110-130% $3.00 @ >130%

Current environmental indicators		
Seabirds	2011-12: 7 seabird captures observed	
Marine mammals	2011-12: No observed marine mammal captures	
Benthic interactions	2008-09	Total

Economic Indicators	
Quota value 2009	$246.2M
Export Price	$1.25 (2012/13 Fishing year)
Export earnings	$13.9M (March 2012 – March 2013)

JMA: Jack mackerel (Tier 1)



Catch limits and Allowances for 2012 (tonnes)				
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
JMA 3	NA	18,000	NA	NA	NA
JMA 7	NA	32,537	NA	NA	NA

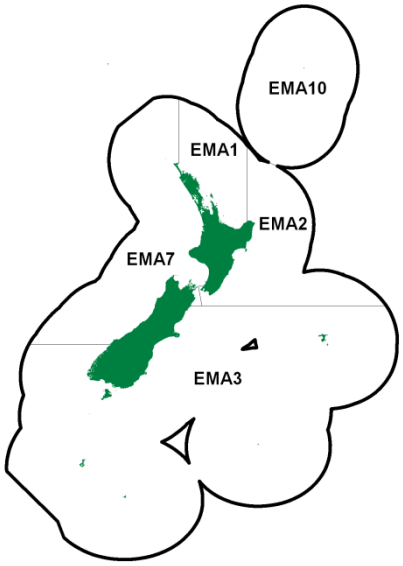
Harvest strategy – as per the Harvest Strategy Standard

2010-11 Deemed value rates (per kg)								
Stock	**Interim**	**100-120%**	**120-140%**	**140-160%**	**160-180%**	**180-200%**	**200%+**	**2010-11 Actual**
JMA 3	$0.08	$0.09	$0.108	$0.126	$0.144	$0.162	$0.18	$163
JMA 7	$0.08	$0.15	$0.18	$0.21	$0.24	$0.27	$0.30	$104

Current environmental indicators		
Seabirds	2011-12: 8 observed captures	
Marine mammals	2011-12 : 5 NZ fur seal captures observed	
Benthic interactions	2008-09: 0.02% of EEZ	Total from 1989-90: 0.31% of EEZ

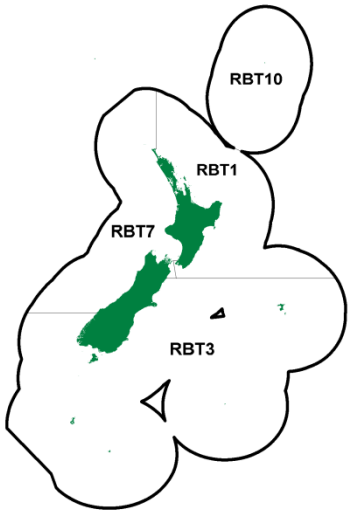
Current value indicators	
Quota value 2009	$53.6M
Port Price 2012/13	$0.40
Export earnings	$63.4M (March 2012 – March 2013)

EMA: Blue Mackerel (Tier 2)



Catch limits and Allowances for 2012 (tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
EMA3	392	390	1	1	0
EMA7	3,352	3,350	1	1	0
Harvest strategy – as per the Harvest Strategy Standard					
Reference Points and Current Status					
Metric			**Status**		
B_{MSY}			Unknown		
Current value indicators					
Quota value 2009	$13.2M				
Export earnings	$17.8M (2012 Calendar year)				

RBT: Red Bait (Tier 2)



Catch limits and Allowances for 2012 (tonnes)					
Stock	**TAC**	**TACC**	**Recreational**	**Customary**	**Other Mortality**
RBT1	20	19	0	0	1
RBT3	2,305	2,190	0	0	115
RBT7	2,991	2,841	0	0	0

Harvest strategy – as per the Harvest Strategy Standard

Reference Points and Current Status

Metric	**Status**
B_{MSY}	Unknown

Current value indicators

N/A